

# **METRO PLANNING COMMITTEE OF THE TOWN PLANNING BOARD**

**MPC Paper No. 9/17**

**For Consideration by the  
Metro Planning Committee on 22.12.2017**

**PROPOSED AMENDMENTS TO THE  
DRAFT KWAI CHUNG OUTLINE ZONING PLAN NO. S/KC/28**

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**1. Introduction**

This paper is to seek Members' agreement that:

- (a) the proposed amendments to the draft Kwai Chung Outline Zoning Plan (OZP) No. S/KC/28 as shown on the draft OZP No. S/KC/28A (**Attachment I**) and its Notes (**Attachment II**) are suitable for exhibition under section 7 of the Town Planning Ordinance (the Ordinance); and
- (b) the revised Explanatory Statement (ES) of the OZP (**Attachment III**) is an expression of the Town Planning Board (the Board)'s planning intentions and objectives for the various land use zonings of the OZP, and is suitable for exhibition together with the draft OZP and its Notes.

**2. Status of the Current Draft Kwai Chung OZP No. S/KC/28**

- 2.1 On 31.5.2011, the Chief Executive in Council (CE in C), under section 9(1)(a) of the Ordinance, approved the draft Kwai Chung OZP which was subsequently renumbered as S/KC/25. On 4.10.2011, the CE in C referred the approved OZP to the Board for amendments under section 12(1)(b)(ii) of the Ordinance. The reference back of the OZP was notified in the Gazette on 14.10.2011 under section 12(2) of the Ordinance.
- 2.2 Subsequently there were three amendment OZPs, namely the draft Kwai Chung OZP No. S/KC/26 (**Plan 1a**) gazetted on 20.4.2012, draft OZP No. S/KC/27 (**Plan 1b**) gazetted on 9.5.2014 and draft OZP No. S/KC/28 (**Plan 1c**) gazetted on 13.6.2014. On 24.4.2015, after further considering the representations to the draft OZP No. S/KC/26 together with the findings of PlanD's technical assessments on the cumulative impact of the representers' proposals, the Board agreed to propose amendments to the OZP to meet the relevant representations.<sup>1</sup> On 24.7.2015, the proposed amendments were gazetted under section 6C(2) of the Ordinance. Given that no further representation was received, the Board agreed on 25.9.2015 that the OZP should be amended by the proposed amendments and the amendments made by the Board should form part of the draft OZP No. S/KC/28 (**Plan 1d**).

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<sup>1</sup> After giving consideration to the representations and related comments to the draft OZP No. S/KC/27 on 12.6.2015 and No. S/KC/28 on 10.7.2015, the Board decided not to uphold the representations to these OZPs.



- 2.3 On 11.1.2013, a judicial review (JR) application was filed against the Board's decision of not upholding a representation in respect of the building height (BH) restriction imposed on a "Comprehensive Development Area" site on the draft Kwai Chung OZP No. S/KC/26. On 8.8.2014, another JR application was filed by the same applicant against the Board's decision to gazette the OZP Nos. 27 and 28 with development restrictions identical to that imposed on OZP No. 26. The applicant sought an interim stay of the submission of the OZP to CE in C pending determination of the JRs. On 5.2.2013 and 12.8.2014, the Court of First Instance granted leave to the two JR applications respectively and the interim stay of submission of the OZP to the CE in C. The date of hearing of the JRs has been scheduled for 6 to 8.3.2018.

### 3. **Background**

It was stated in the 2013 Policy Address that the Government would adopt a multi-pronged approach to build up land reserve with a view to meeting housing and other development needs. "Government, Institution or Community" ("G/IC") sites with no designated use and "Green Belt" ("GB") sites with no ecological value would be reviewed for residential development. The development intensity of Government's unallocated residential sites would also be increased as far as allowable in planning terms. It was reaffirmed in the 2014 Policy Address that the Government would continue to review various land uses and rezone sites as appropriate for residential use. The current proposed amendments to the OZP are mainly related to the zoning amendment of a site at San Kwai Street for public housing development (Amendment Items A1 and A2 on **Plan 2**). Opportunity is also taken to revise the Notes with incorporation of the latest refinements to the Revised Master Schedule of Notes to Statutory Plans (MSN) so as to incorporate 'Art Studio (excluding those involving direct provision of services or goods)' as Column 1 use in "Industrial" ("I") zone, and the Schedule II for industrial or industrial-office (I-O) building for "Other Specified Uses" annotated "Business" ("OU(B)") and "Residential (Group E)" ("R(E)") zones (**Attachment II**).

### 4. **The Proposed Amendments**

#### **Items A1 and A2 - Rezoning of a Site at San Kwai Street for the Proposed Public Housing Development (Plans 2 to 3c)**

- 4.1 To meet the pressing need for housing supply, a piece of Government land of about 0.55ha at San Kwai Street (**Plans 2 and 3a**) is proposed for public housing (PH) development by the Housing Department (HD). The Site comprises Items A1 and A2 and covers the following two pieces of land:
- (i) Item A1 - covering an area of about 0.33ha proposed to be rezoned from from "G/IC" to "Residential (Group A)2" ("R(A)2") to facilitate the proposed PH development; and
  - (ii) Item A2 - covering a small piece of land with a total area of about 0.22ha proposed to be rezoned from "Village Type Development" ("V") to "R(A)2" to facilitate the proposed PH development.

- 4.2 Major development parameters of the preliminary indicative scheme of the proposed PH at the Site are as follows:

Site Area:	about 0.55 hectare
Maximum Plot Ratio (PR):	6 / 9.5 (domestic/ non-domestic or under composite formula <sup>2</sup> for mixed use)
Maximum Building Height:	130mPD
No. of Block:	1
No. of Storeys	38 floors over 2 podium levels
Number of Flats:	about 650
Design Population:	about 1,600
Other Facilities:	Child Care Centre, Day Care Centre for the Elderly, retail facilities, open space and children's play area
Pedestrian Linkage	Footbridge linking up the public housing developments at Lai Cho Road (next to Lai Yiu Estate) and Kwai Tsui Estate

#### The Site and its Surroundings

- 4.3 The Site is on government land and is currently used by the Highways Department as works area for the Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL) and Drainage Services Department (DSD Maintenance Depot and Works Area) under Government Land Allocations. It is situated at the northern part of Ha Kwai Chung Area. There is an existing Drainage Reserve (DR) for DSD's drains and ramp to the box culvert at Kwai Chung Road at the southern portion of the site (**Plans 3a, 3d and 3e**). DSD indicated that operationally a 24 hour access to the drains and ramp to the box culvert is required and no ground structure/landscaping features can be proposed on ground level within the DR. The DR will be partly covered by a ramp and partly by flat land. A flat platform and a proper unrestricted vehicular access via San Kwai Street to the DR will be provided. Parking and loading/unloading spaces should be located away from the DR as far as practicable.

- 4.4 The surrounding areas of the Site (**Plans 2, 3a to 3c**) are:

- (a) to the immediate east is Ha Kwai Chung Village which is zoned "V" with the Central Kwai Chung Park to the further east;
- (b) to its south are vegetated slopes of a hill above which Lai Yiu Estate is situated and accessible by Lai Cho Road. The Committee approved an application No. A/KC/445 on 12.5.2017 for minor relaxation of PR and building height restriction from 160mPD to 165mPD for a proposed public housing development at Lai Cho Road;

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<sup>2</sup> For new development of a building that is partly domestic or partly non-domestic, the PR of the domestic part of the building shall not exceed the product of the difference between the maximum non-domestic PR of 9.5 and the actual non-domestic PR proposed for the building and the maximum domestic PR of 6 divided by the maximum non-domestic PR of 9.5.

- (c) to the immediate west across Kwai Chung Road is the Kwai Tsui Estate under construction and the Kwai Chung Police Station. Kwai Fong Estate is located to the northwest and zoned as “R(A)” subject to maximum BHR of 90/120mPD;
- (d) to the north across Tai Lin Pai Road, there are industrial buildings zoned “OU (Business)”;
- (e) the BH of the existing surrounding residential developments ranges from 90/120mPD in Kwai Fong Estate and Kwai Tsui Estate to about 160mPD for Lai Yiu Estate (**Plan 2**). In the surrounding area, there are GIC facilities (FEHD Kwai Chung Depot and VTC Kwai Chung Complex) and open spaces.

#### Planning Justifications

- 4.5 The Site is currently zoned “G/IC” and “V” on the OZP. The portion of the GIC site is not designated for any GIC use. The Site is formed and considered suitable for rezoning for residential development. Taking into account that Kwai Chung has surplus existing and planned provision of GIC sites (see **Attachment VIII**), the Site is identified as having potential to be rezoned for residential use in order to help meet the housing production target without adverse implication on the provision of GIC facilities to the local residents.
- 4.6 The Site is surrounded by residential and GIC developments and major roads (**Plan 3a**). Industrial buildings falling within the “OU (Business)” zone are located to the northern side of Tai Lin Pai Road. The proposed PH development is considered compatible with the surrounding developments. As to the reduction of land zoned for “V”, it should be noted that the Ha Kwai Chung Village has been resited by Government after 1945 and the villagers are no longer eligible to build small house on concessionary terms over Government land by way of private treaty grant under the ‘Small House Policy’ even when there are vacant land in the “V” zone nearby. The rezoning proposal was thoroughly discussed with the local villagers and the currently proposed “R(A)2” zoning boundary has been suitably refined to take into account the comments and concerns of local villagers. An engagement workshop on the public housing development was held by HD and attended by PlanD, the local villagers, residents of the nearby public housing estate and the Kwai Tsing District Council (K&TDC) member for the area in May 2017. Participants expressed understanding of the need for public housing development and expressed various concerns on the development scheme and possible impacts during the construction phase.
- 4.7 The 2014 Policy Address also announced that except for the north of Hong Kong Island and Kowloon Peninsula, which are more densely populated, the Government considers it feasible to generally increase the maximum domestic PR currently permitted for the other “density zones” in the territory by around 20% as appropriate. In implementing these measures, the Government will duly consider factors such as traffic and infrastructural capacities, local characteristics, existing development intensity and various possible impacts of the proposed

development on the areas concerned.

- 4.8 In general, the maximum PR for Kwai Chung falls within Density Zone R2 (i.e. PR of 5). To maximize the development potential of housing land as announced in the Policy Address, a PR of 6 is proposed for housing sites identified, which is equivalent to the maximum of Density Zone 2 (i.e. PR 5) with a 20% increase. To ascertain the technical feasibility of the proposed housing site and the related increase in PR, various technical assessments including traffic, sewerage, drainage, water supply and environmental impacts have been undertaken. The findings of these assessments have confirmed that the proposed amendments would not cause insurmountable problems on traffic, infrastructural, environmental and air ventilation aspects. The findings of the technical assessments for this housing site at San Kwai Street are detailed in paragraph 4.9 below. Having regard to the land use and development scale of the surrounding developments, it is proposed to rezone the Site (**Items A1 and A2**) to “R(A)2” subject to a maximum PR of 6 or a maximum non-domestic PR of 9.5 or the composite formula of 6/9.5 for mixed residential and commercial developments, and a maximum BHR of 130mPD (**Plans 2 and 3a**). A preliminary conceptual layout for the proposed PH development prepared by HD are shown at **Plans 3f to 3h**. The proposed scheme may be subject to refinement at detailed design stage.

#### Technical Assessments

- 4.9 Broad technical assessments on traffic, environment, visual, air ventilation and infrastructural aspects have been conducted to ascertain the feasibility of the proposed PH development. Copy of the main reports of the technical assessments are at **Attachment IV to VII** where the technical appendices would be deposited at the Secretariat of the Board for Members’ inspection.

#### Traffic Aspects

- 4.9.1 A Traffic Impact Assessment (**Attachment IV**) was carried out to assess the traffic impact of the proposed PRH development on the surrounding areas with a detailed analysis on road junctions leading to the Site, based on traffic forecasts in 2028. Continuous growth of background traffic and additional traffic generated from adjacent developments would cause over-capacity at some junctions in 2028. However, the performance of these junctions would be improved to within capacity level in 2028 with the implementation of the proposed mitigation scheme (**Plan 3h**). The proposed development traffic is expected to have insignificant impact on junction performance when comparing between the scenario with or without the development. In gist, the proposed development on Site is considered acceptable in transport terms following the implementation of the recommended junction improvement schemes.
- 4.9.2 To enhance the pedestrian connectivity between the public housing developments at Lai Cho Road (next to Lai Yiu Estate) and ex-Kwai Chung Police Married Quarters (i.e. Kwai Tsui Estate), footbridge(s) and lift tower(s) will be provided subject to detailed design and approval (**Plan 3i**). In terms of public transport services, HD has undertaken an

assessment on the anticipated demand and impact to existing public transport services arising from the PH development. According to the assessment, the anticipated new public transport demand is expected to have insignificant impact on public transport provision.

#### Visual Impact

- 4.9.3 The Site is located to the northwest of Lai Yiu Estate and situated on a platform at about 6mPD. A gentle slope area is found descending from Lai Cho Road in the south and from the Central Kwai Chung Park in the east. Ha Kwai Chung Village is located to the immediate east of the Site across San Kwai Street. The Site is bounded by Tai Lin Pai Road to the north and Kwai Chung Road to the west. To assess the visual impact of the proposed rezoning site, a visual appraisal (VA) has been undertaken by HD (**Attachment V**). Site photos to illustrate the existing situation of the site and their surrounding developments are shown on **Plans 3c to 3e**. Photomontages to illustrate the possible visual impacts of the proposed residential developments at the Site are shown on **Plans 3j to 3n**. Suitable vantage points frequently visited by the public are selected for illustration.
- 4.9.4 When viewed from the five identified Vantage Points (VPs), the proposed PH development is partially screened-off by the slope at the foreground or blocked by trees and hence the sensitivity for the visitors at these VPs is considered to be low. The photomontages also indicated that the proposed development will be partially screened-off by the dense vegetation or buildings. Visually the proposed development fits in well with the high-rise residential developments nearby (Kwai Fong Terrace, New Kwai Fong Gardens, and the public housing developments at Lai Cho Road (LCR) and at Ex-KCMQ). In view of the above, the overall visual impact of the proposed development is considered negligible/slightly adverse.
- 4.9.5 Based on the visual assessment, the proposed development with maximum building height of 130mPD is visually compatible with the surrounding environment and would not induce substantial visual impact on the surrounding areas. The proposed maximum BH of 130mPD is sympathetic and compatible with the surrounding housing developments, i.e. Kwai Fong Estate to the northwest at 90/120mPD and Kwai Fong Terrace to the west of the Site at 110mPD (**Plan 3a**). The proposed development is also compatible with the proposed uphill public housing development to the south at Lai Cho Road at 165mPD and the Lai Yiu Estate at 160mPD/190mPD (**Plans 2 and 3a**).
- 4.9.6 Meanwhile, visual enhancement measures to minimise the residual visual impact including open space, green coverage, greening measures, façade treatment with harmonious colour scheme or pattern, etc. would also be considered at the detailed design stage.

#### Air Ventilation Impact

- 4.9.7 To assess the ventilation performance under the existing condition, an Air Ventilation Assessment (AVA) for the proposed development at the Site has been conducted by HD (**Attachment VI**). As shown in **Plans 4a** and **4b**, the AVA indicated that the San Kwai Street Site is not located within the breezeway. Under the proposed development, various design measures (including setback from roads and adjacent buildings) have been incorporated to facilitate air penetration. According to the AVA, it is anticipated that with the implementation of the recommended mitigation measures, the proposed public housing development would not have significant adverse impact on the surrounding wind environment. It is recommended that upon detailed design of the development with schematic refinement, a quantitative air ventilation assessment would be carried out for exploration of further wind enhancement measures for optimal design.

#### Trees and Landscaping Aspects

- 4.9.8 There are several existing trees along the site boundary. While the existing trees within the site are not rare species nor any tree meeting the criteria of the old and valuable trees, they will be preserved wherever possible and to be integrated as far as possible. Most of them will inevitably be affected by the proposed development due to the small site area. A tree compensation proposal will be prepared and submitted to concerned authorities for approval before commencement of construction works.

#### Environmental, Infrastructural and Technical Aspects

- 4.9.9 Concerned Government departments including Environmental Protection Department (EPD), Highways Department (HyD), Civil Engineering and Development Department (CEDD), Drainage Services Department (DSD) and Water Supplies Department (WSD) have no adverse comment on the proposed PH development from environmental and infrastructural points of views. To address the potential traffic noise and air issues arising from the adjacent road networks, HD has conducted a Broad Environmental Assessment Report (EA) at **Attachment VII**. The Director of Environmental Protection (DEP) advised that the EA has demonstrated there are no insurmountable noise, air quality and sewerage problems. Provision of appropriate noise mitigation measures (including noise barriers, enhanced acoustic balcony and acoustic window for the flats with fixed glazing and central air-conditioning for the welfare facilities) for addressing traffic noise requirements will be included in the planning brief (PB) to minimise the possible impacts.

### **5. Provision of GIC Facilities and Open Space in Kwai Chung**

Taking into account the proposed development at San Kwai Street, the population of the Kwai Chung planning area is estimated to be increased by about 1,600. Based on the

Hong Kong Planning Standards and Guidelines (HKPSG) requirements and the planned population for the area, the district and local open space and a range of GIC facilities in the area are generally adequate to meet the need of the planned population. A table summarising the provision of major community facilities and open space in Kwai Chung OZP area is at **Attachment VIII**. Based on a planned population of about 314,000 for the OZP, including the population of the proposed housing development relating to the amendment item A, the planned provision of major GIC facilities in the district is generally sufficient. There will also be a surplus provision of local open space and district open space in the Kwai Chung OZP planning scheme area.

## **6. Planning Brief for Public Housing Development**

The proposed public housing development will be guided by the administrative planning brief prepared by HD which sets out the planning parameters, design requirements, as well as technical assessments to be conducted for the proposed development. The proposed development is targeted to be completed tentatively in 2023.

## **7. Proposed Amendment to the Matters shown on the Plan (Attachment I)**

7.1 The proposed amendments to the approved OZP shown on the draft Amendment Plan No. S/KC/28A (**Attachment I**) are as follows:

(a) Item A1 (Site Area: about 0.33ha) (Plan 3a)

In accordance with paragraph 4.1 above, rezoning of a site at San Kwai Street from “G/IC” to “R(A)2” and stipulation of BHR of 130mPD.

(b) Item A2 (Site Area: about 0.22ha) (Plan 3a)

In accordance with paragraph 4.1 above, rezoning of a site at San Kwai Street from “V” to “R(A)2” and stipulation of BHR of 130mPD.

7.2 A comparison of existing and proposed zonings on the OZP for Amendment Item A is at **Plan 5**.

7.3 The approved railway scheme of the Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL) will be shown on the OZP for information (**Plan 6**).

## **8. Proposed Amendment to the Notes of the OZP (Attachment II)**

8.1 There is already a set of Notes for “R(A)2” zone with stipulation of maximum domestic/non-domestic PR of 6/9.5 in the extant OZP. Hence, there is no need to amend the Notes of the “R(A)2” zone arising from Amendment Items A1 and A2.

8.2 With a view to supporting art development, relevant bureau and departments have investigated the feasibility of allowing ‘Art Studio’ in the industrial and industrial-office (I-O) buildings. As the key concern is on fire safety, ‘Art Studio’ is considered acceptable in the industrial and I-O buildings if it does not

involve direct provision of services or goods (e.g. hobby classes, seminars and sales of goods, art gallery and venue for rehearsal for art performance). The proposal is generally supported by the stakeholders and no objection from concerned government bureau/departments is received. To take forward the above proposal, it is proposed to incorporate 'Art Studio (excluding those involving direct provision of services or goods)' as a Column 1 use of the "I" zone and in Schedule II of the "R(E)" and "OU(B)" zones. As 'Art Studio' is subsumed under the 'Place of Recreation, Sports or Culture' use, corresponding amendment will also be made to replace 'Place of Recreation, Sports or Culture' under Column 2 in the same schedule by 'Place of Recreation, Sports or Culture (not elsewhere specified)'.

- 8.3 The proposed amendments to the Notes of the OZP (with additions in ***bold and italics*** and deletions in '~~crossed-out~~') are at **Attachment II** for Members' consideration.

## **9. Revision to the Explanatory Statement of the OZP (Attachment III)**

The Explanatory Statement (ES) of the OZP has been revised to take into account the proposed amendments as mentioned in the above paragraphs. Opportunity has also been taken to update the general information for the various land use zones to reflect the latest status and planning circumstances of the OZP. A copy of the revised ES with the proposed additions highlighted in ***bold and italics*** and deletions in '~~crossed-out~~' is at **Attachment III**.

## **10. Plan Number**

Upon exhibition for public inspection, the Plan will be renumbered as S/KC/29.

## **11. Consultation**

### **11.1 Departmental Circulation**

The proposed amendments have been circulated to the following relevant bureau/departments for comments. Their comments have been incorporated where appropriate. Concerned bureau/departments have no objection to or no adverse comments on the proposed amendments and no insurmountable problem have been raised by the Government departments consulted:

- (a) Secretary for Education;
- (b) Director of Food and Environmental Hygiene;
- (c) District Lands Officer/Tsuen Wan and Kwai Tsing, Lands Department;
- (d) District Officer/Kwai Tsing;
- (e) Director-General of Trade and Industry;
- (f) Commissioner for Transport;
- (g) Commissioner of Police;
- (h) Director of Housing;
- (i) Director of Environmental Protection;



- (j) Director of Social Welfare;
- (k) Director of Leisure and Cultural Services;
- (l) Chief Building Surveyor/New Territories West, Buildings Department;
- (m) Chief Engineer/Development(2), Water Supplies Department;
- (n) Chief Engineer Mainland South, Drainage Services Department;
- (o) Chief Highway Engineer/New Territories West, Highways Department;
- (p) Director of Fire Services;
- (q) Project Manager (New Territories North and West), Civil Engineering and Development Department; and
- (r) Chief Town Planner/Urban Design and Landscape, Planning Department.

## 11.2 Public Consultation

- 11.2.1 On 13.7.2017, the Kwai Tsing District Council (K&TDC) was consulted by Housing Department and Planning Department on the proposed public housing development at San Kwai Street. Some K&TDC members were concerned about the traffic and transport issues including the parking standards and pedestrian crossing at Kwai Yi Road; the noise and air pollution; the adequacy of welfare facilities; as well as redevelopment of Lai Yiu Estate (extract of minutes of meeting at **Attachment IX**). To address these concerns, HD will continue to liaise with relevant bureaux/departments and address the relevant issues where appropriate at detailed design stage. K&TDC in general expressed support to the proposed development.
- 11.2.2 If the proposed amendments are agreed by the Committee, the draft OZP (to be renumbered to S/KC/29 upon exhibition) and its Notes will be exhibited under section 7 of the Ordinance. Members of the public can submit representations on the OZP amendments to the Board during the two-month statutory public inspection period. The K&TDC will be informed on the proposed amendments during the plan exhibition period.

## 12 Decision Sought

Members are invited to :

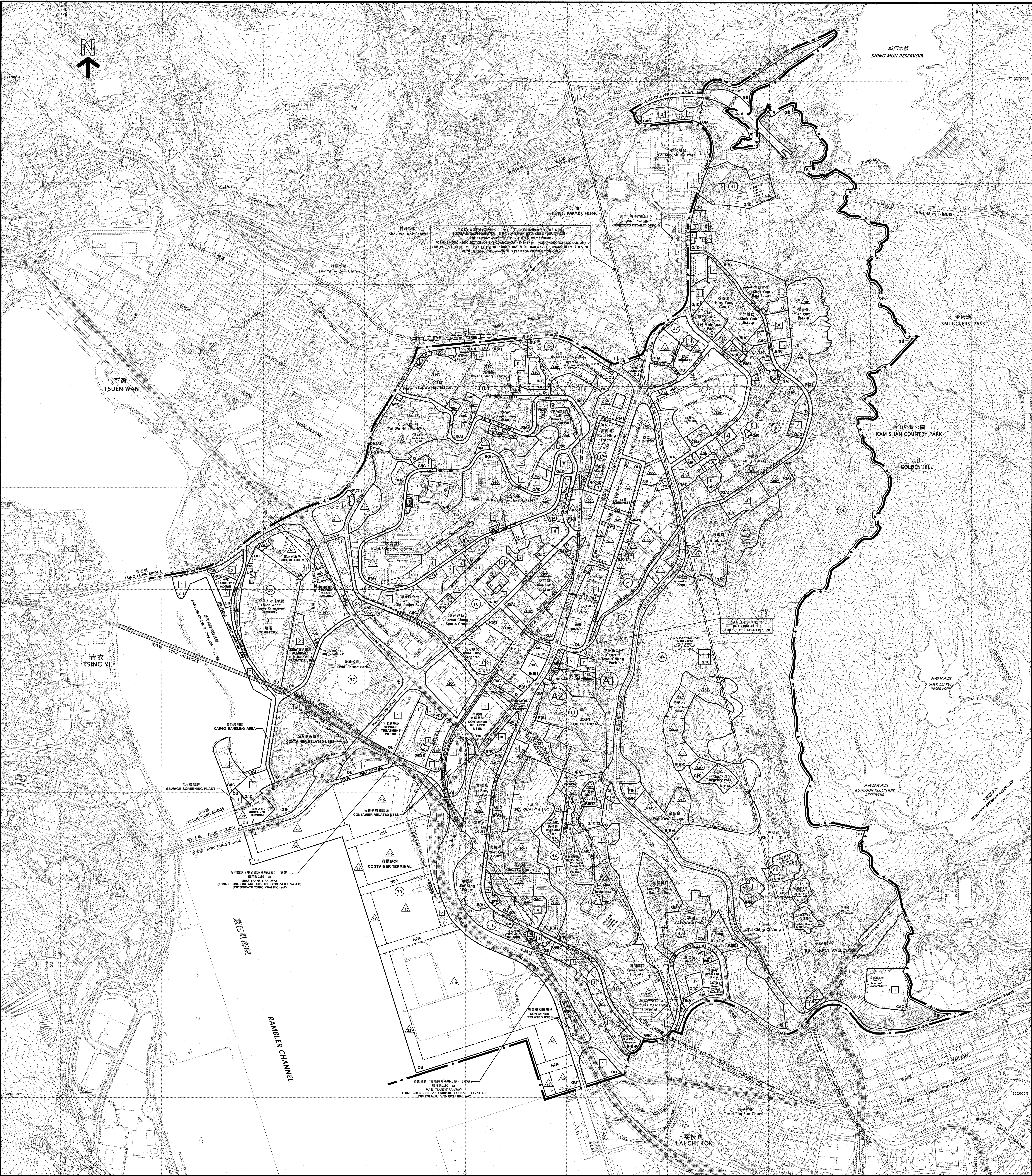
- (a) agree to the proposed amendments to the draft Kwai Chung OZP No. S/KC/28 and that the draft Kwai Chung OZP No. S/KC/28A (to be renumbered as S/KC/29 upon exhibition) at **Attachment I** and its Notes at **Attachment II** are suitable for exhibition for public inspection under section 7 of the Ordinance;
- (b) adopt the revised ES at **Attachment III** as an expression of the planning intentions and objectives of the Board for various land use zonings of the OZP; and
- (c) agree that the revised ES at **Attachment III** is suitable for exhibition for public inspection together with the draft OZP No. S/KC/28A (to be renumbered to S/KC/29 upon gazetting).

### 13 **Attachments**

<b>Attachment I</b>	Draft Kwai Chung Outline Zoning Plan No. S/KC/28A
<b>Attachment II</b>	Revised Notes of the draft Kwai Chung Outline Zoning Plan No. S/KC/28A
<b>Attachment III</b>	Revised Explanatory Statement of the draft Kwai Chung Outline Zoning Plan No. S/KC/28A
<b>Attachment IV</b>	Traffic Impact Assessment for the San Kwai Street Site
<b>Attachment V</b>	Visual Appraisal Report for the San Kwai Street Site
<b>Attachment VI</b>	Air Ventilation Assessment for the San Kwai Street Site
<b>Attachment VII</b>	Environmental Assessment Study for the San Kwai Street Site
<b>Attachment VIII</b>	Provision of Major Community and Open Space Facilities in Kwai Chung
<b>Attachment IX</b>	Extract of the Minutes of the K&TDC Meeting on 13.7.2017
<b>Plan 1a</b>	Draft Kwai Chung Outline Zoning Plan No. S/KC/26 (Reduced Size)
<b>Plan 1b</b>	Draft Kwai Chung Outline Zoning Plan No. S/KC/27 (Reduced Size)
<b>Plan 1c</b>	Draft Kwai Chung Outline Zoning Plan No. S/KC/28 (Reduced Size)
<b>Plan 1d</b>	Draft Kwai Chung Outline Zoning Plan No. S/KC/28 (read with the proposed amendments to meet some representations to the draft OZP No. S/KC/26) (Reduced Size)
<b>Plan 2</b>	Location Plan of Amendment Items A and A2
<b>Plan 3a</b>	Site Plan of Amendment Items A1 and A2
<b>Plan 3b</b>	Aerial Photo of the San Kwai Street Site
<b>Plans 3c to 3e</b>	Site Photos of the San Kwai Street Site
<b>Plans 3f to 3i</b>	Preliminary Conceptual Layouts and Junction Improvement Schemes for the Proposed PH Development at the San Kwai Street Site
<b>Plans 3j to 3n</b>	Photomontages for San Kwai Street Site from Vantage Points 1 to 5
<b>Plan 4a</b>	Existing Air Path Network for the Kwai Chung Area
<b>Plan 4b</b>	Air Ventilation for San Kwai Street Site
<b>Plan 5</b>	Comparison of Existing and Proposed Zonings on the OZP for Amendment Items A1 to A2
<b>Plan 6</b>	Approved railway scheme of the Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (XRL) shown on the OZP for information

**PLANNING DEPARTMENT  
DECEMBER 2017**





圖例 NOTATION				土地用途及面積一覽表 SCHEDULE OF USES AND AREAS				夾附的《註釋》屬這份圖則的一部分， 現經修訂並按照城市規劃條例第7條展示。 THE ATTACHED NOTES ALSO FORM PART OF THIS PLAN AND HAVE BEEN AMENDED FOR EXHIBITION UNDER SECTION 7 OF THE TOWN PLANNING ORDINANCE
ZONES	地帶	COMMUNICATIONS	交通	USES	大約面積及百分比 APPROXIMATE AREA & %		用途	
COMMERCIAL	C	RAILWAY AND STATION	鐵路及車站	COMMERCIAL	5.45	0.53	商業	AMENDMENTS EXHIBITED UNDER SECTION 7 OF THE TOWN PLANNING ORDINANCE
COMPREHENSIVE DEVELOPMENT AREA	CDA	RAILWAY AND STATION (UNDERGROUND)	鐵路及車站 (地下)	COMPREHENSIVE DEVELOPMENT AREA	6.35	0.62	綜合發展區	
RESIDENTIAL (GROUP A)	R(A)	RAILWAY AND STATION (ELEVATED)	鐵路及車站 (高架)	RESIDENTIAL (GROUP A)	165.60	16.18	住宅 (甲類)	AMENDMENT ITEM A1
RESIDENTIAL (GROUP B)	R(B)	MAJOR ROAD AND JUNCTION	主要道路及路口	RESIDENTIAL (GROUP B)	15.28	1.49	住宅 (乙類)	
RESIDENTIAL (GROUP E)	R(E)	ELEVATED ROAD	高架道路	RESIDENTIAL (GROUP E)	3.92	0.38	住宅 (戊類)	AMENDMENT ITEM A2
VILLAGE TYPE DEVELOPMENT	V	MISCELLANEOUS	其他	VILLAGE TYPE DEVELOPMENT	2.32	0.23	鄉村式發展	
INDUSTRIAL	I	BOUNDARY OF PLANNING SCHEME	規劃範圍界線	INDUSTRIAL	41.33	4.03	工業	AMENDMENT ITEM A2
GOVERNMENT, INSTITUTION OR COMMUNITY	G(IC)	PLANNING AREA NUMBER	規劃區編號	GOVERNMENT, INSTITUTION OR COMMUNITY	118.84	11.60	政府、機構或社區	
OPEN SPACE	O	BUILDING HEIGHT CONTROL ZONE BOUNDARY	建築物高度管制區界線	OPEN SPACE	114.88	11.21	休憩用地	(參看附表) (SEE ATTACHED SCHEDULE)
OTHER SPECIFIED USES	OU	MAXIMUM BUILDING HEIGHT (IN METRES ABOVE PRINCIPAL DATUM)	最高建築物高度 (在主水平基準上若干米)	OTHER SPECIFIED USES	17.91	17.07	其他指定用途	
GREEN BELT	GB	MAXIMUM BUILDING HEIGHT (IN NUMBER OF STOREYS)	最高建築物高度 (樓層數目)	GREEN BELT	263.34	25.70	綠化地帶	
		PETROL FILLING STATION	加油站	MAJOR ROAD ETC.	112.28	10.96	主要道路等	
		NON-BUILDING AREA	非建築用地	TOTAL PLANNING SCHEME AREA	1024.70	100.00	規劃範圍總面積	

香港城市規劃委員會依據城市規劃條例擬備的葵涌分區計劃大綱圖  
TOWN PLANNING ORDINANCE, HONG KONG TOWN PLANNING BOARD  
KWAI CHUNG - OUTLINE ZONING PLAN

SCALE 1:7500 比例尺  
METRES 200 0 200 400 600 800 1000 METRES 呎

規劃署遵照城市規劃委員會指示擬備  
PREPARED BY THE PLANNING DEPARTMENT UNDER  
THE DIRECTION OF THE TOWN PLANNING BOARD

圖則編號  
PLAN No. S/KC/28A



**DRAFT KWAI CHUNG OUTLINE ZONING PLAN NO. S/KC/28A**

(Being a Draft Plan for the Purposes of the Town Planning Ordinance)

**NOTES**

(N. B. These form part of the Plan)

- (1) These Notes show the uses or developments on land falling within the boundaries of the Plan which are always permitted and which may be permitted by the Town Planning Board, with or without conditions, on application. Where permission from the Town Planning Board for a use or development is required, the application for such permission should be made in a prescribed form. The application shall be addressed to the Secretary of the Town Planning Board, from whom the prescribed application form may be obtained.
- (2) Any use or development which is always permitted or may be permitted in accordance with these Notes must also conform to any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, as may be applicable.
- (3)
  - (a) No action is required to make the existing use of any land or building conform to this Plan until there is a material change of use or the building is redeveloped.
  - (b) Any material change of use or any other development (except minor alteration and/or modification to the development of the land or building in respect of the existing use which is always permitted) or redevelopment must be always permitted in terms of the Plan or, if permission is required, in accordance with the permission granted by the Town Planning Board.
  - (c) For the purposes of subparagraph (a) above, “existing use of any land or building” means -
    - (i) before the publication in the Gazette of the notice of the first statutory plan covering the land or building (hereafter referred as ‘the first plan’),
      - a use in existence before the publication of the first plan which has continued since it came into existence; or
      - a use or a change of use approved under the Buildings Ordinance which relates to an existing building; and
    - (ii) after the publication of the first plan,
      - a use permitted under a plan which was effected during the effective period of that plan and has continued since it was effected; or
      - a use or a change of use approved under the Buildings Ordinance which relates to an existing building and permitted under a plan prevailing at the time when the use or change of use was approved.

- (4) Except as otherwise specified by the Town Planning Board, when a use or material change of use is effected or a development or redevelopment is undertaken, as always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board, all permissions granted by the Town Planning Board in respect of the site of the use or material change of use or development or redevelopment shall lapse.
- (5) Road junctions, alignments of roads, and railway tracks, and boundaries between zones may be subject to minor adjustments as detailed planning proceeds.
- (6) Temporary uses (expected to be 5 years or less) of any land or building are always permitted as long as they comply with any other relevant legislation, the conditions of the Government lease concerned, and any other Government requirements, and there is no need for these to conform to the zoned use or these Notes. For temporary uses expected to be over 5 years, the uses must conform to the zoned use or these Notes.
- (7) The following uses or developments are always permitted on land falling within the boundaries of the Plan except where the uses or developments are specified in Column 2 of the Notes of individual zones:
  - (a) provision, maintenance or repair of plant nursery, amenity planting, open space, rain shelter, refreshment kiosk, road, bus/public light bus stop or lay-by, cycle track, Mass Transit Railway station entrance, Mass Transit Railway structure below ground level, taxi rank, nullah, public utility pipeline, electricity mast, lamp pole, telephone booth, telecommunications radio base station, automatic teller machine and shrine;
  - (b) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities, waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government; and
  - (c) maintenance or repair of watercourse and grave.
- (8) In any area shown as 'Road', all uses or developments except those specified in paragraph (7) above and those specified below require permission from the Town Planning Board:

toll plaza, on-street vehicle park and railway track.
- (9) Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted uses and developments within the same zone are always permitted and no separate permission is required.
- (10) In these Notes,

“existing building” means a building, including a structure, which is physically existing and is in compliance with any relevant legislation and the conditions of the Government lease concerned.

“New Territories Exempted House” means a domestic building other than a guesthouse or a hotel; or a building primarily used for habitation, other than a guesthouse or a hotel, the ground floor of which may be used as ‘Shop and Services’ or ‘Eating Place’, the building works in respect of which are exempted by a certificate of exemption under Part III of the Buildings Ordinance (Application to the New Territories) Ordinance (Cap. 121).

**DRAFT KWAI CHUNG OUTLINE ZONING PLAN NO. S/KC/28 A**

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COMMERCIAL

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Ambulance Depot	Broadcasting, Television and/or Film Studio
Commercial Bathhouse/Massage Establishment	Flat (excluding land designated "C(2)")
Eating Place	Government Refuse Collection Point
Educational Institution	Hospital (excluding land designated "C(2)")
Exhibition or Convention Hall	Mass Transit Railway Vent Shaft and/or
Government Use (not elsewhere specified)	Other Structure above Ground Level
Hotel	other than Entrances
Information Technology and	Petrol Filling Station
Telecommunications Industries	Residential Institution (excluding land
Institutional Use (not elsewhere specified)	designated "C(2)")
Library	
Market	
Off-course Betting Centre	
Office	
Place of Entertainment	
Place of Recreation, Sports or Culture	
Private Club	
Public Clinic	
Public Convenience	
Public Transport Terminus or Station	
Public Utility Installation	
Public Vehicle Park (excluding container	
vehicle)	
Recyclable Collection Centre	
Religious Institution	
School	
Shop and Services	
Social Welfare Facility	
Training Centre	
Utility Installation for Private Project	
Wholesale Trade	

Planning Intention

This zone is intended primarily for commercial developments, which may include uses such as office, shop, services, place of entertainment and eating place, functioning mainly as local commercial and shopping centre(s).

(Please see next page)

COMMERCIAL (Cont'd)

Remarks

- (1) On land designated “Commercial” (“C”), no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum total plot ratio of 9.5, or the plot ratio of the existing building, whichever is the greater.
- (2) On land designated “Commercial (1)” (“C(1)”) and “C(2)”, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum total gross floor area (GFA) specified below, or the GFA of the existing building, whichever is the greater:

<u>Sub-area</u>	<u>Restrictions</u>
C(1)	Maximum GFA of 11 000m <sup>2</sup>
C(2)	Maximum GFA of 74 340m <sup>2</sup>
- (3) On land designated “C”, “C(1)” and “C(2)”, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building heights in terms of metres above Principal Datum as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (4) In determining the relevant maximum plot ratio or GFA for the purposes of paragraphs (1) and (2) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker’s office, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.
- (5) Where the permitted plot ratio as defined in Building (Planning) Regulations is permitted to be exceeded in circumstances as set out in Regulation 22(1) or (2) of the said Regulations, the plot ratio or GFA for the building on land to which paragraph (1) or (2) applies may be increased by the additional plot ratio by which the permitted plot ratio is permitted to be exceeded under and in accordance with the said Regulation 22(1) or (2), notwithstanding that the relevant maximum plot ratio or GFA specified in paragraphs (1) and (2) above may thereby be exceeded.
- (6) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio/GFA/building height restrictions stated in paragraphs (1) to (3) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.



COMMERCIAL (3)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Ambulance Depot	Broadcasting, Television and/or Film Studio
Commercial Bathhouse/Massage Establishment	Educational Institution
Eating Place	Government Refuse Collection Point
Exhibition or Convention Hall	Hospital
Government Use (not elsewhere specified)	Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances
Hotel	Petrol Filling Station
Information Technology and Telecommunications Industries	Public Clinic
Institutional Use (not elsewhere specified)	Religious Institution
Library	Residential Institution
Market	Social Welfare Facility
Off-course Betting Centre	
Office	
Place of Entertainment	
Place of Recreation, Sports or Culture	
Private Club	
Public Convenience	
Public Transport Terminus or Station	
Public Utility Installation	
Public Vehicle Park (excluding container vehicle)	
Recyclable Collection Centre	
Shop and Services	
Training Centre	
Utility Installation for Private Project	
Wholesale Trade	

Planning Intention

This zone is intended primarily for commercial developments, which may include uses such as office, shop, services, place of entertainment and eating place, functioning mainly as local commercial and shopping centre(s).

(Please see next page)

COMMERCIAL (3) (Cont'd)

Remarks

- (1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum total plot ratio of 9.5, or the plot ratio of the existing building, whichever is the greater.
- (2) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of metres above Principal Datum as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (3) A minimum of 5m set back from the lot boundary abutting Tai Lin Pai Road shall be provided.
- (4) In determining the relevant maximum plot ratio for the purposes of paragraph (1) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.
- (5) Where the permitted plot ratio as defined in Building (Planning) Regulations is permitted to be exceeded in circumstances as set out in Regulation 22(1) or (2) of the said Regulations, the plot ratio for the building on land to which paragraph (1) applies may be increased by the additional plot ratio by which the permitted plot ratio is permitted to be exceeded under and in accordance with the said Regulation 22(1) or (2), notwithstanding that the relevant maximum plot ratio specified in paragraph (1) above may thereby be exceeded.
- (6) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio/building height restrictions stated in paragraphs (1) and (2) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.
- (7) Under exceptional circumstances, for a development or redevelopment proposal, minor relaxation of the set back restriction stated in paragraph (3) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

COMPREHENSIVE DEVELOPMENT AREA

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
	Ambulance Depot Commercial Bathhouse/Massage Establishment Eating Place Educational Institution Exhibition or Convention Hall Flat Government Refuse Collection Point Government Use (not elsewhere specified) Hospital Hotel House Information Technology and Telecommunications Industries Institutional Use (not elsewhere specified) Library Market Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Off-course Betting Centre Office Petrol Filling Station Place of Entertainment Place of Recreation, Sports or Culture Private Club Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) Recyclable Collection Centre Religious Institution Research, Design and Development Centre Residential Institution School Shop and Services Social Welfare Facility Training Centre Utility Installation for Private Project

(Please see next page)

COMPREHENSIVE DEVELOPMENT AREA (Cont'd)

Planning Intention

This zone is intended for comprehensive development/redevelopment of the area for residential and/or commercial uses with the provision of open space and other supporting facilities. The zoning is to facilitate appropriate planning control over the development mix, scale, design and layout of development, taking account of various environmental, traffic, infrastructure and other constraints.

Remarks

- (1) Pursuant to Section 4A(2) of the Town Planning Ordinance, and except as otherwise expressly provided that it is not required by the Town Planning Board, an applicant for permission for development on land designated "Comprehensive Development Area" shall prepare a Master Layout Plan for the approval of the Town Planning Board and include therein the following information :
- (a) the area of proposed land uses, the nature, position, dimensions, and heights of all buildings to be erected in the area;
  - (b) the proposed total site area and gross floor area for various uses, total number of flats and flat size, where applicable;
  - (c) the details and extent of Government, institution or community (GIC) and recreational facilities, public transport and parking facilities, and open space to be provided within the area;
  - (d) the alignment, widths and levels of any roads proposed to be constructed within the area;
  - (e) the landscape and urban design proposals within the area;
  - (f) programmes of development in detail;
  - (g) an environmental assessment report to examine any possible environmental problems that may be caused to or by the proposed development during and after construction and the proposed mitigation measures to tackle them;
  - (h) a drainage and sewerage impact assessment report to examine any possible drainage and sewerage problems that may be caused by the proposed development and the proposed mitigation measures to tackle them;
  - (i) a traffic impact assessment report to examine any possible traffic problems that may be caused by the proposed development and the proposed mitigation measures to tackle them;
  - (j) an air ventilation assessment report to examine any possible air ventilation problems that may be caused to or by the proposed development and the proposed mitigation measures to tackle them; and

(Please see next page)

COMPREHENSIVE DEVELOPMENT AREA (Cont'd)

Remarks (Cont'd)

- (k) such other information as may be required by the Town Planning Board.
- (2) The Master Layout Plan should be supported by an explanatory statement which contains an adequate explanation of the development proposal, including such information as land tenure, relevant lease conditions, existing conditions of the site, the character of the site in relation to the surrounding areas, principles of layout design, major development parameters, design population, types of GIC facilities, and recreational and open space facilities.
- (3) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum total plot ratio of 5.0 for the site north of Lai King Hill Road and a maximum total plot ratio of 6.36 for the site at Cheung Wing Road, or the plot ratio of the existing building, whichever is the greater.
- (4) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building heights in terms of metres above Principal Datum as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (5) In determining the maximum plot ratio for the purposes of paragraph (3) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.
- (6) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio/building height restrictions stated in paragraphs (3) and (4) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

RESIDENTIAL (GROUP A)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Ambulance Depot	Commercial Bathhouse/Massage Establishment
Flat	Eating Place
Government Use (not elsewhere specified)	Educational Institution
House	Exhibition or Convention Hall
Library	Government Refuse Collection Point
Market	Hospital
Place of Recreation, Sports or Culture	Hotel
Public Clinic	Institutional Use (not elsewhere specified)
Public Transport Terminus or Station (excluding open-air terminus or station)	Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances
Residential Institution	Office
Rural Committee/Village Office	Petrol Filling Station
School (in free-standing purpose-designed building only)	Place of Entertainment
Social Welfare Facility	Private Club
Utility Installation for Private Project	Public Convenience
	Public Transport Terminus or Station (not elsewhere specified)
	Public Utility Installation
	Public Vehicle Park (excluding container vehicle)
	Religious Institution
	School (not elsewhere specified)
	Shop and Services
	Training Centre
In addition, the following uses are always permitted (a) on the lowest three floors of a building, taken to include basements; or (b) in the purpose-designed non-residential portion of an existing building, both excluding floors containing wholly or mainly car parking, loading/unloading bays and/or plant room :	
Eating Place	
Educational Institution	
Institutional Use (not elsewhere specified)	
Off-course Betting Centre	
Office	
Place of Entertainment	
Private Club	
Public Convenience	
Recyclable Collection Centre	
School	
Shop and Services	
Training Centre	

(Please see next page)

RESIDENTIAL (GROUP A) (Cont'd)

Planning Intention

This zone is intended primarily for high-density residential developments. Commercial uses are always permitted on the lowest three floors of a building or in the purpose-designed non-residential portion of an existing building.

Remarks

- (1) On land designated “Residential (Group A)” (“R(A)”), no new development for a domestic or non-domestic building shall exceed a maximum domestic plot ratio of 5.0 or a maximum non-domestic plot ratio of 9.5, as the case may be. For new development of a building that is partly domestic and partly non-domestic, the plot ratio of the domestic part of the building shall not exceed the product of the difference between the maximum non-domestic plot ratio of 9.5 and the actual non-domestic plot ratio proposed for the building and the maximum domestic plot ratio of 5.0 divided by the maximum non-domestic plot ratio of 9.5.
- (2) On land designated “Residential (Group A)2” (“R(A)2”), no new development for a domestic or non-domestic building shall exceed a maximum domestic plot ratio of 6.0 or a maximum non-domestic plot ratio of 9.5, as the case may be. For new development of a building that is partly domestic and partly non-domestic, the plot ratio of the domestic part of the building shall not exceed the product of the difference between the maximum non-domestic plot ratio of 9.5 and the actual non-domestic plot ratio proposed for the building and the maximum domestic plot ratio of 6.0 divided by the maximum non-domestic plot ratio of 9.5.
- (3) For the purpose of paragraphs (1) and (2) above, on land designated “R(A)” and “R(A)2”, no addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the relevant maximum domestic and/or non-domestic plot ratio(s), or the domestic and/or non-domestic plot ratio(s) of the existing building, whichever is the greater, subject to, as applicable :
  - (a) the plot ratio(s) of the existing building shall apply only if any addition, alteration and/or modification to or redevelopment of an existing building is for the same type of building as the existing building, i.e. domestic, non-domestic, or partly domestic and partly non-domestic building; or
  - (b) the maximum domestic and/or non-domestic plot ratio(s) stated in paragraphs (1) or (2) above shall apply if any addition, alteration and/or modification to or redevelopment of an existing building is not for the same type of building as the existing building, i.e. domestic, non-domestic, or partly domestic and partly non-domestic building.
- (4) On land designated “Residential (Group A) 1” (“R(A)1”), no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum domestic gross floor area (GFA) of 42 700m<sup>2</sup> and a maximum non-domestic GFA of 9 346m<sup>2</sup>, or the GFA of the existing building, whichever is the greater.

(Please see next page)

RESIDENTIAL (GROUP A) (Cont'd)

Remarks (Cont'd)

- (5) On land designated “R(A)”, “R(A)1” and “R(A)2”, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building heights in terms of metres above Principal Datum (mPD) as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (6) On land demarcated for a building gap of varying widths (ranging from 35m to 217m) between Kwai Chung Road and Lai King Hill Road as shown on the Plan, no new development (except minor addition, alteration and/or modification not affecting the building height of the existing building) or redevelopment of an existing building shall exceed the maximum building height restriction of 24mPD.
- (7) On land demarcated for a 30m-wide building gap for the “R(A)2” site at Lai Kong Street as shown on the Plan, no new development (except minor addition, alteration and/or modification not affecting the building height of the existing building) or redevelopment of an existing building shall exceed the maximum building height restriction of 163mPD.
- (8) A public transport terminus shall be provided at the “R(A)2” site at Lai Kong Street.
- (9) A minimum 3.5m-wide non-building area from the lot boundary abutting Ta Chuen Ping Street (except 29A-33, 37-39, 41-43 and 47 Ta Chuen Ping Street) shall be provided.
- (10) In determining the relevant maximum plot ratio for the purposes of paragraphs (1), (2) and (3) above, area of any part of the site that is occupied or intended to be occupied by free-standing purpose-designed buildings (including both developed on ground and on podium level) solely for accommodating Government, institution or community facilities including school(s) as may be required by Government shall be deducted in calculating the relevant site area.
- (11) In determining the maximum plot ratio for the purposes of paragraphs (1), (2) and (3) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker’s office, or caretaker’s quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.
- (12) In determining the relevant maximum GFA for the purposes of paragraph (4) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker’s office, or caretaker’s quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded. Any floor space that is constructed or intended for use solely as public transport facilities, as required by the Government, may also be disregarded.

(Please see next page)



RESIDENTIAL (GROUP A) (Cont'd)

Remarks (Cont'd)

- (13) Where the permitted plot ratio as defined in Building (Planning) Regulations is permitted to be exceeded in circumstances as set out in Regulation 22(1) or (2) of the said Regulations, the plot ratio/GFA for the building on land to which paragraph (1), (2), (3) or (4) applies may be increased by the additional plot ratio by which the permitted plot ratio/GFA is permitted to be exceeded under and in accordance with the said Regulation 22(1) or (2), notwithstanding that the relevant maximum plot ratio/GFA specified in paragraphs (1), (2), (3) and (4) above may thereby be exceeded.
- (14) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio/GFA/building height/building gap restrictions stated in paragraphs (1), (2), (4) to (7) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.
- (15) Under exceptional circumstances, for a development or redevelopment proposal, minor relaxation of the non-building area restrictions as shown on the Plan or stated in paragraph (9) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

RESIDENTIAL (GROUP B)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Flat	Eating Place
Government Use (Police Reporting Centre, Post Office only)	Educational Institution
House	Government Refuse Collection Point
Library	Government Use (not elsewhere specified)
Residential Institution	Hospital
School (in free-standing purpose-designed building only)	Hotel
Utility Installation for Private Project	Institutional Use (not elsewhere specified)
	Market
	Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances
	Off-course Betting Centre
	Office
	Petrol Filling Station
	Place of Entertainment
	Place of Recreation, Sports or Culture
	Private Club
	Public Clinic
	Public Convenience
	Public Transport Terminus or Station
	Public Utility Installation
	Public Vehicle Park (excluding container vehicle)
	Recyclable Collection Centre
	Religious Institution
	School (not elsewhere specified)
	Shop and Services
	Social Welfare Facility
	Training Centre

Planning Intention

This zone is intended primarily for medium-density residential developments where commercial uses serving the residential neighbourhood may be permitted on application to the Town Planning Board.

(Please see next page)

RESIDENTIAL (GROUP B) (Cont'd)

Remarks

- (1) On land designated “Residential (Group B) 1” (“R(B)1”) to “R(B)7”, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum total plot ratio/gross floor area (GFA), site coverage and building height in terms of number of storeys as specified below or metres above Principal Datum as stipulated on the Plan, or the plot ratio/GFA/site coverage/building height of the existing building, whichever is the greater:

<u>Sub-area</u>	<u>Restrictions</u>
“R(B)1”	maximum plot ratio of 2.0, maximum site coverage of 66.6%, and maximum building height of 3 storeys in addition to 1 storey of carport
“R(B)2”	maximum GFA of 139 860m <sup>2</sup>
“R(B)3”	maximum GFA of 23 310m <sup>2</sup>
“R(B)4”	maximum domestic GFA of 40 209m <sup>2</sup> , and maximum non-domestic GFA of 316m <sup>2</sup>
“R(B)5”	maximum GFA of 11 804m <sup>2</sup>
“R(B)6”	maximum plot ratio of 2.0
“R(B)7”	maximum domestic GFA of 15 300m <sup>2</sup> , and maximum non-domestic GFA of 3 336m <sup>2</sup>

- (2) On land designated “R(B)2”, any new development (except minor addition, alteration and/or modification not affecting the building height of the existing building) or redevelopment of an existing building requires permission from the Town Planning Board under section 16 of the Town Planning Ordinance with the support of a layout plan and the following information:

- (a) the proposed total site area and total GFA for various uses;
- (b) the nature, position, dimensions, and heights of all buildings to be erected in the area;
- (c) a visual impact assessment to examine any visual problems that may be caused by the new development or redevelopment and the proposed mitigation measures to tackle them; and
- (d) such other information as may be required by the Town Planning Board.

(Please see next page)

RESIDENTIAL (GROUP B) (Cont'd)

Remarks (Cont'd)

- (3) In determining the maximum plot ratio/GFA/site coverage for the purposes of paragraph (1) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, or caretaker's quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.
- (4) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio/GFA/site coverage/building height restrictions stated in paragraph (1) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

RESIDENTIAL (GROUP E)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Schedule I : for open-air development or for building other than industrial or industrial-office building @	
Ambulance Depot	Commercial Bathhouse/Massage Establishment
Government Use (not elsewhere specified)	Eating Place
Public Transport Terminus or Station (excluding open-air terminus or station)	Educational Institution
Utility Installation for Private Project	Exhibition or Convention Hall
	Flat
	Government Refuse Collection Point
	Hospital
	Hotel
	House
	Institutional Use (not elsewhere specified)
	Library
	Market
	Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrance
	Office
	Petrol Filling Station
	Place of Entertainment
	Place of Recreation, Sports or Culture
	Private Club
	Public Clinic
	Public Convenience
	Public Transport Terminus or Station (not elsewhere specified)
	Public Utility Installation
	Public Vehicle Park (excluding container vehicle)
	Religious Institution
	Residential Institution
	School
	Shop and Services
	Social Welfare Facility
	Training Centre

(Please see next page)

RESIDENTIAL (GROUP E) (Cont'd)

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In addition, the following uses are always permitted (a) on the lowest three floors of a building, taken to include basements; or (b) in the purpose-designed non-residential portion of an existing building, both excluding floors containing wholly or mainly car parking, loading/unloading bays and/or plant room:

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Eating Place  
Educational Institution  
Institutional Use (not elsewhere specified)  
Library  
Off-course Betting Centre (excluding land designated “R(E)1”)  
Office  
Place of Entertainment  
Place of Recreation, Sports or Culture  
Private Club (excluding land designated “R(E)1”)  
Public Clinic  
Public Convenience  
Recyclable Collection Centre  
School  
Shop and Services  
Social Welfare Facility  
Training Centre (excluding land designated “R(E)1”)

(Please see next page)

RESIDENTIAL (GROUP E) (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Schedule II : for existing industrial or industrial-office building <sup>@</sup> (excluding land designated "R(E)1")	
<p>Ambulance Depot</p> <p><b><i>Art Studio (excluding those involving direct provision of services or goods)</i></b></p> <p>Eating Place (Canteen only)</p> <p>Government Refuse Collection Point</p> <p>Government Use (not elsewhere specified)</p> <p>Information Technology and Telecommunications Industries</p> <p>Non-polluting Industrial Use (excluding industrial undertakings involving the use/storage of Dangerous Goods<sup>^</sup>)</p> <p>Office (Audio-visual Recording Studio, Design and Media Production, Office Related to Industrial Use only)</p> <p>Public Convenience</p> <p>Public Transport Terminus or Station</p> <p>Public Utility Installation</p> <p>Public Vehicle Park (excluding container vehicle)</p> <p>Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation</p> <p>Recyclable Collection Centre</p> <p>Research, Design and Development Centre</p> <p>Shop and Services (Motor-vehicle Showroom on ground floor, Service Trades only)</p> <p>Utility Installation for Private Project</p> <p>Warehouse (excluding Dangerous Goods Godown)</p>	<p>Cargo Handling and Forwarding Facility (Container Freight Station, free-standing purpose-designed Logistics Centre only)</p> <p>Industrial Use (not elsewhere specified)</p> <p>Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances</p> <p>Off-course Betting Centre</p> <p>Office (not elsewhere specified)</p> <p>Petrol Filling Station</p> <p>Place of Recreation, Sports or Culture (<b><i>not elsewhere specified</i></b>)</p> <p>Private Club</p> <p>Shop and Services (not elsewhere specified) (ground floor only except Ancillary Showroom<sup>#</sup> which may be permitted on any floor)</p> <p>Vehicle Repair Workshop</p> <p>Wholesale Trade</p>

(Please see next page)

RESIDENTIAL (GROUP E) (Cont'd)

In addition, the following uses are always permitted in the purpose-designed non-industrial portion on the lower floors (except basements and floors containing wholly or mainly car parking, loading/unloading bays and/or plant room) of an existing building, provided that the uses are separated from the industrial uses located above by a buffer floor or floors and no industrial uses are located within the non-industrial portion :

In addition, the following use may be permitted with or without conditions on application to the Town Planning Board in the purpose-designed non-industrial portion on the lower floors (except basements and floors containing wholly or mainly car parking, loading/ unloading bays and/or plant room) of an existing building, provided that the use is separated from the industrial uses located above by a buffer floor or floors and no industrial uses are located within the non-industrial portion :

Commercial Bathhouse/Massage Establishment  
Eating Place  
Educational Institution  
Exhibition or Convention Hall  
Institutional Use (not elsewhere specified)  
Library  
Off-course Betting Centre  
Office  
Place of Entertainment  
Place of Recreation, Sports or Culture  
Private Club  
Public Clinic  
Religious Institution  
School (excluding kindergarten)  
Shop and Services  
Training Centre

Social Welfare Facility (excluding those involving residential care)

- @ An industrial or industrial-office building means a building which is constructed for or intended to be used by industrial or industrial-office purpose respectively as approved by the Building Authority.
- △ Dangerous Goods refer to substances classified as Dangerous Goods and requiring a licence for their use/storage under the Dangerous Goods Ordinance (Cap. 295).
- # Ancillary Showroom requiring planning permission refers to showroom use of greater than 20% of the total usable floor area of an industrial firm in the same premises or building.

(Please see next page)



RESIDENTIAL (GROUP E) (Cont'd)

Planning Intention

This zone is intended primarily for phasing out of existing industrial uses through redevelopment (or conversion) for residential use on application to the Town Planning Board. Whilst existing industrial uses will be tolerated, new industrial developments are not permitted in order to avoid perpetuation of industrial/residential interface problem.

The sub-area “Residential (Group E) 1” is intended for public rental housing development with specific environmental mitigation measures requirements. This zoning is to facilitate appropriate planning control over the scale, design and layout of development, taking into account various environmental constraints.

Remarks

- (1) On land designated “Residential (Group E)” (“R(E)”) and “Residential (Group E) 1” (“R(E)1”), no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum total plot ratio of 5.0, or the plot ratio of the existing building, whichever is the greater.
- (2) On land designated “R(E)” and “R(E)1”, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building heights in terms of metres above Principal Datum as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (3) On land designated “R(E)” and “R(E)1”, in determining the relevant maximum plot ratio for the purposes of paragraph (1) above, area of any part of the site that is occupied or intended to be occupied by free-standing purpose-designed buildings (including both developed on ground and on podium level) solely for accommodating Government, institution or community facilities including school(s) as may be required by Government shall be deducted in calculating the relevant site area.
- (4) In determining the maximum plot ratio for the purpose of paragraph (1) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker’s office, or caretaker’s quarters and recreational facilities for the use and benefit of all the owners or occupiers of the domestic building or domestic part of the building, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.
- (5) Where the permitted plot ratio as defined in Building (Planning) Regulations is permitted to be exceeded in circumstances as set out in Regulation 22(1) or (2) of the said Regulations, the plot ratio for the building on land to which paragraph (1) applies may be increased by the additional plot ratio by which the permitted plot ratio is permitted to be exceeded under and in accordance with the said Regulation 22(1) or (2), notwithstanding that the relevant maximum plot ratio specified in paragraph (1) above may thereby be exceeded.
- (6) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio/building height restrictions stated in paragraphs (1) and (2) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

VILLAGE TYPE DEVELOPMENT

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use Government Use (Police Reporting Centre, Post Office only) House (New Territories Exempted House only) On-Farm Domestic Structure Religious Institution (Ancestral Hall only) Rural Committee / Village Office	Eating Place Government Refuse Collection Point Government Use (not elsewhere specified) # House (not elsewhere specified) Institutional Use (not elsewhere specified) # Place of Recreation, Sports or Culture Private Club Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation # Public Vehicle Park (excluding container vehicle) Religious Institution (not elsewhere specified) # Residential Institution # School # Shop and Services Social Welfare Facility # Utility Installation for Private Project
In addition, the following uses are always permitted on the ground floor of a New Territories Exempted House :	
Eating Place Library School Shop and Services	

Planning Intention

The planning intention of this zone is primarily for the provision of land for the retention and expansion of existing villages as well as reservation of land for the reprovisioning of village houses affected by Government projects. Selected commercial and community uses serving the needs of the villagers and in support of the village development are always permitted on the ground floor of a New Territories Exempted House. Other commercial, community and recreational uses may be permitted on application to the Town Planning Board.

Remarks

- (1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building (except development or redevelopment to those annotated with #) shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys (8.23m), or the height of the existing building, whichever is the greater.
- (2) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (1) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

INDUSTRIAL

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Ambulance Depot	Asphalt Plant/Concrete Batching Plant
<i>Art Studio (excluding those involving direct provision of services or goods)</i>	Broadcasting, Television and/or Film Studio
Bus Depot	Cargo Handling and Forwarding Facility (Container Freight Station, free-standing purpose-designed Logistics Centre only)
Cargo Handling and Forwarding Facility (not elsewhere specified)	Container Vehicle Park/Container Vehicle Repair Yard
Eating Place (Canteen, Cooked Food Centre only)	Dangerous Goods Godown
Government Refuse Collection Point	Eating Place (not elsewhere specified) (in wholesale conversion of an existing building only)
Government Use (not elsewhere specified)	Educational Institution (in wholesale conversion of an existing building only)
Industrial Use (not elsewhere specified)	Exhibition or Convention Hall
Information Technology and Telecommunications Industries	Industrial Use (Bleaching and Dyeing Factory, Electroplating/Printed Circuit Board Manufacture Factory, Metal Casting and Treatment Factory/Workshop only)
Office (Audio-visual Recording Studio, Design and Media Production, Office Related to Industrial Use only)	Institutional Use (not elsewhere specified) (in wholesale conversion of an existing building only)
Public Convenience	Marine Fuelling Station
Public Transport Terminus or Station	Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances
Public Utility Installation	Off-course Betting Centre
Public Vehicle Park (excluding container vehicle)	Offensive Trades
Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation	Office (not elsewhere specified)
Recyclable Collection Centre	Open Storage
Research, Design and Development Centre	Petrol Filling Station
Shop and Services (Motor-vehicle Showroom on ground floor, Service Trades only)	Pier
Utility Installation for Private Project	Place of Entertainment (in wholesale conversion of an existing building only)
Vehicle Repair Workshop	Place of Recreation, Sports or Culture ( <i>not elsewhere specified</i> )
Warehouse (excluding Dangerous Goods Godown)	Private Club
	Public Clinic (in wholesale conversion of an existing building only)
	Religious Institution (in wholesale conversion of an existing building only)
	Ship-building, Ship-breaking and Ship-repairing Yard
	Shop and Services (not elsewhere specified) (ground floor only, except in wholesale conversion of an existing building and Ancillary Showroom <sup>#</sup> which may be permitted on any floor)

(Please see next page)

INDUSTRIAL (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
	Training Centre (in wholesale conversion of an existing building only) Vehicle Stripping/Breaking Yard Wholesale Trade
In addition, the following uses are always permitted in the purpose-designed non-industrial portion on the lower floors (except basements and floors containing wholly or mainly car parking, loading/unloading bays and/or plant room) of an existing building, provided that the uses are separated from the industrial uses located above by a buffer floor or floors and no industrial uses are located within the non-industrial portion :	In addition, the following use may be permitted with or without conditions on application to the Town Planning Board in the purpose-designed non-industrial portion on the lower floors (except basements and floors containing wholly or mainly car parking, loading/unloading bays and/or plant room) of an existing building, provided that the use is separated from the industrial uses located above by a buffer floor or floors and no industrial uses are located within the non-industrial portion :
Eating Place Educational Institution Exhibition or Convention Hall Institutional Use (not elsewhere specified) Off-course Betting Centre Office Place of Entertainment Place of Recreation, Sports or Culture Private Club Public Clinic Religious Institution Shop and Services Training Centre	Social Welfare Facility (excluding those involving residential care)

- # Ancillary Showroom requiring planning permission refers to showroom use of greater than 20% of the total usable floor area of an industrial firm in the same premises or building.

Planning Intention

This zone is intended primarily for general industrial uses to ensure an adequate supply of industrial floor space to meet demand from production-oriented industries. Information technology and telecommunications industries, ~~and~~ office related to industrial use, **and selected uses akin to industrial production and would not compromise building and fire safety** are also always permitted in this zone.

(Please see next page)

INDUSTRIAL (Cont'd)

Remarks

- (1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum total plot ratio of 9.5, or the plot ratio of the existing building, whichever is the greater.
- (2) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building heights in terms of metres above Principal Datum (mPD) as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (3) On land demarcated for a 15m-wide building gap from Wing Yip Street to Kwai On Road and a 50m-wide building gap between Tsuen Wan Road and Kwai Fuk Road as shown on the Plan, no new development (except minor addition, alteration and/or modification not affecting the building height of the existing building) or redevelopment of an existing building shall exceed the maximum building height restrictions of 18mPD and 24mPD respectively.
- (4) In determining the maximum plot ratio for the purposes of paragraph (1) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.
- (5) Where the permitted plot ratio as defined in Building (Planning) Regulations is permitted to be exceeded in circumstances as set out in Regulation 22(1) or (2) of the said Regulations, the plot ratio for the building on land to which paragraph (1) applies may be increased by the additional plot ratio by which the permitted plot ratio is permitted to be exceeded under and in accordance with the said Regulation 22(1) or (2), notwithstanding that the relevant maximum plot ratio specified in paragraph (1) above may thereby be exceeded.
- (6) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio/building height/building gap restrictions stated in paragraphs (1) to (3) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.
- (7) Under exceptional circumstances, for a development or redevelopment proposal, minor relaxation of the non-building area restrictions as shown on the Plan may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

GOVERNMENT, INSTITUTION OR COMMUNITY

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Schedule I: for “Government, Institution or Community” and “Government, Institution or Community (2)”	
Ambulance Depot	Animal Boarding Establishment
Animal Quarantine Centre (in Government building only)	Animal Quarantine Centre (not elsewhere specified)
Broadcasting, Television and/or Film Studio	Columbarium
Cable Car Route and Terminal Building	Correctional Institution
Eating Place (Canteen, Cooked Food Centre only)	Crematorium
Educational Institution	Driving School
Exhibition or Convention Hall	Eating Place (not elsewhere specified)
Field Study/Education/Visitor Centre	Firing Range
Government Refuse Collection Point	Flat
Government Use (not elsewhere specified)	Funeral Facility
Hospital	Helicopter Fuelling Station
Institutional Use (not elsewhere specified)	Helicopter Landing Pad
Library	Holiday Camp
Market	Hotel
Pier	House
Place of Recreation, Sports or Culture	Marine Fuelling Station
Public Clinic	Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances
Public Convenience	Off-course Betting Centre
Public Transport Terminus or Station	Office
Public Utility Installation	Petrol Filling Station
Public Vehicle Park (excluding container vehicle)	Place of Entertainment
Recyclable Collection Centre	Private Club
Religious Institution	Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation
Research, Design and Development Centre	Refuse Disposal Installation (Refuse Transfer Station only)
Rural Committee/Village Office	Residential Institution
School	Sewage Treatment/Screening Plant
Service Reservoir	Shop and Services
Social Welfare Facility	Utility Installation for Private Project
Training Centre	
Wholesale Trade	

(Please see next page)

GOVERNMENT, INSTITUTION OR COMMUNITY (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Schedule II: for "Government, Institution or Community (1)"	
Ambulance Depot	Animal Boarding Establishment
Eating Place (Canteen, Cooked Food Centre only)	Animal Quarantine Centre
Government Refuse Collection Point	Broadcasting, Television and/or Film Studio
Government Use (not elsewhere specified)	Columbarium
Market	Correctional Institution
Public Convenience	Crematorium
Public Transport Terminus or Station	Driving School
Public Utility Installation	Eating Place (not elsewhere specified)
Public Vehicle Park (excluding container vehicle)	Educational Institution
Recyclable Collection Centre	Exhibition or Convention Hall
Research, Design and Development Centre	Firing Range
	Funeral Facility
	Helicopter Fuelling Station
	Helicopter Landing Pad
	Institutional Use (not elsewhere specified)
	Library
	Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances
	Off-course Betting Centre
	Office
	Petrol Filling Station
	Place of Entertainment
	Place of Recreation, Sports or Culture
	Private Club
	Public Clinic
	Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation
	Refuse Disposal Installation (Refuse Transfer Station only)
	Religious Institution
	Service Reservoir
	Sewage Treatment/Screening Plant
	Shop and Services
	Social Welfare Facility (excluding those involving residential care)
	Training Centre
	Utility Installation for Private Project
	Wholesale Trade

(Please see next page)

GOVERNMENT, INSTITUTION OR COMMUNITY (Cont'd)

Planning Intention

This zone is intended primarily for the provision of Government, institution or community (GIC) facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments. The “Government, Institution or Community (1)” (“G/IC(1)”) sub-area covers land within industrial area. In view of the environmental conditions of such land, only selected GIC facilities are permitted on land designated “G/IC(1)”. Some other community and social welfare facilities may be permitted on application to the Town Planning Board.

Remarks

- (1) On land designated “Government, Institution or Community” (“G/IC”) and “G/IC(1)”, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building heights in terms of number of storeys or metres above Principal Datum as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (2) On land designated “G/IC(2)”, no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum building height of 3 storeys as stipulated on the Plan, except for a drill tower up to 9 storeys, or the height of the existing building, whichever is the greater.
- (3) In determining the relevant maximum number of storeys for the purposes of paragraphs (1) and (2) above, any basement floor(s) may be disregarded.
- (4) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraphs (1) or (2) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.



OPEN SPACE

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Aviary Barbecue Spot Field Study/Education/Visitor Centre Park and Garden Pavilion Pedestrian Area Picnic Area Playground/Playing Field Promenade Public Convenience Sitting Out Area Zoo	Cable Car Route and Terminal Building Eating Place Government Refuse Collection Point Government Use (not elsewhere specified) Holiday Camp Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Place of Entertainment Place of Recreation, Sports or Culture Private Club Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) Religious Institution Service Reservoir Shop and Services Tent Camping Ground Utility Installation for Private Project

Planning Intention

This zone is intended primarily for the provision of outdoor open-air public space for active and/or passive recreational uses serving the needs of local residents as well as the general public.

OTHER SPECIFIED USES

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
<u>For “Cemetery” and “Funeral Parlours and Crematorium” Only</u>	
Columbarium	Place of Recreation, Sports or Culture
Crematorium	Public Transport Terminus or Station
Funeral Facility	Public Utility Installation
Government Use (not elsewhere specified)	Religious Institution
Grave	Shop and Services
Public Convenience	Utility Installation for Private Project
Refreshment Kiosk	

Planning Intention

This zone is intended primarily for the provision of cemetery and funeral facilities.

Remarks

- (1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building heights in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (2) In determining the relevant maximum number of storeys for the purposes of paragraph (1) above, any basement floor(s) may be disregarded.
- (3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraph (1) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
<u>For "Container Terminal" Only</u>	
Cargo Handling and Forwarding Facility	Ambulance Depot
Container Storage/Repair Yard	Dangerous Goods Godown
Container Vehicle Park/Container Vehicle Repair Yard	Eating Place (not elsewhere specified)
Eating Place (Canteen, Cooked Food Centre only)	Industrial Use
Government Refuse Collection Point	Marine Fuelling Station
Government Use (not elsewhere specified)	Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances
Pier	Petrol Filling Station
Private Club	Place of Recreation, Sports or Culture
Public Convenience	Public Clinic
Public Transport Terminus or Station	Refuse Disposal Installation
Public Utility Installation	Shop and Services (not elsewhere specified)
Public Vehicle Park	Social Welfare Facility
Shop and Services (Service Trades only)	Utility Installation for Private Project
Warehouse (excluding Dangerous Goods Godown)	Vehicle Repair Workshop

Planning Intention

This zone is intended primarily to cater for the development of container terminals and the associated port back-up facilities.

Remarks

- (1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building heights in terms of number of storeys or metres above Principal Datum as stipulated on the Plan (except container stacks and crane structures), or the height of the existing building, whichever is the greater.
- (2) In determining the relevant maximum number of storeys for the purposes of paragraph (1) above, any basement floor(s) may be disregarded.
- (3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraph (1) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.
- (4) Under exceptional circumstances, for a development or redevelopment proposal, minor relaxation of the non-building area restrictions as shown on the Plan may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
<u>For "Container Related Uses" Only</u>	
Cargo Handling and Forwarding Facility	Ambulance Depot
Container Storage/Repair Yard	Dangerous Goods Godown
Container Vehicle Park/Container Vehicle Repair Yard	Eating Place (not elsewhere specified)
Eating Place (Canteen, Cooked Food Centre only)	Industrial Use
Government Refuse Collection Point	Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances
Government Use (not elsewhere specified)	Petrol Filling Station
Public Convenience	Place of Recreation, Sports or Culture
Public Transport Terminus or Station	Public Clinic
Public Utility Installation	Refuse Disposal Installation
Public Vehicle Park	Shop and Services (not elsewhere specified)
Shop and Services (Service Trades only)	Social Welfare Facility
Warehouse (excluding Dangerous Goods Godown)	Utility Installation for Private Project
	Vehicle Repair Workshop

Planning Intention

This zone is intended primarily to cater for the container related uses and port back-up facilities. Port related development such as container freight station, logistics centre, container vehicle park and container storage and repair yard are permitted within this zone.

Remarks

- (1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building heights in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (2) In determining the relevant maximum number of storeys for the purposes of paragraph (1) above, any basement floor(s) may be disregarded.
- (3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraph (1) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

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OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
<u>For "Business" Only</u>	
Schedule I: for open-air development or for building other than industrial or industrial-office building@	
<p>Ambulance Depot</p> <p>Commercial Bathhouse/Massage Establishment</p> <p>Eating Place</p> <p>Educational Institution</p> <p>Exhibition or Convention Hall</p> <p>Government Use (Police Reporting Centre, Post Office only)</p> <p>Information Technology and Telecommunications Industries</p> <p>Institutional Use (not elsewhere specified)</p> <p>Library</p> <p>Non-polluting Industrial Use (excluding industrial undertakings involving the use/storage of Dangerous Goods <sup>Δ</sup>)</p> <p>Off-course Betting Centre</p> <p>Office</p> <p>Place of Entertainment</p> <p>Place of Recreation, Sports or Culture</p> <p>Private Club</p> <p>Public Clinic</p> <p>Public Convenience</p> <p>Public Transport Terminus or Station</p> <p>Public Utility Installation</p> <p>Public Vehicle Park (excluding container vehicle)</p> <p>Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation</p> <p>Recyclable Collection Centre</p> <p>Religious Institution</p> <p>Research, Design and Development Centre</p> <p>School (excluding free-standing purpose-designed building and kindergarten)</p> <p>Shop and Services</p> <p>Training Centre</p> <p>Utility Installation for Private Project</p>	<p>Broadcasting, Television and/or Film Studio</p> <p>Cargo Handling and Forwarding Facility</p> <p>Government Refuse Collection Point</p> <p>Government Use (not elsewhere specified)</p> <p>Hotel</p> <p>Mass Transit Railway Vent Shaft and/or Other Structure above ground level other than Entrances</p> <p>Non-polluting Industrial Use (not elsewhere specified)</p> <p>Petrol Filling Station</p> <p>School (not elsewhere specified)</p> <p>Social Welfare Facility (excluding those involving residential care)</p> <p>Warehouse (excluding Dangerous Goods Godown)</p> <p>Wholesale Trade</p>

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OTHER SPECIFIED USES (Cont'd)

For "Business" Only (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Schedule II: for industrial or industrial-office building <sup>@</sup>	
Ambulance Depot	Broadcasting, Television and/or Film Studio
<b>Art Studio (excluding those involving direct provision of services or goods)</b>	Cargo Handling and Forwarding Facility (Container Freight Station, free-standing purpose-designed Logistics Centre only)
Bus Depot	Industrial Use (not elsewhere specified)
Cargo Handling and Forwarding Facility (not elsewhere specified)	Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances
Eating Place (Canteen only)	Off-course Betting Centre
Government Refuse Collection Point	Office (not elsewhere specified)
Government Use (not elsewhere specified)	Petrol Filling Station
Information Technology and Telecommunications Industries	Place of Recreation, Sports or Culture ( <b>not elsewhere specified</b> )
Non-polluting Industrial Use (excluding industrial undertakings involving the use/storage of Dangerous Goods <sup>^</sup> )	Private Club
Office (excluding those involving direct provision of customer services or goods)	Shop and Services (not elsewhere specified) (ground floor only except Ancillary Showroom <sup>#</sup> which may be permitted on any floor)
Public Convenience	Vehicle Repair Workshop
Public Transport Terminus or Station	Wholesale Trade
Public Utility Installation	
Public Vehicle Park (excluding container vehicle)	
Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation	
Recyclable Collection Centre	
Research, Design and Development Centre	
Shop and Services (Motor-vehicle Showroom on ground floor, Service Trades only)	
Utility Installation for Private Project	
Warehouse (excluding Dangerous Goods Godown)	

In addition, for building without industrial undertakings involving offensive trades or the use/storage of Dangerous Goods<sup>^</sup>, the following use is always permitted :

Office

(Please see next page)

# OTHER SPECIFIED USES (Cont'd)

## For "Business" Only (Cont'd)

In addition, the following uses are always permitted in the purpose-designed non-industrial portion on the lower floors (except basements and floors containing wholly or mainly car parking, loading/unloading bays and/or plant room) of an existing building, provided that the uses are separated from the industrial uses located above by a buffer floor or floors and no industrial uses are located within the non-industrial portion :

In addition, the following use may be permitted with or without conditions on application to the Town Planning Board in the purpose-designed non-industrial portion on the lower floors (except basements and floors containing wholly or mainly car parking, loading/unloading bays and/or plant room) of an existing building provided that the use is separated from the industrial uses located above by a buffer floor or floors and no industrial uses are located within the non-industrial portion :

Commercial Bathhouse/Massage Establishment  
Eating Place  
Educational Institution  
Exhibition or Convention Hall  
Institutional Use (not elsewhere specified)  
Library  
Off-course Betting Centre  
Office  
Place of Entertainment  
Place of Recreation, Sports or Culture  
Private Club  
Public Clinic  
Religious Institution  
School (excluding kindergarten)  
Shop and Services  
Training Centre

Social Welfare Facility (excluding those involving residential care)

- @ An industrial or industrial-office building means a building which is constructed for or intended to be occupied by industrial or industrial-office purpose respectively as approved by the Building Authority.
- Δ Dangerous Goods refer to substances classified as Dangerous Goods and requiring a licence for their use/storage under the Dangerous Goods Ordinance (Cap.295).
- # Ancillary Showroom requiring planning permission refers to showroom use of greater than 20% of the total usable floor area of an industrial firm in the same premises or building.

## Planning Intention

This zone is intended primarily for general business uses. A mix of information technology and telecommunications industries, non-polluting industrial, office and other commercial uses are always permitted in new "business" buildings. Less fire hazard-prone office use that would not involve direct provision of customer services or goods to the general public is always permitted in existing industrial or industrial-office buildings.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

For "Business" Only (Cont'd)

Remarks

- (1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum total plot ratio of 9.5, or the plot ratio of the existing building, whichever is the greater.
- (4) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building heights in terms of metres above Principal Datum (mPD) as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (5) On land demarcated for a 15m-wide building gap from Castle Peak Road to the east-west aligned section of Tai Lin Pai Road as shown on the Plan, no new development (except minor addition, alteration and/or modification not affecting the building height of the existing building) or redevelopment of an existing building shall exceed the maximum building height restriction of 25mPD.
- (6) A minimum 4m-wide non-building area from the lot boundary abutting Lam Tin Street and a minimum 3.5m-wide non-building area from the lot boundary abutting Chun Pin Street (except 1 Chun Pin Street) and Ta Chuen Ping Street (except 26-38, 68, 70, 85-89 and 93 Ta Chuen Ping Street) shall be provided.
- (5) In determining the maximum plot ratio for the purpose of paragraph (1) above, any floor space that is constructed or intended for use solely as car park, loading/unloading bay, plant room and caretaker's office, provided such uses and facilities are ancillary and directly related to the development or redevelopment, may be disregarded.
- (6) Where the permitted plot ratio as defined in Building (Planning) Regulations is permitted to be exceeded in circumstances as set out in Regulation 22(1) or (2) of the said Regulations, the plot ratio for the building on land to which paragraph (1) applies may be increased by the additional plot ratio by which the permitted plot ratio is permitted to be exceeded under and in accordance with the said Regulation 22(1) or (2), notwithstanding that the relevant maximum plot ratio specified in paragraph (1) above may thereby be exceeded.
- (7) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio/building height/building gap restrictions stated in paragraphs (1) to (3) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.
- (8) Under exceptional circumstances, for a development or redevelopment proposal, minor relaxation of the non-building area restrictions as shown on the Plan or stated in paragraph (4) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)



OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
<u>For "Sewage Treatment Works" and "Sewage Screening Plant" Only</u>	
Sewage Treatment/Screening Plant	Government Use Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Petrol Filling Station Utility Installation not ancillary to the Specified Use

Planning Intention

This zone is intended primarily to provide land for the development of sewage treatment/screen plants.

Remarks

- (1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building heights in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (2) In determining the relevant maximum number of storeys for the purposes of paragraph (1) above, any basement floor(s) may be disregarded.
- (3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraph (1) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
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For "Cargo Handling Area" Only

Cargo Handling Area	Government Use Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Petrol Filling Station Utility Installation not ancillary to the Specified Use
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Planning Intention

This zone is intended primarily to provide land for the development of cargo handling facilities.

Remarks

- (1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building heights in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (2) In determining the relevant maximum number of storeys for the purposes of paragraph (1) above, any basement floor(s) may be disregarded.
- (3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraph (1) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
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For "Petrol Filling Station" Only

Petrol Filling Station	Government Use Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Utility Installation not ancillary to the Specified Use
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Planning Intention

This zone is intended primarily to provide land for the development of petrol filling stations.

Remarks

- (1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building heights in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (2) In determining the relevant maximum number of storeys for the purposes of paragraph (1) above, any basement floor(s) may be disregarded.
- (3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraph (1) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
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For "Slaughter House" Only

Slaughter House

Government Use  
Mass Transit Railway Vent Shaft and/or Other  
Structure above Ground Level other than  
Entrances  
Petrol Filling Station  
Utility Installation not ancillary to the Specified Use

Planning Intention

This zone is intended primarily to provide land for the development of a slaughter house.

Remarks

- (1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (2) In determining the relevant maximum number of storeys for the purposes of paragraph (1) above, any basement floor(s) may be disregarded.
- (3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (1) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
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For "Electricity Substation" Only

Electricity Substation	Government Use Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Petrol Filling Station Utility Installation not ancillary to the Specified Use
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Planning Intention

This zone is intended primarily to provide land for the development of electricity substations.

Remarks

- (1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (2) In determining the relevant maximum number of storeys for the purposes of paragraph (1) above, any basement floor(s) may be disregarded.
- (3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (1) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
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For "Railway Related Facilities" Only

Railway Emergency Access Point

Planning Intention

This zone is intended primarily to provide land for the railway emergency access point.

Remarks

- (1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building heights in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (2) In determining the relevant maximum number of storeys for the purposes of paragraph (1) above, any basement floor(s) may be disregarded.
- (3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restrictions stated in paragraph (1) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
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For “Ventilation Building” Only

Ventilation Building	Government Use Utility Installation not ancillary to the Specified Use
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Planning Intention

This zone is intended primarily to provide land for the development of ventilation building.

Remarks

- (1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of number of storeys as stipulated on the Plan, or the height of the existing building, whichever is the greater.
- (2) In determining the relevant maximum number of storeys for the purposes of paragraph (1) above, any basement floor(s) may be disregarded.
- (3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the building height restriction stated in paragraph (1) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)

OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
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For "Columbarium" Only

Columbarium	Public Utility Installation
Garden of Remembrance	Utility Installation for Private Project
Government Use	

Planning Intention

This zone is primarily for land intended for columbarium and garden of remembrance uses.

Remarks

- (1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of metres above Principal Datum (mPD) as stipulated on the Plan.
- (2) The total number of columbarium niches shall not exceed 20 000 and the total number of memorial plaques in the garden of remembrance shall not exceed 2 000.
- (3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of building height restriction / number of niches/ number of memorial plaques as stipulated in paragraphs (1) and (2) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

(Please see next page)



OTHER SPECIFIED USES (Cont'd)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
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For "Columbarium (1)" Only

Columbarium  
Public Utility Installation  
Utility Installation for Private Project

Planning Intention

This zone is primarily for land intended for columbarium.

Remarks

- (1) No new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of the maximum building height in terms of metres above Principal Datum (mPD) as stipulated on the Plan.
- (2) The total number of columbarium niches shall not exceed 23 000.
- (3) Based on the individual merits of a development or redevelopment proposal, minor relaxation of building height restriction as stipulated in paragraph (1) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

GREEN BELT

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use	Animal Boarding Establishment
Barbecue Spot	Broadcasting, Television, and/or Film Studio
Country Park *	Columbarium (within a Religious Institution or extension of existing Columbarium only)
Government Use (Police Reporting Centre only)	Crematorium (within a Religious Institution or extension of existing Crematorium only)
Nature Reserve	Field Study/Education/Visitor Centre
Nature Trail	Flat
On-Farm Domestic Structure	Government Refuse Collection Point
Picnic Area	Government Use (not elsewhere specified)
Public Convenience	Grave
Tent Camping Ground	Helicopter Landing Pad
Wild Animals Protection Area	Holiday Camp
	House
	Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances
	Petrol Filling Station
	Place of Recreation, Sports or Culture
	Public Transport Terminus or Station
	Public Utility Installation
	Public Vehicle Park (excluding container vehicle)
	Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation
	Religious Institution
	Residential Institution
	Rural Committee/Village Office
	School
	Service Reservoir
	Social Welfare Facility
	Utility Installation for Private Project

- \* Country Park means a country park or special area as designated under the Country Parks Ordinance (Cap. 208). All uses and developments require consent from the Country and Marine Parks Authority and approval from the Town Planning Board is not required.

Planning Intention

The planning intention of this zone is primarily for the conservation of the existing natural environment amid the built-up areas/at the urban fringe, to safeguard it from encroachment by urban type development, and to provide additional outlets for passive recreational activities. There is a general presumption against development within this zone.

**ATTACHMENT III**

**DRAFT KWAI CHUNG OUTLINE ZONING PLAN NO. S/KC/28A**

**EXPLANATORY STATEMENT**

**DRAFT KWAI CHUNG OUTLINE ZONING PLAN NO. S/KC/28A**

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# **DRAFT KWAI CHUNG OUTLINE ZONING PLAN NO. S/KC/28A**

(Being a Draft Plan for the Purposes of the Town Planning Ordinance)

## **EXPLANATORY STATEMENT**

Note : For the purposes of the Town Planning Ordinance, this Statement shall not be deemed to constitute a part of the Plan.

### **1. INTRODUCTION**

This explanatory statement is intended to assist an understanding of the draft Kwai Chung Outline Zoning Plan (OZP) No. S/KC/28A. It reflects the planning intention and objectives of the Town Planning Board (the Board) for the various land use zonings of the Plan.

### **2. AUTHORITY FOR THE PLAN AND PROCEDURES**

- 2.1 On 1 September 1961, the first statutory plan for Tsuen Wan (No. LTW/57) covering part of Kwai Chung was exhibited for public inspection under section 5 of the Town Planning Ordinance (the Ordinance). On 26 November 1971, OZP No. LTW/132 for the Kwai Chung Area was exhibited for public inspection under section 5 of the Ordinance. Subsequent amendments had been made to the OZP to reflect the changing circumstances.
- 2.2 On 9 November 1999, the Chief Executive in Council (CE in C) approved the draft Kwai Chung OZP under section 9(1)(a) of the Ordinance, which was subsequently renumbered as S/KC/14. On 10 October 2000, the CE in C, under section 12(1)(b)(ii) of the Ordinance, referred the approved OZP to the Board for amendment. The OZP was subsequently amended six times and exhibited for public inspection under section 5 or 7 of the Ordinance.
- 2.3 On 29 June 2004, the CE in C approved the draft Kwai Chung OZP under section 9(1)(a) of the Ordinance, which was subsequently renumbered as S/KC/21. On 5 June 2007, the CE in C, under section 12(1)(b)(ii) of the Ordinance, referred the approved OZP to the Board for amendment. The OZP was subsequently amended three times and exhibited for public inspection under section 5 or 7 of the Ordinance.
- 2.4 On 31 May 2011, the CE in C, under section 9(1)(a) of the Ordinance, approved the draft Kwai Chung OZP, which was subsequently renumbered as S/KC/25. On 4 October 2011, the CE in C referred the approved OZP No. S/KC/25 to the Board for amendment under section 12(1)(b)(ii) of the Ordinance. The reference back of the OZP was notified in the Gazette on 14 October 2011 under section 12(2) of the Ordinance.

- 2.5 On 20 April 2012, the draft Kwai Chung OZP No. S/KC/26, incorporating amendments mainly to impose new building height ~~(BH)~~ restrictions (**BHRs**) for various development zones, to designate non-building areas and building gaps as well as to rezone a number of sites to reflect their existing uses and planning intentions, was exhibited for public inspection under section 5 of the Ordinance. Upon expiry of the two-month exhibition period on 20 June 2012, a total of 13 representations were received. On 29 June 2012, the 13 representations were published for 3 weeks for public comments and a total of 1925 comments were received.
- 2.6 On 12 October 2012, after giving consideration to 7 of the 13 representations and the related comments, the Board decided not to uphold these representations. On 26 October 2012, the Board considered the remaining representations and comments which were related to the ~~BH~~ restrictions **BHRs** imposed on the Kwai Chung Container Terminals under the “~~OU~~**Other Specified Uses**” annotated “Container Terminal” (“OU(CT)”) zoning. The Board decided to defer consideration of the representations and requested Planning Department (PlanD) to liaise with the representers regarding their expansion proposals and to carry out further assessments to assess the cumulative impact of their proposals. *On 24 April 2015, after giving further consideration to the remaining 6 representations and comments related to the BHRs for the Kwai Chung Container Terminals under the “OU(CT)” zone, the Board decided to meet the representations and propose amendments to the draft OZP under section 6B(8) of the Ordinance. On 24 July 2015, the proposed amendments were gazetted under section 6C(2) of the Ordinance for three weeks for public inspection and no further representation was received. In accordance with section 6G of the Ordinance, where no further representation was received, the OZP No. S/KC/28 was amended by the proposed amendments on 25 September 2015.*
- 2.7 On 9 May 2014, the draft Kwai Chung OZP No. S/KC/27, mainly to rezone a site at Tai Lin Pai Road for commercial use and two sites at Tsing Tsuen Road and Wing Lap Street for columbarium developments, was exhibited for public inspection under section 7 of the Ordinance. *During the two-month exhibition period, a total of 381 representations were received. On 25 July 2014, the representations were published for three weeks for public comments and 128 comments were received. After giving consideration to the representations and comments on 12 June 2015, the Board decided not to uphold the representations.*
- 2.8 On 13 June 2014, the draft Kwai Chung OZP No. S/KC/28, mainly to rezone a site at Tai Wo Hau Road, a site at Kwai Shing Circuit and a site at Lai Kong Street for residential developments, was exhibited for public inspection under section 7 of the Ordinance. *During the two-month exhibition period, a total of 1 601 representations were received. On 14 October 2014, the representations were published for three weeks for public comments and one comment was received. After giving consideration to the representations and comment on 10 July 2015, the Board decided not to uphold the representations.*

- 2.9 *On xx yy 2017, the draft Kwai Chung OZP No. S/KC/29 (the Plan) incorporating amendments including rezoning of an area bounded by San Kwai Street, Tai Lin Pai Road and Kwai Chung Road from “Government, Institution or Community” (“G/IC”) and “Village Type Development” (“V”) to “Residential (Group A)2” (“R(A)2”); inclusion of ‘Art Studio (excluding those involving direct provision of services or goods)’ as a permitted use under the “Industrial” (“I”) zone and industrial or industrial-office buildings of “OU” annotated “Business” (“OU(B)”) and “Residential (Group E)” (“R(E)”) zones, corresponding amendment to the ‘Place of Recreation, Sports or Culture’ use of the zones, and updating of the planning intention of the “I” zone in accordance of the Master Schedule of Notes to Statutory Plans, was exhibited for public inspection under section 7 of the Ordinance.*

### **3. OBJECT OF THE PLAN**

- 3.1 The object of the Plan is to indicate the broad land use zonings and major transport networks so that the development and redevelopment of land in Kwai Chung can be put under statutory planning control.
- 3.2 The Plan is intended to illustrate the broad principles of development and to provide guidance for more detailed planning within the planning scheme area (the Area). It is a small-scale plan and the road alignments and boundaries between the land use zones may be subject to minor adjustments as detailed planning and development proceeds.
- 3.3 Since the Plan is to show broad land use zonings, there would be situations in which small strips of land not intended for building development purposes and carry no development right under the lease, such as the areas restricted as non-building area or for garden, slope maintenance and access road purposes, are included in the residential zones. The general principle is that such areas should not be taken into account in plot ratio and site coverage calculations. Development within residential zones should be restricted to building lots carrying development right in order to maintain the character and amenity of the Kwai Chung area and not to overload road network in this area.

### **4. NOTES OF THE PLAN**

- 4.1 Attached to the Plan is a set of Notes which shows the types of uses or developments which are always permitted within the Area and in particular zones and which may be permitted by the Board, with or without conditions, on application. The provision for application for planning permission under section 16 of the Ordinance allows greater flexibility in land use planning and better control of development to meet changing needs.
- 4.2 For the guidance of the general public, a set of definitions that explains some of the terms used in the Notes may be obtained from the Technical Services Division of the Planning Department and can be downloaded from the Board’s website (<http://www.info.gov.hk/tpb>).

## **5. THE PLANNING SCHEME AREA**

- 5.1 The Area covers about 1 025 hectares (ha) of land. It is situated in Tsuen Wan New Town within the Kwai Tsing Administration District. It includes various parts of Kwai Chung Valley to the north-east and the container terminals on reclaimed land to the south-west. To the east, the Area adjoins the Kam Shan Country Park, whilst to the south, it is bounded by Ching Cheung Road. To the west, the Area is bounded by the sea, whilst to the north, it is delimited by Tsing Tsuen Road, Texaco Road, Castle Peak Road, Wo Yi Hop Road and Cheung Pei Shan Road. The boundary of the Area is shown in a heavy broken line on the Plan. For planning and reference purposes, the Area is subdivided into a number of smaller planning areas, each with an area number, which are shown on the Plan.
- 5.2 Most of the flat land in Kwai Chung has been formed by reclaiming the adjacent seabed with fill materials excavated from nearby hills, which in turn have been formed into levelled platforms for building developments.
- 5.3 As an integral part of Tsuen Wan New Town, Kwai Chung provides housing, employment, recreational, cultural and other community facilities to the residents of the New Town as a whole, and also in turn relies on certain facilities which are, or will be, provided elsewhere in the New Town. It also accommodates some of the major facilities of territory-wide significance, such as the container terminals.

## **6. POPULATION**

~~According to the 2011 Census, the population of the Area was about 321 200.~~ ***Based on the 2016 Population By-census, the population of the Area was estimated by the Planning Department as about 338 350.*** It is estimated that the planned population of the Area would be about ~~338 400~~ ***314 000.***

## **7. BUILDING HEIGHT RESTRICTIONS IN THE AREA**

- 7.1 In order to provide better planning control on the development intensity and building height upon development/ redevelopment and to meet public aspirations for greater certainty and transparency in the statutory planning system, a review of the Kwai Chung OZP has been undertaken with a view to incorporating appropriate building height restrictions for various zones. In the absence of building height control, excessively tall buildings may proliferate at random locations and the scale may be out of context in the locality, resulting in negative impacts on the visual quality of the Area. In order to prevent excessively tall or out-of-context buildings and to provide better control on the building heights of developments in the Area, building height restrictions are imposed on various zones on the Plan.



- 7.2 The building height restrictions have taken into account the topography, foothill setting, waterfront setting, site levels, local character, existing predominant land use and building height profile, areas of local attractions or historical significance, building height restrictions under the lease, the compatibility in terms of building height with the surrounding areas and the Urban Design Guidelines. The building height concept aims at exemplifying the valley-like terrain of the Area while preserving the mountain backdrop of Golden Hill, as well as complementing the existing twin-nodal development around the Mass Transit Railway (MTR) Kwai Fong and Kwai Hing stations. Lower height bands of 90 to 120 metres above Principal Datum (mPD) are imposed on buildings at the valley floor, with commercial developments near the two MTR stations having higher building height restrictions of 150mPD and 170mPD. The height bands progressively step up toward the foothill of the Golden Hill in the east and the knoll at Kwai Shing in the northwest. On the other hand, the relatively low-rise building profile of developments along the waterfront area is maintained, as far as practicable, so as to safeguard the coastal area for visual and air ventilation purposes. The height bands help preserve vistas to the ridgelines and achieve a stepped height profile for visual permeability and wind penetration and circulation.
- 7.3 Building height restrictions, which are imposed on “Government, Institution or Community” (“G/IC”) and “Other Specified Uses” (“OU”) zones (except “OU” annotated “Business” (“OU(B)”)) in terms of mPD or number of storeys, are mainly to reflect the existing building heights of the developments. Unless there are committed proposals for known developments or a need to meet the minimum height requirements, in general, the existing uses and the lower building heights will broadly be kept. Such developments, particularly for those which are low-rise, serve to provide visual and spatial relief to the densely built-up environment of the Area.
- 7.4 Low-rise developments in “G/IC” and “OU” zones (except “OU(B)”), normally with a height of not more than 13 storeys, will be subject to building height restrictions in terms of number of storeys (excluding basement floor(s)) so as to allow more design flexibility, in particular for Government, institution or community (GIC) facilities with specific functional requirements, unless such developments fall within visually prominent locations and/or major breathing spaces. For taller developments, usually more than 13 storeys, the building height restrictions are specified in terms of mPD to provide certainty and clarity of the planning intention.
- 7.5 In 2012, an Expert Evaluation on air ventilation assessment (AVA(EE)) 2012 was undertaken to assess the likely impact of the proposed building heights of the development sites within the Area on the pedestrian wind environment. The building height restrictions incorporated in the Plan have taken into account the findings of the AVA.
- 7.6 The annual prevailing wind comes from the northeast, east and southeast, whereas the summer prevailing wind from the southeast, south and southwest. Major roads in the Area that are generally aligned with the directions of the prevailing wind (including the north-south aligned Kwai Chung Road, Cheung

Wing Road and Castle Peak Road; the northeast-southwest aligned Kwai Tsing Road, Hing Fong Road and Shek Pai Street; and the southeast-northwest aligned Tsuen Wan Road and Kwai Fuk Road), together with the adjoining open spaces and low-rise GIC facilities, serve as air paths and facilitate the penetration of prevailing winds into the Area, especially for the valley floor area. Also, the connected open spaces and low-rise GIC developments distributed over the Area (such as those between Tai Wo Hau Road and Kwai Shing Circuit, along Tai Pak Tin Street and Shek Pai Street, and to the east of Cho Yiu Chuen) provide additional opportunity to channel prevailing wind and create breathing spaces in the built-up environment, that are particularly important to the air ventilation of the developments on higher grounds, e.g. the knoll at Kwai Shing and the foothill of the Golden Hill where straight roads are generally lacking.

- 7.7 To facilitate better air ventilation in the Area, the AVA(*EE*) has recommended that the existing major roads, open spaces and low-rise GIC developments in the Area should be maintained. In particular, Kwai Chung Road serves as an important air path to direct southerly/southwesterly and northeasterly prevailing wind to the centre of the Area. The AVA(*EE*) has also suggested that opportunity should be taken to improve wind permeability of the building clusters zoned “Industrial” (“I”) and “OU(B)” along Tai Lin Pai Road, Wo Yi Hop Road and Tsuen Wan Road by creating/widening air paths.
- 7.8 In addition, to further improve air ventilation condition of the Area, future developments are encouraged to adopt suitable design measures to minimise any possible adverse air ventilation impacts. These include greater permeability of podium, wider gap between buildings for better ventilation and minimising the blocking of air/wind flow through positioning of building towers and podiums to align with the prevailing wind directions, as appropriate.
- 7.9 In general, a minor relaxation clause in respect of building height restrictions is incorporated into the Notes of the Plan for various zones in order to provide incentive for developments/redevelopments with design merits/planning gains. Each application for minor relaxation of building height restriction will be considered on its own merits and the relevant criteria for consideration of such application are as follows:
- (a) amalgamating smaller sites for achieving better urban design and local area improvements;
  - (b) accommodating the bonus plot ratio granted under the Buildings Ordinance in relation to surrender/dedication of land/area for use as public passage/street widening;
  - (c) providing better streetscape/good quality street level public urban space;
  - (d) providing separation between buildings to enhance air ventilation and visual permeability;
  - (e) accommodating building design to address specific site constraints in achieving the permissible plot ratio under the Plan; and

- (f) other factors such as site constraints, the need for tree preservation, innovative building design and planning merits that would bring about improvements to townscape and amenity of the locality, provided that no adverse landscape and visual impacts would be resulted from the innovative building design.

7.10 However, for existing buildings where the building heights have already exceeded the maximum building height restrictions in terms of mPD or number of storeys as shown on the Plan or stipulated in the Notes, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.

#### Non-Building Areas

7.11 The AVA has recommended the following non-building areas (NBAs) within the “OU(B)”, “I” and “Residential (Group A)” (“R(A)”) zones to facilitate air ventilation of the Area:

- (a) to facilitate east-west air flow at pedestrian level, a 9m-wide NBA aligning with Lam Tin Street between Chun Pin Street and Castle Peak Road is designated on an existing 9m-wide gap between the buildings at 10-18 Chun Pin Street, 4-30 and 32-50 Lei Muk Road, 49-53 and 57-61 Ta Chuen Ping Street (all zoned “OU(B)”) and 482 Castle Peak Road (zoned “R(A)”) (see **Plan 1**);
- (b) to cater for the long-term road widening proposal and enhance the air permeability of the business/industrial area on Wo Yi Hop Road, a minimum 4m-wide NBA from the lot boundary abutting Lam Tin Street and a minimum 3.5m-wide NBA from the lot boundary abutting Chun Pin Street and Ta Chuen Ping Street are imposed. As the lot boundaries at 1 Chun Pin Street, 33 Wo Yi Hop Road, 26-38, 29A-33, 37-39, 41-43, 47, 68, 70, 85-89 and 93 Ta Chuen Ping Street have already been set back, hence NBA for these sites are not required (see **Plan 1**);
- (c) to maintain the flow of northeasterlies along existing air path from Wo Yi Hop Road to Wah Sing Street, the existing public footpath which straddles “OU(B)” and “I” zones between these two roads and portion of 21-33 Tai Lin Pai Road abutting this footpath is designated as an NBA;
- (d) to link up the north-south air path along Kwai Wing Road and Kwai Cheong Road, a 15m-wide NBA is designated on a 8m-wide public footpath and a strip of land of minimum 7m in width measured from the western lot boundary of 8 Kwai Cheong Road abutting this footpath;
- (e) a 15m-wide east-west aligned NBA between Kwai Chung Road and Tai Lin Pai Road aligning with Kung Yip Street to the east is designated on a 9m-wide public footpath and a strip of land of minimum 3m in width measured from the lot boundary abutting this footpath on both sides;

- (f) a 15m-wide east-west aligned NBA between Kwai Chung Road and Tai Lin Pai Road aligning with Tai Lin Pai Road Playground to the east is designated on a 7m-wide public footpath and a strip of land of minimum 4m in width measured from the lot boundary at grade abutting this footpath on both sides;
  - (g) a 15m-wide east-west aligned NBA connecting Kwai Chung Road with Kwai Cheong Road is designated on a strip of 4m-wide government land, now being a planting area, and a strip of land of minimum 11m in width measured from the southern lot boundary of 90-98 Kwai Cheong Road abutting this government land;
  - (h) a 15m-wide east-west aligned NBA is designated on an existing 8m-wide public footpath between Kwai Chung Road and Kwai Ting Road and a strip of land of minimum 3.5m in width measured from the lot boundary abutting this footpath on both sides; and
  - (i) to facilitate the penetration of the southwesterlies to the industrial area northeast of the proposed Kwai Chung Park, a 15m-wide NBA aligned with Kwai Lok Street is designated on a piece of planned industrial land between Tsuen Wan Road and Kwai Hei Street.
- 7.12 For the purpose of assessing the air ventilation impact of the proposed BH restrictions for Kwai Chung Container Terminals, an air ventilation assessment by Computational Fluid Dynamics was completed in 2015 (AVA(CFD) 2015) and has recommended the following NBAs within the “OU(CT)” zone to facilitate air ventilation of the Area:
- (a) three 40m-wide east-west aligned NBAs to the west of Lai King Estate across Container Port Road. While link bridges within the NBAs are allowed to facilitate connection between buildings, air permeability of at least 50% within the NBAs should be provided to allow air penetration; and
  - (b) a 55m-wide east-west aligned NBA to the west of Princess Margaret Hospital across Tsing Kwai Highway.
- 7.13 The intention for the designation of the NBAs is for air ventilation above ground and such a restriction will not apply to underground developments.

#### Building Gaps

- 7.14 Gaps between buildings play a key role in creating air paths by appropriate design and disposition of building blocks. The AVA has recommended the following building gaps:
- (a) a 15m-wide building gap above 25mPD (to tally with the road surface level of Castle Peak Road) between Castle Peak Road and the east-west aligned section of Tai Lin Pai Road, comprising a strip of land of minimum 7.5m in width above 25mPD measured from the northwestern

lot boundary of 21-33 Tai Lin Pai Road and a strip of land of minimum 7.5m in width above 25mPD measured from the southeastern lot boundary of 433-441 Castle Peak Road to facilitate the northeasterly wind reaching Tai Lin Pai Road;

- (b) a 15m-wide building gap above 18mPD (to tally with the road surface level of Wing Yip Street) passing through 103-133 Tai Lin Pai Road and the southwestern corner of 11-19 Wing Yip Street to create an east-west air path extending the Wing Yip Street air path onto Kwai On Road;
- (c) a 50m-wide building gap above 24mPD (to tally with the road surface level of Kwai Fuk Road) aligning with Kwai Hei Street is imposed between Tsuen Wan Road and Kwai Fuk Road to maintain the current wind entry of sea breeze from the southwest to the inland;
- (d) a building gap of varying widths (ranging from 35m to 217m) above 24mPD (to tally with the road surface level of Lai King Hill Road) is imposed on a piece of open land to the immediate north of Lai King Estate, now occupied by an existing bus terminus, car park and adjoining slopes, to preserve the air path channelling southeasterly wind to Tsuen Wan Road; and
- (e) a 30m-wide building gap above 163mPD shall be provided in the “R(A)2” site at Lai Kong Street to facilitate penetration of easterly wind into the inland.

7.15 The above NBAs and building gaps should be taken into account upon future development/redevelopment of the sites. A minor relaxation clause has been incorporated in the Notes of the relevant zones to allow minor relaxation of the stated NBA restrictions under exceptional circumstances.

## 8. **LAND USE ZONINGS**

### 8.1 **Commercial (“C”) : Total Area 5.45 ha**

- 8.1.1 This zoning is intended primarily for commercial developments to include office, shop, services, place of entertainment and eating place, functioning mainly as a local commercial and shopping centre. This zoning covers commercial developments including the Metroplaza and the Kwai Fong Multi-storey Car Park near MTR Kwai Fong Station, Sun Kwai Hing Plaza and Kwai Chung Centre near MTR Kwai Hing Station, the commercial complex at Wonderland Villas, The Apex and a multi-storey carpark cum commercial building on Wo Yi Hop Road.
- 8.1.2 Development within “C” and “C(3)” zones are subject to a maximum total plot ratio of 9.5.
- 8.1.3 Developments and redevelopments within the “C” zone are subject to maximum building heights of 90mPD near MTR Kwai Hing Station and Kwai Fong Station, 120mPD on Wo Yi Hop Road and 170mPD at

Metroplaza.

- 8.1.4 The 2-storey commercial complex at Wah King Hill Road forms part of Wonderland Villas and serves the local residents. The site is zoned “C(1)” and subject to a maximum total gross floor area (GFA) of 11 000m<sup>2</sup> and a maximum building height of 225mPD.
- 8.1.5 The “C(2)” zone covers The Apex which comprises a hotel block and two service apartment blocks on Wo Yi Hop Road. To reflect the nature of the development, no residential or related uses are allowed on land designated “C(2)”. A maximum total GFA of 74 340m<sup>2</sup> and a maximum building height of 190mPD are imposed to reflect the as-built development intensity and height.
- 8.1.6 The “C(3)” zone covers a site at Tai Lin Pai Road for commercial development. Developments and redevelopments within the “C(3)” zone are subject to a maximum plot ratio of 9.5 and a maximum building height of 105mPD. A minimum of 5m set back from the lot boundary abutting Tai Lin Pai Road shall be provided in order to provide a consistent visual openness along this part of Tai Lin Pai Road and to minimise the visual impact arising from the proposed commercial development. Roadside tree planting in the set back area is encouraged. Minor relaxation of set back restriction may be considered by the Board on application under section 16 of the Ordinance. To address the potential noise impact from the adjacent road and industrial developments, the proposed commercial development at the site is advised to be equipped with central air-conditioning system.
- 8.1.7 In the circumstances set out in Regulation 22 of the Building (Planning) Regulations, the above specified maximum total plot ratio or GFA may be increased by what is permitted to be exceeded under Regulation 22. This is to maintain flexibility for unique circumstances such as dedication of part of a site for road widening or public uses.
- 8.1.8 Development/redevelopment within this zone is subject to maximum plot ratio/GFA/building height restrictions as stipulated on the Plan or in the Notes of the Plan, or the plot ratio/GFA/building height of the existing building, whichever is the greater. Minor relaxation of such restrictions may be considered by the Board on application under section 16 of the Ordinance. The criteria given in paragraph 7.9 above would be relevant for the assessment of minor relaxation of building height restrictions. Each application will be considered on its own merits.
- 8.1.9 However, for any existing building with plot ratio/GFA/building height already exceeding the relevant restrictions as stipulated on the Plan or in the Notes of the Plan, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.

8.2 Comprehensive Development Area (“CDA”) : Total Area 6.35 ha

- 8.2.1 This zone is intended for comprehensive development/ redevelopment of the area for residential and/or commercial uses with the provision of open space and other supporting facilities. The zoning is to facilitate appropriate planning control over the development mix, scale, design and layout of development, taking account of various environmental, traffic, infrastructure and other constraints.
- 8.2.2 Pursuant to section 4A(1) of the Ordinance, any development/ redevelopment within the “CDA” zone would require the approval of the Board through planning application under section 16 of the Ordinance. Except as otherwise expressly provided that it is not required by the Board, a Master Layout Plan (MLP) should be submitted in accordance with the requirements as stipulated in the Notes of the Plan for the approval of the Board pursuant to section 4A(2) of the Ordinance. A copy of the approved MLP would be made available for public inspection in the Land Registry pursuant to section 4A(3) of the Ordinance.

“CDA” to the North of Lai King Hill Road, Kau Wa Keng (4.84 ha)

- 8.2.3 This “CDA” zone covers the Kau Wa Keng valley floor and the area occupied by the Kau Wa Keng Old Village in Planning Area 43. The planning intention for this “CDA” zone is to ensure that the residential development would be carried out in a comprehensive manner. Development of the area would entirely rely on the initiatives of private sector. A Planning Brief has also been prepared to guide the development. According to the Planning Brief, the area should be developed in a comprehensive manner as a single project and should contain adequate GIC facilities, open space and commercial provision to serve the residential development. The maximum total plot ratio would be restricted to 5 on a net site basis excluding area for vehicular access road, public open space and GIC facilities. The layout of the development should take account of the scale of adjacent development, existing land-forms, and the existing vegetation and landscape features. In addition, a pedestrian access should be provided to the Kau Wa Keng San Tsuen at all times. The layout should also take particular account of building relationships and design aspects, and appropriate phasing and programming of development. The AVA by expert evaluation recommended that a further AVA should be conducted upon development/redevelopment of the site to maintain/enhance air ventilation. A maximum building height restriction of 120mPD is imposed.
- 8.2.4 The timing of implementation would depend on when the developer could assemble all the required private land and complete procedures such as obtaining approval of the Board and modification of lease documents. As it may take some time to implement the “CDA”, the Notes for the zone have also included ‘House’ use to allow villagers of the existing Kau Wa Keng Old Village to seek planning permission

from the Board for the building of new village houses or redeveloping existing houses.

“CDA” at Cheung Wing Road (1.51 ha)

- 8.2.5 The planning intention for the “CDA” at the junction of Cheung Wing Road and Kwok Shui Road is to ensure that redevelopment of the existing low-rise industrial buildings takes place with due consideration of traffic and environmental matters. Any development on this site will be subject to the approval of the Board. The maximum plot ratio and building height are restricted to 6.36 and 120mPD respectively.
- 8.2.6 The area is not adequately served by the existing road network at present. Due to its prominent location at Cheung Wing Road and its proximity to the Cheung Wing Road gyrator which acts as a major interchange within Kwai Chung, it is necessary to ensure that suitable additional road access is provided from Tai Yuen Street to Cheung Wing Road before development within this “CDA” is permitted.
- 8.2.7 The Board is also concerned with the type of industrial uses to be permitted within the development, the provision of improvements to the adjacent streets, and the traffic and transport implications of any proposed development. Any development on the site must also contain appropriate environmental control measures to ensure that nearby sensitive land-uses will not be affected by any adverse environmental impacts. To promote better planning and building design to improve air ventilation at the site, an AVA should be conducted upon development/redevelopment of the site.
- 8.2.8 Development/redevelopment within this zone is subject to maximum plot ratio/building height restrictions as stipulated on the Plan or in the Notes of the Plan, or the plot ratio/building height of the existing building, whichever is the greater. Minor relaxation of such restrictions may be considered by the Board on application under section 16 of the Ordinance. The criteria given in paragraph 7.9 above would be relevant for the assessment of minor relaxation of building height restrictions. Each application will be considered on its own merits.
- 8.2.9 However, for any existing building with plot ratio/building height already exceeding the relevant restrictions as stipulated on the Plan or in the Notes of the Plan, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.

8.3 Residential (Group A) (“R(A)”): Total Area ~~465.25~~ **165.80**ha

- 8.3.1 This zone is intended primarily for high-density residential developments. Commercial uses are always permitted on the lowest three floors of a building or in the purpose-designed non-residential portion of an existing building.



- 8.3.2 Developments or redevelopments within the “R(A)” zone are subject to a maximum domestic plot ratio of 5.0 or a maximum non-domestic plot ratio of 9.5, or the plot ratio of the existing building, whichever is the greater. Developments or redevelopments within the “R(A)2” zone are subject to a maximum domestic plot ratio of 6.0 or a maximum non-domestic plot ratio of 9.5, or the plot ratio of the existing building, whichever is greater. In calculating the GFA for these developments/redevelopments, land for free-standing purpose-designed buildings that are solely for accommodating school or other GIC facilities, including those located on ground and on building podium, shall be deducted in calculating the relevant site area.
- 8.3.3 Existing public rental housing estates include Shek Yam Estate, Shek Yam East Estate, On Yam Estate and Shek Lei Estate (an area adjacent to Shek Foon House (previously known as Tai Pak Tin Street public rental housing) is reserved for the development of an indoor recreation centre to meet the needs of the community) in Planning Area 9; Kwai Chung Estate, Kwai Shing East Estate, Kwai Shing West Estate, Kwai Luen Estate, Kwai Fong Estate, Tai Wo Hau Estate and High Prosperity Terrace in Planning Area 10; Cho Yiu Chuen, Lai Yiu Estate and Lai King Estate in Planning Area 11; Kwai Hing Estate in Planning Area 17; and Wah Lai Estate in Planning Area 43. There are nine existing Home Ownership Schemes in the Area, amongst which eight are under this zoning and one is zoned “Residential (Group B) 7” (“R(B)7”). ~~Two~~ **Three** sites zoned “R(A)2” at Tai Wo Hau Road, ~~and Kwai Shing Circuit~~ **and San Kwai Street** are planned for public rental housing developments ~~namely ‘Tai Wo Hau Road Phase 1’ and ‘Tai Wo Hau Road Phase 2’ respectively.~~
- 8.3.4 Within these public rental housing estates, adequate community facilities, retail facilities and open spaces are provided in accordance with planning standards. The five primary schools in On Yam Estate, Shek Lei Estate, Kwai Shing West Estate, Kwai Fong Estate and ~~the proposed public rental housing development at Kwai Shing Circuit in Planning Area 10~~ **Kwai Luen Estate**, which are free-standing buildings, are zoned “R(A)” on the OZP so as to allow flexibility in the comprehensive planning and development of these large residential sites.
- 8.3.5 Private residential developments under this zoning are mainly located along Wo Yi Hop Road (Planning Area 9), Hing Fong Road (Planning Area 10), Kwai Chung Road (Planning area 17), Castle Peak Road (Planning Area 27) and Lai King Hill Road (Planning Area 43), while Sandwich Class Housing projects, namely Hibiscus Park and Highland Park, are located in Planning Areas 10 and 42 respectively. A site zoned “R(A)2” at Lai Kong Street is planned for private residential development. A public transport terminus shall be provided within the development to accommodate the green minibus bays currently occupied at Lai Kong Street, which is accountable for plot ratio

calculation. The development shall also be carefully designed with porous features to increase permeability of the podium structure.

- 8.3.6 A private residential development, Nob Hill (KCTL 474) with a commercial podium over a public transport terminus, which was completed in 2002, is zoned “R(A)1”. Any development/redevelopment at this site is restricted to a maximum domestic GFA of 42 700m<sup>2</sup> and a maximum non-domestic GFA of 9 346m<sup>2</sup>, or the GFA of the existing building, whichever is the greater.
- 8.3.7 In the circumstances set out in Regulation 22 of the Building (Planning) Regulations, the above specified maximum plot ratios and GFA may be increased by what is permitted to be exceeded under Regulation 22. This is to maintain flexibility for unique circumstances such as dedication of part of a site for road widening or public uses.
- 8.3.8 Developments and redevelopments within “R(A)”, “R(A)1” and “R(A)2” zones are subject to maximum building heights ranging from 90mPD to 260mPD, or the height of the existing building, whichever is the greater. In general, residential developments located along Kwai Chung Road are subject to lower building height bands, whereas those located at the foothill of the Golden Hill and at the knoll at Kwai Shing are subject to higher building height bands due to higher elevations.
- 8.3.9 For public rental housing developments, in accordance with the established administrative procedure, the future development/redevelopment would be guided by a planning brief. To demonstrate that the development/redevelopment is acceptable, the Housing Department would be required to undertake relevant assessments, including traffic impact assessment, visual impact assessment, AVA, etc., as appropriate. Low-rise free-standing GIC and ancillary facility buildings should be kept as breathing spaces and visual relief to the building masses. No new addition, alteration and/or modification to or redevelopment of these existing individual free-standing GIC and ancillary facility buildings shall result in a height exceeding that of the existing building. Upon the future redevelopment of the estates, the layout and design of these GIC and ancillary facility buildings should be comprehensively reviewed with the support of relevant impact assessments on air ventilation and visual aspects. In view of the larger site area of public rental housing development sites, caution should be exercised to ensure that building blocks do not obstruct the wind flow and air paths should be reserved subject to AVA studies at building design stage. In particular, to maintain existing air paths and to improve air ventilation, the AVA for the redevelopment of the following estates should pay heed to the following issues:
- (a) Kwai Shing West Estate and Kwai Shing East Estate: building gaps of adequate width should be provided to facilitate penetration of southeasterly wind to the northwest (including connection with Yeung Uk Road in Tsuen Wan). Obstruction to the northeast-

southwest air path which aligns “Green Belt” (“GB”), “G/IC” and “Open Space” (“O”) zones along the northern side of the estates should be minimised;

- (b) Tai Wo Hau Estate: the layout and disposition of the building blocks should maintain the wind flow from the southeast to Tsuen Wan area (including connection with Sha Tsui Road) to the northwest, as well as the existing north-south air path along Texaco Road and along Tai Wo Hau Road/Tai Ha Street;
- (c) Kwai Chung Estate: the north-south air path along the slopes between Tai Wo Hau Road/Tai Ha Street and Sheung Kok Street should be maintained/ enhanced and connected to Castle Peak Road;
- (d) Kwai Hing Estate: opportunity should be sought to enhance the east-west air penetration, e.g. by creating an east-west air path across the estate to connect with Tai Lin Pai Road to the east. The openness of the section of Hing Fong Road within the estate should be maintained upon the estate redevelopment as it together with the adjoining Kwai Chung Road serves as an important air path;
- (e) Shek Yam East Estate: an air path within the estate should be provided to align with Lei Muk Road so as to facilitate the northeasterly wind;
- (f) Shek Lei Estate: an air path within the estate should be maintained and aligned with Wai Kek Street; and
- (g) Tai Wo Hau Road Phase 1 and Tai Wo Hau Road Phase 2: two breezeways with minimum widths of 50m (between the building blocks of Tai Wo Hau Road Phase 1 and Tai Wo Hau Road Phase 2 developments) and 20m (between the building blocks of Tai Wo Hau Road Phase 2 development and Kwai Shing East Estate to its immediate south) as recommended in the AVA for the subject projects shall be provided to facilitate the penetration of annual prevailing easterly wind.

8.3.10 A building gap of varying widths (ranging from 35m to 217m) above 24mPD to the immediate north of Lai King Estate; and a building gap of 30m wide above 163mPD for the “R(A)2” site at Lai Kong Street shall be provided.

8.3.11 For large housing development sites (including public rental housing sites), it is required to provide varying building height profile within the same building height band to avoid wall effect of buildings, add variation to the sites and help wind penetration at street level.

8.3.12 Minor relaxation of the plot ratio/GFA/building height/building gap

restrictions may be considered by the Board on application under section 16 of the Ordinance. The criteria given in paragraph 7.9 above would be relevant for the assessment of minor relaxation of building height restrictions. Each application will be considered on its own merits.

8.3.13 However, for any existing building with plot ratio/GFA/building height already exceeding the relevant restrictions as stipulated on the Plan or in the Notes of the Plan, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.

8.3.14 A NBA of 9m wide from the southern lot boundary of 482 Castle Peak Road is designated to extend the NBA of the same width in the adjoining “OU(B)” zone in order to improve the pedestrian air ventilation condition. A minimum 3.5m-wide NBA from the lot boundary abutting Ta Chuen Ping Street (except 29A-33, 37-39, 41-43 and 47 Ta Chuen Ping Street) shall be provided (see **Plan 1**).

8.3.15 The above NBAs are required for air ventilation purpose above ground and such restriction will not apply to underground developments. Under exceptional circumstances, minor relaxation of the NBA restrictions may be considered by the Board on application under section 16 of the Ordinance.

8.4 Residential (Group B) (“R(B)”) : Total Area 15.28 ha

8.4.1 This zoning is generally intended to provide for medium-density residential development. Within this zone, commercial uses are prohibited unless otherwise permitted by the Board through the planning permission system.

8.4.2 Land zoned for this purpose is mainly located in the southeastern part of Kwai Chung in Planning Areas 42, 43 and 44 and has been developed predominantly for private residential development.

8.4.3 Chung Shan Terrace is a scenic area where the existing developments are of low-rise in nature. In view of the substandard road access and with a view to maintaining the existing character of the area, it is designated as “R(B)1” on the Plan. It is intended to maintain the scale of development in the area to the existing level or to a maximum plot ratio of 2.0, maximum site coverage of 66.6% and maximum building height of 3 residential storeys in addition to 1 storey of carport.

8.4.4 Wonderland Villas is designated as “R(B)2” and subject to a maximum total GFA of 139 860m<sup>2</sup>. The development occupies a visually prominent location on an exposed ridgeline. The design of the development has adopted a height variation approach to respect the vertical variance of the nearby hill ridges. However, due to its length, height and massing, the development is considered out of context with the upland setting. Having regard to the urban fringe character of the

area, the high elevation, the sloping topography, the upland setting, the stepped height concept and taking into account the permissible GFA under the OZP, maximum building heights of 260mPD, 275mPD and 290mPD are imposed on the site. Any new development (except minor addition, alteration and/or modification not affecting the building height of the existing building) or redevelopment of an existing building within this zone requires permission from the Board under section 16 of the Ordinance with the support of a layout plan, visual impact assessment and any other information as may be required by the Board to ensure that the building height, massing, disposition and layout of the future development would be acceptable in visual and planning terms. Variation of building heights to create visual interest is also encouraged.

8.4.5 Other developments located within this zoning include Regency Park (“R(B)3”) and Wah Yuen Chuen (“R(B)4”) at Wah King Hill Road, Happy Villa (“R(B)5”) and Lai King Terrace (“R(B)6”) at Lai King Hill Road and Tsui Yiu Court (“R(B)7”) at Lai Chi Ling Road. Development within each of these “R(B)” sites is subject to a maximum plot ratio/GFA as permitted under the lease conditions in general. Developments and redevelopments within “R(B)3” to “R(B)7” zones are subject to different building height restrictions which are intended to reflect the existing building heights.

8.4.6 Development/redevelopment within this zone is subject to maximum plot ratio/GFA/site coverage/building height restrictions as stipulated on the Plan or in the Notes of the Plan, or the plot ratio/GFA/site coverage/building height of the existing building, whichever is the greater. Minor relaxation of such restrictions may be considered by the Board on application under section 16 of the Ordinance. The criteria given in paragraph 7.9 above would be relevant for the assessment of minor relaxation of building height restrictions. Each application will be considered on its own merits.

8.4.7 However, for any existing building with plot ratio/GFA/site coverage/building height already exceeding the relevant restrictions as stipulated on the Plan or in the Notes of the Plan, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.

## 8.5 Residential (Group E) (“R(E)”) : Total Area 3.92 ha

8.5.1 This zoning is intended to encourage the phasing out of industrial uses. It provides an opportunity for redevelopment of existing obsolete industrial buildings. Residential development may be permitted with or without conditions on application to the Board. The developers will be required to submit adequate information to demonstrate that the new residential development will be environmentally acceptable, and suitable mitigation measures, if required, will be implemented to address the potential industrial/residential (I/R) interface problems.

- 8.5.2 Under this zoning, existing industrial uses will be tolerated but new industrial development will not be permitted upon redevelopment of existing industrial buildings in order to avoid the perpetuation or aggravation of the I/R interface problems with the new residential development during the redevelopment process. In existing industrial buildings, new developments involving offensive trades will not be permitted. Any modification of use from non-industrial to industrial uses within existing industrial buildings will also require the permission of the Board.
- 8.5.3 The former Kwai Chung Factory Estate and an existing industrial lot to the west of Kin Chuen Street are zoned “R(E)” with a view to phasing out the remaining industrial uses and to eliminate the I/R interface problems on Kwai Chung Estate to its south. The former Kwai Chung Factory Estate site has been developed into public rental housing development forming part of Kwai Chung Estate, subject to a maximum building height of 150mPD. The existing industrial lot to the west of Kin Chuen Street is occupied by a warehouse, subject to a maximum building height of 130mPD.
- 8.5.4 The “R(E)1” zone is intended for public rental housing development with specific environmental mitigation measures requirements. The zoning is to facilitate appropriate planning control over the scale, design and layout of the development, taking into account environmental constraints.
- 8.5.5 The former Kwai Chung Police Married Quarters site at Kwai Yi Road is zoned “R(E)1” under which residential development would require planning permission from the Board. This is to ensure that the proposed residential development will not be subject to excessive traffic noise impacts from the surrounding areas, especially from Kwai Chung Road and all possible environmental mitigation measures will be submitted for the consideration of the Board at planning application stage under section 16 of the Ordinance. Development and redevelopment within this zone is subject to a maximum building height of 90mPD. Based on the development proposal approved by the Board, the proposed public rental housing is scheduled for completion in about 2018 and the associated PTI at Container Port Road will be open to public in about 2017.
- 8.5.6 Developments within “R(E)” and “R(E)1” zones are subject to a maximum total plot ratio of 5.0. On land designated “R(E)” and “R(E)1”, in calculating the GFA for these developments/redevelopments, the land for free-standing purpose-designed buildings that are solely used for accommodating school or other GIC facilities, including those located on ground and on building podium, shall be deducted in calculating the relevant site area.
- 8.5.7 In the circumstances set out in Regulation 22 of the Building (Planning) Regulations, the above specified maximum plot ratio may be increased by what is permitted to be exceeded under Regulation 22. This is to

maintain flexibility for unique circumstances such as dedication of part of a site for road widening or public uses.

8.5.8 Development/redevelopment within this zone is subject to maximum plot ratio/building height restrictions as stipulated on the Plan or in the Notes of the Plan, or the plot ratio/building height of the existing building, whichever is the greater. Minor relaxation of such restrictions may be considered by the Board on application under section 16 of the Ordinance. The criteria given in paragraph 7.9 above would be relevant for the assessment of minor relaxation of building height restrictions. Each application will be considered on its own merits.

8.5.9 However, for any existing building with plot ratio/building height already exceeding the relevant restrictions as stipulated on the Plan or in the Notes of the Plan, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.

8.6 Village Type Development (“V”) : Total Area ~~2.55~~ 2.32ha

8.6.1 The planning intention of this zone is primarily for the provision of land for the retention and expansion of existing villages as well as reservation of land for the reprovisioning of village houses affected by Government projects. This zoning is mainly to reflect the extent of existing Ha Kwai Chung Village in Planning Area 11.

8.6.2 Development/redevelopment within this zone is subject to a maximum building height restriction as stipulated in the Notes of the Plan, or the height of the existing building, whichever is the greater. Minor relaxation of such restriction may be considered by the Board on application under section 16 of the Ordinance. The criteria given in paragraph 7.9 above would be relevant for the assessment of minor relaxation of building height restrictions. Each application will be considered on its own merits.

8.6.3 However, for any existing building with building height already exceeding the relevant restriction as stipulated in the Notes of the Plan, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.

8.7 Industrial (“I”) : Total Area 41.33ha

8.7.1 The planning intention of the “I” zone is to reserve land primarily for general industrial uses to ensure an adequate supply of industrial floor space. Information technology and telecommunications industries are considered suitable to operate in industrial buildings. Office related to industrial use, being an integral part of industrial function, is also permitted as of right in the “I” zone. However, general commercial and office uses, other than those permitted on the purpose-designed non-industrial portion on the lower floors of an existing building

separated by a buffer floor, will require planning permission from the Board.

- 8.7.2 Provision of industrial land in the Area has been made in conjunction with the industrial land planned for Tsuen Wan and Tsing Yi to ensure that sufficient industrial land is reserved to provide employment opportunities for the labour force of Tsuen Wan New Town as a whole.
- 8.7.3 Industrial sites are located in Planning Areas 10, 26, 29, 37 and 38. Industrial activities in these areas are vibrant and there are no I/R interface problems. Some of the industrial areas are close to the existing container terminals.
- 8.7.4 Taking into consideration the traffic, environmental, infrastructural constraints and the trend of industries towards high-technology production, a maximum total plot ratio of 9.5, or the plot ratio of the existing building, whichever is the greater, is imposed on all land designated "I" on the Plan.
- 8.7.5 In the circumstances set out in Regulation 22 of the Building (Planning) Regulations, the above specified maximum plot ratio may be increased by what is permitted to be exceeded under Regulation 22. This is to maintain flexibility for unique circumstances such as dedication of part of a site for road widening or public uses.
- 8.7.6 Developments and redevelopments within the "I" zone between Tai Lin Pai Road and Castle Peak Road are subject to maximum building heights of 120mPD and 135mPD, whereas those along Tsuen Wan Road are subject to maximum building height restrictions of 90mPD, 105mPD, 120mPD and 140mPD, or the height of the existing building, whichever is the greater.
- 8.7.7 To enhance the local air ventilation performance, a 15m-wide building gap above 18mPD between Wing Yip Street and Kwai On Road, and a 50m-wide building gap above 24mPD between Tsuen Wan Road and Kwai Fuk Road shall be provided.
- 8.7.8 Minor relaxation of the plot ratio/building height/building gap restrictions may be considered by the Board on application under section 16 of the Ordinance. The criteria given in paragraph 7.9 above would be relevant for the assessment of minor relaxation of building height restrictions. Each application will be considered on its own merits.
- 8.7.9 However, for any existing building with plot ratio/building height already exceeding the relevant restrictions as stipulated on the Plan or in the Notes of the Plan, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.
- 8.7.10 A 15m-wide NBA aligned with Kwai Lok Street is designated on land



between Tsuen Wan Road and Kwai Hei Street. An existing footpath between Wo Yi Hop Road and Wah Sing Street is designated as an NBA to maintain the existing air path. These NBAs are required for air ventilation purpose above ground and such restrictions will not apply to underground developments. Under exceptional circumstances, minor relaxation of the NBA restrictions may be considered by the Board on application under section 16 of the Ordinance.

8.8 Government, Institution or Community (“G/IC”) : Total Area ~~119.17~~ 118.84ha

- 8.8.1 Land zoned for this purpose is intended to provide a wide range of GIC facilities to meet the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organisations providing social services to meet community needs, and other institutional establishments. Such developments, particular for those which are low-rise, serve to provide visual and spatial relief to the densely built-up environment of the Area. Some facilities, such as the Princess Margaret Hospital and Kwai Chung Hospital in Planning Area 43, serve a much wider area.
- 8.8.2 Other major GIC facilities include the Kwai Tsing Theatre and the Kwai Shing Swimming Pool Complex in Planning Area 10, Lai King Correctional Institution in Planning Area 42 and service reservoirs in Planning Areas 41 and 60. Other GIC facilities in the Area include schools, markets, clinics and Government Quarters.
- 8.8.3 The “G/IC” site to the southwest of the Rambler Channel Typhoon Shelter is reserved as the barging point for the transportation of construction wastes to dumping grounds.
- 8.8.4 This zoning also covers a number of existing schools, community centre/hall and sports centre within public rental housing estates. The roof garden above Shek Lei Community Hall, the car park and children’s playground of the Tai Wo Hau Sports Centre, and the basement car park of Tai Wo Hau Estate Community Centre are common facilities shared by the residents of the concerned estates.
- 8.8.5 Electricity substations on Tai Lin Pai Road, Kwai Fuk Road and Container Port Road; refuse collection point and latrine along Tai Lin Pai Road; Ka Ting Cooked Food Market at the junction of Tai Lin Pai Road and Ka Ting Road; and Kwai Shun Street Cooked Food Market, refuse collection point and playground at Kwai Shun Street are located within industrial area. In view of the environmental conditions of such land, these sites are zoned “G/IC(1)” and only selected GIC facilities are permitted while some other community and social welfare facilities may be permitted on application to the Board.
- 8.8.6 Developments and redevelopments within this zone are subject to building height restrictions in terms of number of storeys (excluding basement floors(s)) or mPD as stipulated on the Plan, or the height of the

existing building, whichever is the greater. Building height restrictions for most of the “G/IC” zones and all “G/IC(1)” sub-zones are stipulated in terms of number of storeys except that the relatively high-rise GIC uses, such as Kwai Chung Police Station in Planning Area 10, Lai King Disciplined Services Quarters in Planning Area 42, and Kwai Chung Hospital, Princess Margaret Hospital and Princess Margaret Hospital School of Nursing and Quarters in Planning Area 43, are stipulated in terms of mPD so as to provide a clearer control over the building height profile. The “G/IC(2)” sub-zone covering Lai King Fire Station is subject to a maximum building height of 3 storeys as stipulated on the Plan, and a drill tower up to 9 storeys is allowed as specified in the Notes.

8.8.7 Minor relaxation of the building height restrictions may be considered by the Board on application under section 16 of the Ordinance. The criteria given in paragraph 7.9 above would be relevant for the assessment of minor relaxation of building height restrictions. Each application will be considered on its own merits.

8.8.8 However, for any existing building with building height already exceeding the relevant restrictions as stipulated on the Plan or in the Notes of the Plan, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.

8.9 Open Space (“O”) : Total Area 114.88ha

8.9.1 This zoning is intended primarily for the provision of outdoor open-air public space for active and/or passive recreational uses serving the needs of local residents as well as the general public. While passive recreational facilities are provided in the existing Central Kwai Chung Park in Planning Area 42, active recreational facilities are provided in the existing Kwai Chung Sports Ground and Kwai Chung San Kui Park in Planning Area 10 and the future Kwai Chung Park with land reserved in Planning Area 37.

8.9.2 Local open spaces at various locations are also provided to meet local demands.

8.10 Other Specified Uses (“OU”) : Total Area 174.91ha

8.10.1 This zoning covers land allocated for specific uses which include the following:-

- (a) the container terminals in Planning Area 30 and 37 and container-related uses in Planning Areas 10 and 30;
- (b) the cargo handling areas in Planning Areas 26 and 37;
- (c) the petrol filling stations in Planning Areas 10, 28, 29 and 44;
- (d) the slaughter house in Planning Area 26;

- (e) the cemetery, crematorium and funeral facilities in Planning Area 26;
- (f) the sewage treatment works in Planning Area 37 and sewage screening plant in Planning Area 30;
- (g) the electricity substation at the junction of Yiu Wing Street and Wo Tong Tsui Street in Planning Area 28;
- (h) the Lai King Ventilation Building for the MTR Tsuen Wan Line in Planning Area 11;
- (i) the two emergency access points for MTR West Rail Line at Kwai Fong and at a site sandwiched between Tsuen Wan Road and Wing Kei Road;
- (j) areas bounded by Cheung Wing Road, Tai Yuen Street, Lei Muk Road and Wo Yi Hop Road and the area at the junction of Cheung Wing Road and Castle Peak Road in Planning Area 27; the areas bounded by Castle Peak Road, Yiu Wing Street, Wo Tong Tsui Street and Kin Chuen Street in Planning Area 28; and the areas bounded by Tai Lin Pai Road, Kwai Chung Road and Castle Peak Road in Planning Area 29 are zoned “OU(B)”. Development within this zone is subject to a maximum total plot ratio of 9.5, or the plot ratio of the existing building, whichever is the greater, as stipulated in the Notes; and
- (k) two proposed columbarium sites at Tsing Tsuen Road and No. 2-6 Wing Lap Street in Planning Area 26.

8.10.2 Developments and redevelopments within this zone are subject to building height restrictions in terms of number of storeys (excluding basement floors(s)) or mPD as stipulated on the Plan, or the height of the existing building, whichever is the greater. Building height restrictions for most of the sites within this zone are stipulated in terms of number of storeys except the “OU(B)” zone, “OU(Columbarium)”, “OU(Columbarium)(1)” and the relatively high-rise buildings within the “OU” annotated “Container Terminal” zone.

8.10.3 The “OU(Columbarium)” zone is intended for a public columbarium and garden of remembrance uses. A traffic impact assessment (TIA) for 3 proposed public columbarium sites in Kwai Chung including the site at Tsing Tsuen Road and two sites near Kwai Tai Road was completed in July 2012. The TIA confirmed that the proposed columbarium development at Tsing Tsuen Road with recommended appropriate traffic and transport improvement measures could accommodate the anticipated increase in traffic and pedestrian flows. Development within the zone is restricted to a maximum number of niches of 20 000, 2 000 memorial plaques and a maximum building height of 45mPD. As the Tsing Tsuen Road site covers more than 3 hectares of land, there may be scope for future expansion in order to provide more public niches to meet the market demand. However, any development

proposal for more than 20 000 niches and 2 000 memorial plaques at the site would require a new TIA to be conducted to confirm there will be no adverse traffic impact arising from the expansion proposal. Minor relaxation of the restrictions on maximum number of niches, memorial plaques and building height may be considered by the Board under section 16 of the Ordinance.

- 8.10.4 A proposed private columbarium development at Wing Lap Street is zoned “OU(Columbarium)(1)”. Development within the zone is restricted to a maximum number of niches of 23 000 and a maximum building height of 50mPD. In order to ensure proper control and monitoring of the proposed columbarium development, ‘Columbarium’ use requires planning permission from the Board so that the applicant can be requested to fulfil relevant departments’ requirement such as the proposed transport/traffic/crowd management measures, building design and landscaping through the imposition of approval conditions. To allow design flexibility for proposed columbarium development, e.g. higher floor to floor height, wider circulation corridor and greening on upper floors to enhance the ventilation, circulation and outlook of the building, minor relaxation of the building height restriction may be considered by the Board under section 16 of the Ordinance.
- 8.10.5 The development of container terminal (CT) is facing the fast-changing requirements of the logistics industry. As the CT is located at the gateway of breezeway and the visual corridor of Rambler Channel, the BH restrictions on the CT seek to maintain the quality environment through preserving the Rambler Channel and provide flexibility for the trade. To this end, maximum building heights of 70mPD and 110mPD are imposed to accommodate relatively taller buildings to cater for the operational requirements, taking into account air ventilation and visual considerations. To improve wind flow and visual relief there are low-rise bands including a 50m-wide height band of maximum 25mPD along the quayside to accommodate minor structures, a height band of maximum 30mPD to the north of Tsing Yi Bridge, and the southern half of the CT No. 4 Crosswharf featuring a 55m-wide NBA and a height band of maximum 30mPD (110m-wide). Due to the waterfront location and potential long building frontage of the CT, three 40m-wide intervening NBAs are designated to enhance air permeability and break up the building mass. While link bridges within the NBAs are allowed to facilitate connection between buildings, air permeability of at least 50% within the NBAs should be provided to allow air penetration. The BH restrictions do not apply to crane structures and container stacks. Under the lease, any development within the CT is required to submit general layout plan to the Land Authority. The proponent may also undertake relevant assessments, including traffic impact assessment, visual impact assessment, quantitative AVA(s) and provide any other information as may be required by the Government departments during the layout plan submission under lease. Quantitative AVAs should identify other enhancement measures and to ascertain their effectiveness. Due to the waterfront location, the proponent of future

developments should provide more building gaps to enhance permeability, particularly for buildings with long frontage facing the channel so as to improve air ventilation of the sensitive areas identified in the AVA (CFD) 2015.

- 8.10.6 The planning intention of the “OU(B)” zone is primarily for general business uses. A mix of information technology and telecommunications industries, non-polluting industrial, office and other commercial uses are always permitted in new “business” buildings. Less fire hazard-prone office use that would not involve direct provision of customer services or goods to the general public is always permitted in existing industrial or industrial-office (I-O) buildings. As it is not possible to phase out existing polluting and hazardous industrial uses all at once, it is necessary to ensure compatibility of the uses within the same industrial building, I-O building or industrial area in Kwai Chung until the whole area is transformed to cater for the new non-polluting business uses. Upon redevelopment of the existing electricity substation site bounded by Castle Peak Road and Yiu Wing Street in Planning Area 28, adequate provision should be made within the site for the construction of a new primary electricity substation, if required. Development within this zone should make reference to the relevant Town Planning Board Guidelines.
- 8.10.7 In the circumstances set out in Regulation 22 of the Building (Planning) Regulations, the above specified maximum plot ratio for the “OU(B)” zone may be increased by what is permitted to be exceeded under Regulation 22. This is to maintain flexibility for unique circumstances such as dedication of part of a site for road widening or public uses.
- 8.10.8 Developments and redevelopments within the “OU(B)” zone are subject to maximum building heights of 105mPD along Tai Lin Pai Road, 105/130mPD along Wo Tong Tsui Street/Yiu Wing Street, 130mPD along Wo Yi Hop Road and 150mPD at Kowloon Commerce Centre, or the height of the existing building, whichever is the greater.
- 8.10.9 A 15m-wide building gap above 25mPD between Castle Peak Road and the east-west aligned section of Tai Lin Pai Road under the “OU(B)” zone shall be provided to facilitate northeasterly wind reaching Tai Lin Pai Road.
- 8.10.10 Minor relaxation of the plot ratio/building height/building gap restrictions may be considered by the Board on application under section 16 of the Ordinance. The criteria given in paragraph 7.9 above would be relevant for the assessment of minor relaxation of building height restrictions. Each application will be considered on its own merits.
- 8.10.11 However, for any existing building with plot ratio/building height already exceeding the relevant restrictions as stipulated on the Plan or in the Notes of the Plan, there is a general presumption against such application for minor relaxation unless under exceptional circumstances.

8.10.12 To cater for the long-term road widening proposal and to improve air ventilation of the “OU(B)” zone bounded by Castle Peak Road and Wo Yi Hop Road, a minimum 4m-wide NBA from the lot boundary abutting Lam Tin Street, and a minimum 3.5m-wide NBA from the lot boundary abutting Chun Pin Street (except 1 Chun Pin Street) and Ta Chuen Ping Street (except 26-38, 68, 70, 85-89 and 93 Ta Chuen Ping Street) shall be provided. A 9m-wide NBA aligning with Lam Tin Street between Chun Pin Street and Castle Peak Road is also imposed (see **Plan 1**).

8.10.13 To improve air ventilation of the “OU(B)” zone along Tai Lin Pai Road, the following six NBAs are designated on the Plan:

- (a) the existing public footpath which straddles “OU(B)” and “I” zones between Wo Yi Hop Road and Wah Sing Street and portion of 21-33 Tai Lin Pai Road abutting this footpath is designated as an NBA;
- (b) a 15m-wide north-south NBA aligning with Kwai Wing Road and Kwai Cheong Road;
- (c) two 15m-wide east-west aligned NBAs between Kwai Chung Road and Tai Lin Pai Road;
- (d) a 15m-wide east-west aligned NBA connecting Kwai Chung Road with Kwai Cheong Road; and
- (e) a 15m-wide east-west aligned NBA between Kwai Chung Road and Kwai Ting Road.

8.10.14 The NBAs are required for air ventilation purpose above ground and such restriction will not apply to underground development. Under exceptional circumstances, minor relaxation of the NBAs restrictions may be considered by the Board on application under section 16 of the Ordinance.

8.11 Green Belt (“GB”) : Total Area 263.34ha

8.11.1 This zoning covers mainly steep hill-slopes in the eastern part of the Area, and is intended to define the outer limits of Tsuen Wan New Town and for the conservation of areas with prominent, high scenic and high value landscape features, e.g. the Kau Wa Keng San Tsuen area. This zoning also provides additional outlets for passive recreational uses. Generally, there is a presumption against development in this zone and development proposals will be assessed on individual merits taking into account relevant Town Planning Board Guidelines.

8.11.2 The “GB” zone in the Kau Wa Keng valley is intended to keep the existing character of the area. In particular, the relationship between the existing buildings of the Kau Wa Keng San Tsuen, the land-forms and the vegetation should be retained. The area of high landscape value in

the valley should be preserved. Any development or redevelopment proposal would have to demonstrate that the existing mature trees and character of the valley would not be adversely affected. In the case of the Kau Wa Keng valley, any development application will, as a general principle, be restricted to the existing building bulk.

## 9. COMMUNICATIONS

### 9.1 Roads

- 9.1.1 Kwai Chung is currently linked to the main urban areas by Castle Peak Road and Kwai Chung Road. To the north, Cheung Pei Shan Road which links up Sha Tin and Tsuen Wan has an interchange near Lei Muk Shue Estate for access to the Area. The Tsuen Wan Road running along the south-western part of the Area is a by-pass for through traffic to and from Tsuen Wan, Tuen Mun and Yuen Long and has improved the traffic conditions in Central Kwai Chung. The Tsing Tsuen Bridge provides a second road link to Tsing Yi and has released the traffic pressure on Kwai Tsing Bridge.
- 9.1.2 Tsing Sha Highway is part of Route 8 and is a strategic road linking Tsing Yi and Sha Tin. The section between Cheung Sha Wan and Sha Tin, which is an elevated road passing through Butterfly Valley in the south-eastern part of the Area, has been commissioned in March 2008. The remaining section of Route 8 between Tsing Yi and Cheung Sha Wan has also been commissioned in December 2009.
- 9.1.3 The proposed Kwai Chung Circumferential Road will provide a direct link between northern and central Kwai Chung and the MTR Kwai Fong Station. Moreover, Tsing Kwai Highway passes through the Area and provides an additional road link between the urban area and the New Territories.

### 9.2 Railways

- 9.2.1 The MTR Tsuen Wan Line runs through the Area with three stations, namely Kwai Hing, Kwai Fong and Lai King, which are conveniently located to cover a wide catchment. The section of the Tsuen Wan Line between Lai King Estate and Kwai Hing Estate is elevated whilst the other sections are underground.
- 9.2.2 The MTR Airport Railway consists of two lines: the Tung Chung Line connects North Lantau and Central while the Airport Express links the airport with Central. The Lai King Station provides a point of interchange between the Tung Chung Line and the Tsuen Wan Line.
- 9.2.3 The MTR West Rail Line is a sub-regional passenger rail link connecting the northwest New Territories to the urban areas. It was opened in December 2003 to provide domestic passenger services from Nam Cheong Station in West Kowloon to Tuen Mun Station. With the

opening of the Kowloon Southern Link in August 2009, the West Rail Line is extended to Hung Hom. The MTR Kwai Fong Ancillary Building accommodating a traction station and ventilation building is at Kwai Chung Road.

- 9.2.4 *The Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link under construction is a cross-boundary passenger line running from West Kowloon Terminus to the Hong Kong/Shenzhen boundary, where it connects with the national high-speed railway network. The railway tunnel runs through the underground of eastern part of the Area with a ventilation building situated at Wing Yip Street. The scheme of the railway was authorised by the CE in C on 20 October 2009. Pursuant to section 13A of the Ordinance, the railway scheme authorised by the CE in C under the Railways Ordinance (Chapter 51.9) shall be deemed to be approved under the Ordinance and the railway scheme is shown on the Plan for information only. The Hong Kong Section of the Guangzhou-Shenzhen-Hong Kong Express Rail Link runs through the Area in underground tunnels, with a ventilation building situated at Wing Yip Street. Construction of the project commenced in early 2010 for completion in mid-2015.*

9.3 Others

Various other modes of public transport such as buses, taxis and green minibuses are also provided to complement the MTR service. Bus termini, taxi stands and minibus stops have been provided within major residential areas.

**10. UTILITY SERVICES**

Fresh water is supplied from the Tsuen Wan Water Treatment Works located to the north outside the Area. Land has been developed for major fresh and salt water service reservoirs in Planning Areas 10, 41, 42, 43, 44, 60 and 61. Electricity, gas and telephone services are also available and no difficulties are anticipated in meeting the future requirements.

**11. CULTURAL HERITAGE**

- 11.1 Within the boundary of the Plan, there is a Graded III historic building, i.e. Tsang Residence, No. 22 Kau Wa Keng Old Village.
- 11.2 The Antiquities Advisory Board (AAB) also released a list of new items in addition to the list of 1 444 historical buildings. These items are subject to grading assessment by the AAB. Details of the list of 1 444 historic buildings and the new items have been uploaded onto the website of the AAB at <http://www.aab.gov.hk>.
- 11.3 Prior consultation with the Antiquities and Monuments Office of Leisure and Cultural Services Department should be made if any development,



redevelopment or rezoning proposal might affect the above sites of archaeological interest, graded historic buildings/structures, new items pending grading assessments and their immediate environs.

## **12. IMPLEMENTATION**

- 12.1 Although existing uses non-conforming to the statutory zonings are tolerated, any material change of use and any other development/redevelopment must be always permitted in terms of the Plan or, if permission is required, in accordance with the permission granted by the Board. The Board has published a set of guidelines for the interpretation of existing use in the urban and new town areas. Any person who intends to claim an “existing use right” should refer to the guidelines and will need to provide sufficient evidence to support his claim. The enforcement of the zonings mainly rests with the Buildings Department, the Lands Department and the various licensing authorities.
- 12.2 The Plan provides a broad land use framework within which more detailed non-statutory plans for the Area are prepared by the Planning Department. These detailed plans are used as the basis for public works planning and site reservation within the Government. Disposal of sites is undertaken by the Lands Department. Public works projects are co-ordinated by the Civil Engineering and Development Department in conjunction with the client departments and the works departments, such as the Highways Department and the Architectural Services Department. In the course of implementation of the Plan, the Kwai Tsing District Council would also be consulted as appropriate.
- 12.3 Planning applications to the Board will be assessed on individual merits. In general, the Board, in considering the planning applications, will take into account all relevant planning considerations which may include the departmental outline development plans and guidelines published by the Board. The outline development plan is available for public inspection at the Planning Department. Guidelines published by the Board are available from the Board’s website, the Secretariat of the Board and the Technical Services Division of the Planning Department. Application forms and Guidance Notes for planning applications can be downloaded from the Board’s website and are available from the Secretariat of the Board and the Technical Services Division and the relevant District Planning Office of the Planning Department. Applications should be supported by such materials as the Board thinks appropriate to enable it to consider the applications.

Index of Figure (for indicative purpose only)  
Plan 1 – Non-Building Area Restrictions






# **Agreement No. CB20130657 Term Traffic and Environmental Consultancy Services 2014-2016 For Kowloon Central and West and Islands Region**

Traffic Impact Assessment for  
Proposed Public Housing Development  
at San Kwai Street, Kwai Chung

Draft Report



REVISION SCHEDULE					
Rev	Date	Details	Prepared by	Reviewed by	Approved by
0	July 2016	Traffic Impact Assessment Report (Draft)	Ivan Lai Traffic Engineer	Clifford Chow Associate Director	Clifford Chow Associate Director
1	June 2017	Traffic Impact Assessment Report (Draft)  Update of design year from 2022 to 2023, and flat number from 1,400 to 684	Ivan Lai Traffic Engineer	Clifford Chow Associate Director	Clifford Chow Associate Director
2	August 2017	Traffic Impact Assessment Report (Draft)  Update to address Transport Department comments	Ivan Lai Traffic Engineer	Clifford Chow Associate Director	Clifford Chow Associate Director
3	October 2017	Traffic Impact Assessment Report (Draft)	Ivan Lai Traffic Engineer	Clifford Chow Associate Director	Clifford Chow Associate Director
		Update to address Transport Department comments			

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## EXECUTIVE SUMMARY

AECOM Consulting Services Limited (formerly URS Hong Kong Limited) was commissioned by Hong Kong Housing Authority (HKHA) to conduct Traffic Impact Assessment (TIA) for Public Housing Development at San Kwai Street (hereinafter referred as the Project).

The Project will comprise about 684 public housing flats. HKHA anticipates 2023 as the Project population intake year.

This report has undertaken a detailed analysis on junctions leading to the Project site, based on traffic forecasts in 2028. Continuous growth of background traffic and additional traffic generated from adjacent developments would cause over-capacity at J6 Kwai Chung Road/Kwai On Road/Kwai Yik Road Junction in evening peak period and J7 Kwai Chung Road/Kwai Foo Road/Tai Lin Pai Road Junction in morning peak period in 2028 reference scenario; however, the performance of J7 with junction improvement from the HKHA project “*Public Transport Interchange at Container Port Road and Junction Improvement Works along Kwai Chung Road, Kwai Chung*” would be improved to within capacity level in 2028 reference scenario. The HKHA San Kwai Street development traffic is expected to have insignificant impact on junction performance comparing between reference scenario and design scenario. Notwithstanding no significant traffic impact is anticipated from the proposed Project development, the relevant departments/authorities could consider to implement junction improvement schemes to J6 and J7.

In conclusion, the proposed public housing development at San Kwai Street following implementation of junction improvement schemes at J6 – Kwai Chung Road/Kwai On Road/Kwai Yik Road and J7 – Kwai Chung Road/Kwai Foo Road/Tai Lin Pai Road is acceptable in transport terms.

## **1. INTRODUCTION**

### **1.1 Background**

- 1.1.1 AECOM Consulting Services Limited (formerly URS Hong Kong Limited) was commissioned by Hong Kong Housing Authority (HKHA) to provide Term Traffic and Environmental Consultancy Services 2014-2016 for Kowloon Central and West and Islands Region under Agreement No. CB20130657.
- 1.1.2 In December 2015, AECOM Consulting Services Limited was instructed to conduct Traffic Impact Assessment for the Proposed Public Housing Development at San Kwai Street, Kwai Chung (hereinafter referred as the Project).
- 1.1.3 According to HKHA the latest design parameters in January 2017, the Project will provide 684 flats public housing, HKHA anticipate 2023 the Project population intake year. This Traffic Impact Assessment (TIA) is prepared accordingly.

### **1.2 Structure of this report**

- 1.2.1 This assessment has been prepared in accordance with Transport Department Departmental Circular No.1/2011 "Guidelines and Requirements of TIA Studies".
- 1.2.2 Following this introduction
- Chapter 2 – describes the existing conditions including the site location, surrounding highway network, local sustainable transport infrastructure and the existing traffic conditions (including capacity assessments at the study junctions);
  - Chapter 3 – defines the development proposals and presents the detail associated with traffic generation/attraction derivation for the existing and proposed uses on the site and subsequently assigns this to the network;
  - Chapter 4 – reviews the future baseline traffic conditions on the local highway network in relation to the adjacent committed/planned developments traffic flows and traffic growth;
  - Chapter 5 – presents an assessment of the impact of the proposed development on the operational performance of the local highway network for different scenarios; and
  - Chapter 6 – provides a conclusion to this TIA based on the analysis presented in the above chapters.

## 2. EXISTING TRAFFIC CONDITION

### 2.1 Site Description

- 2.1.1 The Project will be on the piece of land at San Kwai Street, Kwai Chung. The Project site location is shown in **Figure 2-1**.

### 2.2 Road Network

- 2.2.1 The Project site has good accessibility to local road network. Tai Lin Pai Road and Kwai Chung Road are major roads adjacent to the Project site. Tai Lin Pai Road is a district distributor connecting between Kwai Chung Road near Kwai Hing Estate and Kwai Chung Road/Kwai Foo Road junction. Kwai Chung Road is a primary distributor connecting Kwai Chung to Lai Chi Kok.

### 2.3 Traffic Surveys

- 2.3.1 To assess the existing performance on junctions leading to the Project site, classified traffic count surveys have been undertaken at study junctions as follows:

- J1 Tai Lin Pai Road/San Kwai Street
- J2 Tai Lin Pai Road/Ka Ting Road
- J3 Tai Lin Pai Road/Ka Hing Road/Wing Yip Street
- J4 Tai Lin Pai Road/Kwai Ting Road
- J5 Tai Lin Pai Road/Kwai On Road
- J6 Kwai Chung Road/Kwai On Road/Kwai Yik Road
- J7 Kwai Chung Road/Kwai Foo Road/Tai Lin Pai Road
- J8 Kwai Fuk Road/Lai King Hill Road

- 2.3.2 The study junctions are shown in **Figure 2-1**. The classified traffic count surveys were carried out on Tuesday 19 January 2016. It was a normal weekdays in January 2016, i.e. after Chinese/New Year school holidays and before Chinese New Year school holidays. The Chinese New Year Day in 2016 was on 8 February 2016. Surveys were from 7:30am to 10:30am for the morning peak period and 4:30pm to 7:30pm for the evening peak period respectively. According to the observed traffic flows, peak hours are from 8:00am to 9:00am for the morning peak period and from 6:00pm to 7:00pm for the evening peak period respectively.

### 2.4 Study Junctions Existing Performance Analysis

- 2.4.1 The morning peak and evening peak observed traffic flows in 2016 are shown in **Figure 2-2**.

- 2.4.2 Junction performance analysis based on 2016 observed traffic flows are summarised in **Table 2-1**. Calculation details are shown in **Appendix A**.

**Table 2-1 2016 Junction Performance**

Location	Junction Type	Junction Performance	
		Morning Peak	Evening Peak
J1 – Tai Lin Pai Road/San Kwai Street	Priority	0.32	0.31
J2 – Tai Lin Pai Road/Ka Ting Road	Priority	0.14	0.13
J3 – Tai Lin Pai Road/Ka Hing Road/Wing Yip Street	Priority	0.14	0.31
J4 – Tai Lin Pai Road/Kwai Ting Road	Priority	0.21	0.28
J5 – Tai Lin Pai Road/Kwai On Road	Priority	0.68	0.69
J6 - Kwai Chung Road/Kwai On Road/Kwai Yik Road	Signal-controlled	28%	4%



Location	Junction Type	Junction Performance	
		Morning Peak	Evening Peak
J7 – Kwai Chung Road/Kwai Foo Road/Tai Lin Pai Road	Signal-controlled	4% (24%)	15% (27%)
J8 – Kwai Fuk Road/Lai King Hill Road	Priority	0.20	0.23

**Notes:**

- Figures in percentage represent reserve capacity (R.C.) of signal-controlled junctions, and in decimal represent Design Flow to Capacity Ratio (DFC) of priority junctions
- J7 R.C. results in ( ) refer to the performance of this junction following junction improvement by the HKHA project “*Public Transport Interchange at Container Port Road and Junction Improvement Works along Kwai Chung Road, Kwai Chung*”

- 2.4.3 Junction performance results in **Table 2-1** indicate that all study junctions operate within design capacity in 2016 baseline traffic condition, but the performance of J6 – Kwai Chung Road/Kwai On Road/Kwai Yik Road signal-controlled junction in the evening peak and J7 – Kwai Chung Road/Kwai Foo Road/Tai Lin Pai Road signal-controlled junction in the morning peak is lower than desirable level of R.C.  $\geq 15\%$ .
- 2.4.4 The HKHA has recently proposed junction improvement for J6 and J7 to Transport Department (TD) in project “*Public Transport Interchange at Container Port Road and Junction Improvement Works along Kwai Chung Road, Kwai Chung*”.
- 2.4.5 At J6, advance works for junction improvement in future have been proposed including realigning kerb-lines at traffic islands on Kwai Chung Road northbound to facilitate adding an extra lane at this junction in future, and applying hatched road markings on the setback sections. The advance works at J6 would have no change to the performance of this junction.
- 2.4.6 At J7, the proposed junction improvement includes changing Kwai Chung Road southbound the second lane to a shared straight-ahead/right turn lane instead of straight ahead only, realigning traffic islands to accommodate two right turn traffic movements from Kwai Chung Road southbound to Kwai Foo Road westbound, and adopting cycle times of 110 seconds in AM peak and 100 seconds in PM peak respectively. The existing performance of J7 following the improvement works would be increased to 24% R.C. in the AM peak and 27% R.C. in the PM peak respectively.

## 2.5 Public Transport Provisions

- 2.5.1 The Project site is well-served by public transport:
- about 300m walking distance to MTR Kwai Fong Station
  - about 300m walking distance to Kwai Fong Station Bus Terminus
  - about 300m walking distance to bus stops on Kwai Chung Road southbound (near Yee Lim Industrial Building)
  - about 330m walking distance to bus stops on Kwai Chung Road northbound (near Kwai Fong Plaza and Kwai Tak House)
- 2.5.2 The existing franchised bus and GMB routes adjacent to the Project site are summarised in **Table 2-2**.

**Table 2-2 The Project Site Adjacent Franchised Bus And GMB Routes**

Locations	Franchised bus and GMB routes
Kwai Fong Station Bus Terminus, and Kwai Yan Road bus stops and GMB	<ul style="list-style-type: none"> <li><b>Franchised bus services:</b> <ul style="list-style-type: none"> <li>KMB routes: 30, 31M 32M 36M, 43M, 46P, 46X, 47X, 57M, 58M, 58P, 61M, 67M, 69M, 69P, 235M, 260C</li> <li>Long Win Bus routes: E32</li> </ul> </li> </ul>

Locations	Franchised bus and GMB routes
stops next to MTR Kwai Fong Station	<ul style="list-style-type: none"> <li>• <b>GMB services:</b> <ul style="list-style-type: none"> <li>➤ GMB routes 88, 88B, 88C, 88G, 88M</li> </ul> </li> </ul>
Kwai Chung Road	<ul style="list-style-type: none"> <li>• <b>Franchised bus services:</b> <ul style="list-style-type: none"> <li>➤ KMB routes: 31M, 32M, 33A, 36A, 36M, 38A, 40, 46P, 46X, 47X, 57M, 58M, 58P, 59A, 61M, 67M, 69M, 235M, 237A, 240X, 265M, 269A, 269M, 260C, 269P, 290, 290A, 290X, 935, N260, N269</li> <li>➤ Long Win Bus routes: E32</li> </ul> </li> <li>• <b>GMB services:</b> <ul style="list-style-type: none"> <li>➤ GMB routes 94, 94A, 302, 313</li> </ul> </li> </ul>

## 2.6 Pedestrian Facilities

2.6.1 The existing footways surrounding the Project site are of good quality. Signal controlled pedestrian crossings are available at Kwai Chung Road/Kwai Foo Road junction. Footbridge providing pedestrian connectivity to Kwai Fong Estate Shopping Centre is situated at Kwai Chung Road outside Golden Dragon Industrial Centre.

### 3. DEVELOPMENT PROPOSALS

#### 3.1 Proposed Design Parameters

3.1.1 The Project development design parameters are summarised in **Table 3-1**.

**Table 3-1 Proposed Design Parameters**

Items	Proposed Design parameters
Project development completion year	2023
Number of flats	About 684 flats public housing

3.1.2 In addition, an approximate 800 sqm NOFA at the Project development would be used as social welfare/community facilities.

#### 3.2 Project Development Traffic Generation and Attraction

3.2.1 The Project development trip generation/attraction rates based on Transport Planning and Design Manual (TPDM). The Project development trip rates are shown in **Table 3-2**.

**Table 3-2 Project Development Traffic Generation And Attraction Rates**

Land Use	Unit	Morning Peak		Evening Peak	
		Generation	Attraction	Generation	Attraction
Subsidised Housing: Public Rental Average flat size = 40 square metres	pcu/hour/flat	0.0432	0.0326	0.0237	0.0301

3.2.2 The resultant Project development traffic generation and attraction are presented in **Table 3-3**.

**Table 3-3 Project Development Traffic Generation And Attraction**

Land Use	Morning Peak		Evening Peak	
	Generation	Attraction	Generation	Attraction
	(pcu/hour)			
Public Housing: 684 flats	30	22	16	21

3.2.3 It is estimated that the Project development will generate 52 pcu per hour two-way trips in the morning peak and 37 pcu per hour two-way trips in the evening peak respectively.

3.2.4 The Project development trip distributions are assumed, firstly, based on trip distributions between major geographic areas in the Third Comprehensive Transport Study: Final Report. This is followed by assigning the Project development traffic flows locally taking into account traffic conditions on each possible route.

- 3.2.5 The proposed social welfare/community facilities are expected to serve the Project development itself; therefore, the proposed social welfare/community facilities would have insignificant road traffic and pedestrian traffic impact on the study road network. In general, the peak of using social welfare/community facilities is at daytime off-peak (10am - 4pm). Even if the Project development social welfare/community facilities attracting users from the community in the vicinity (such as Kwai Fong Estate), the external visitors are expected to have insignificant impact on pedestrian movements in the morning peak and evening peak hours.

### 3.3 Proposed Vehicular Accesses

- 3.3.1 The Project site vehicular accesses will connect to San Kwai Street, which is local distributor next to the Project site. The Project site vehicular accesses have been indicated in **Figure 2-1**.

### 3.4 Proposed Pedestrian Accesses

- 3.4.1 Pedestrian accesses connecting to the existing footways surrounding the Project site will be barrier free access.

### 3.5 Proposed Parking, Loading & Unloading Provision

- 3.5.1 Parking and loading/unloading provision of the Project development will adopt the upper bound from Hong Kong Planning Standards and Guidelines (HKPSG). The Project development parking and loading/unloading provision quantity is summarised in **Table 3-4**.

**Table 3-4 Project Development Parking And Loading/Unloading Provisions**

Parking spaces	Private cars (residential use)	21
	Private cars (commercial use)	2
	Motorcycles	6
	Light goods vehicles	4
Loading and unloading bays	2 loading/unloading bays (1 for the domestic block, 1 to be shared between the retail facilities and Day Care Centre for the Elderly)	
	3 parking spaces for 16 seater private light buses for the Day Care Centre for the Elderly)	

## 4. TRAFFIC FORECASTS

### 4.1 Forecast Years

4.1.1 The Project development is scheduled to have resident intake by 2023. According to Transport Department Departmental Circular No. 1/2011, design year for traffic forecast should be set at least 3 years after the planned completion of the development. To carry out conservative analysis for the TIA, 2028 (i.e. five years following the intake in 2023) is adopted as the design year. Traffic forecasts of the TIA are as follow:

- 2028 in reference case (background traffic + adjacent major development traffic)
- 2028 in design case (reference traffic + the Project traffic)

4.1.2 Background traffic forecasts in design year are derived by applying annual growth factors to the observed traffic flows. The annual growth factors are predicted based on:

- historical traffic data from Transport Department's Annual Traffic Census (ATC) and;
- 2011-based Territorial Population and Employment Data Matrices (TPEDM)

### 4.2 Annual growth factors

4.2.1 Historical traffic data as shown in ATC from 2011 to 2016 are shown in **Table 4-1**.

**Table 4-1 ATC Historical Traffic Data**

Stn. No	Road type	Road Name	From	To	Annual Average Daily Traffic (AADT) veh/da						Average Annual Growth Factor
					2011	2012	2013	2014	2015	2016	2011 - 2016
5004	PD	Castle Peak Rd - Kwai Chung	Tai Wo INT	Wo Yi Hop Rd	25,780	25,360	25,520	25,490	26,240	26,410	0.5%
6203	PD	Castle Peak Rd - Kwai Chung	Ching Cheung Rd	Tai Wo INT	25,400	26,700	27,380	27,490	28,390	27,670	1.7%
6642	LD	Lai Cho Rd	Joint St	Lim Cho St	3,090	3,220	3,070	2,960	2,870	3,010	-0.5%
6022	DD	Kwai Fuk Rd	Shing Fuk St	Hing Fong Rd	28,690	26,790	25,500	25,720	26,200	26,930	-1.3%
5872	PD	Castle Peak Rd - Kwai Chung	Wah Yiu Rd	Tai Wo INT	22,570	20,010	19,930	21,290	21,890	22,720	0.1%
5007	DD	Kwai Foo Rd	Kwai Chung Rd	Hing Fong Rd	14,210	15,800	16,740	16,540	16,270	16,630	3.2%
5401	UT	Tsuen Wan Rd N-B ramp	Kwai Chung Rd	Tsuen Wan Rd	60,060	59,030	58,800	63,780	61,470	61,390	0.4%
5402	UT	Tsuen Wan Rd S-B ramp	Tsuen Wan Rd	Kwai Chung Rd	58,380	57,380	57,150	68,580	66,090	66,010	2.5%
5403	EX	Tsuen Wan Road	Tsuen Wan Rd FO <N522> southern tip	Section over Container Port Rd	121,840	119,750	119,290	132,350	127,560	127,400	0.9%
5030	UT	Kwai Chung Rd	PMT INT slip rd to Kwai	Tsuen Wan Rd	128,150	126,590	122,110	121,700	116,060	110,760	-2.9%

Stn. No	Road type	Road Name	From	To	Annual Average Daily Traffic (AADT) veh/da						Average Annual Growth Factor
					2011	2012	2013	2014	2015	2016	2011 - 2016
			Chung Rd N-B								
5407	PD	Kwai Chung Rd	Lai King Hill Rd	Kwai Foo Rd	34,730	41,380	34,000	32,600	32,480	32,440	-1.4%
5406	PD	Kwai Chung Rd	Tsuen Wan Rd	Lai King Hill Rd	42,110	34,140	41,220	44,300	41,050	41,000	-0.5%
5424	DD	Hing Fong Rd	Kwai Fuk Rd	Kwai Tsing Rd RA	47,580	47,250	49,270	44,940	46,550	47,840	0.1%
5427	DD	Lai King Hill Rd	Joint St	Kwai Fuk Rd	18,980	18,840	19,650	18,500	16,380	16,830	-2.4%
5429	DD	Kwai Fuk Rd	Lai King Hill Rd	Kwai Fuk Rd RA	15,940	15,830	16,510	15,020	12,670	13,020	-4.0%
5476	DD	Lai King Hill Rd slip rds C & D	Lai King Hill RA	Kwai Chug Rd	10,430	10,250	10,210	12,070	10,860	10,840	0.8%
5827	PD	Kwai Fuk Rd	Hing Fong Rd	Container Port Rd RA	30,800	29,020	30,260	30,510	31,080	29,720	-0.7%
6204	DD	Lai King Hill Rd	PMH Int	King Cho Rd	16,800	16,660	16,100	16,800	16,340	17,020	0.3%
5456	LD	Lai Cho Rd, Lai Yiu Rd & Wah Yiu Rd	Lai King Hill Rd	Lai Chi Ling Rd	6,660	6,620	6,900	6,120	6,580	6,760	0.3%
5430	DD	Tai Lin Pai Rd	Kwai Chung Rd southern junction	Kwai On Rd	13,720	13,620	14,210	13,100	10,540	10,830	-4.6%
5428	DD	Lai King Hill Rd	Kwai Chung Rd	Kwai Fuk Rd	3,320	3,300	3,440	2,800	2,970	3,060	-1.6%
5443	DD	Lai King Hill Rd	Lai Wan Rd	PMH INT	8,110	8,050	8,400	7,750	6,420	6,600	-4.0%
<b>All ATC Stations</b>					737,350	725,590	725,660	750,410	726,960	724,890	-0.3%
<b>ATC Stations on strategic road network: Castle Peak Road–Kwai Chung, Tsuen Wan Road, Kwai Chung Road and Lai King Hill</b>					<b>576,660</b>	<b>567,440</b>	<b>563,200</b>	<b>595,500</b>	<b>574,200</b>	<b>570,150</b>	<b>-0.2%</b>

Abbreviations:

EX: Expressway

UT: Urban Trunk Road

PD: Primary Distributor

DD: District Distributor LD: Local Distributor

4.2.2 **Table 4-1** has shown that average growth factor of all ATC stations from 2011 to 2016 was -0.3% per annum, but average growth factor based on strategic roads network: Castle Peak Road–Kwai Chung, Tsuen Wan Road, Kwai Chung Road and Lai King Hill Road from 2011 to 2016 was -0.2% per annum. The average growth factor per annum from 2011 to 2016 based on strategic road network was higher than all ATC stations, but both of them are in negative growth.

4.2.3 Population and employment forecasts as given in 2011-based TPEDM are shown in **Table 4-2**.

**Table 4-2 TPEDM Population And Employment Forecasts**

Planning Data Zone (PDZ)	2016	2021	2026	2016 - 2021	2021 - 2026	2016 - 2021
130	33,300	31,100	30,850	-1.36%	-0.16%	-0.76%
131	9,150	8,050	7,900	-2.53%	-0.38%	-1.46%
142	55,050	54,950	53,650	-0.04%	-0.48%	-0.26%
143	24,625	27,975	25,275	2.58%	-2.01%	0.26%
277	17,825	17,025	15,875	-0.91%	-1.39%	-1.15%
<b>Total</b>	<b>139,950</b>	<b>139,100</b>	<b>133,550</b>	<b>-0.12%</b>	<b>-0.81%</b>	<b>-0.47%</b>

4.2.4 It can be seen from **Table 4-2** that average annual growth factor based on TPEDM population and employment forecasts is -0.47% per annum.

### 4.3 Adopted Annual Growth Factors for Traffic

4.3.1 To produce conservative traffic forecasts in TIA, an annual growth factor of +0.5% per annum is adopted, with reference to historical traffic data from ATC stations on strategic road network: Castle Peak Road–Kwai Chung, Tsuen Wan Road, Kwai Chung Road and Lai King Hill Road.

### 4.4 Adjacent Major Developments

4.4.1 This TIA has taken into account additional traffic from adjacent major developments. The adjacent major developments design parameters are summarised in **Table 4-3**. **Figure 4-1** shows key plan of the adjacent major developments.

**Table 4-3 Adjacent Major Developments**

Item	Adjacent Major Developments Design Parameters	
1	Planning Application No./Proposed Development	A/KC/407 Proposed public housing development at Ex-Kwai Chung Police Married Quarters
	Applied Use/ Development	Subsidised housing: public rental 866 flats, Welfare facility 2,450m <sup>2</sup> IFA, Convenience store 100m <sup>2</sup> IFA, Public Transport boarding/alighting: 2 bays
	Location	Public housing development at Kwai Yi Road and PTI at Container Port Road
	Anticipated Project Completion Year	2017
2	Planning Application No./Proposed Development	Private residential development
	Applied Use/ Development	About 410 flats of private residential development, Public Transport Interchange [Site area: about 0.38ha, maximum plot ratio: 6 for domestic and 9.5 for non-domestic]
	Location	Lai Kong Street (opposite to Highland Park)
	Anticipated Project Completion Year	2018/2019
3	Planning Application No./Proposed Development	A/KC/445 Lai Cho Road Public Housing Development
	Applied Use/ Development	819 flats

Item	Adjacent Major Developments Design Parameters	
	Location	Lai Cho Road
	Anticipated Project Completion Year	2022

4.4.2 The adjacent major development trip generation and attraction rates are shown in **Table 4-4**.

**Table 4-4 Adjacent Major Developments Traffic Generation & Attraction Rates**

Land use	Unit	Morning Peak		Evening Peak	
		Generation	Attraction	Generation	Attraction
Subsidised Housing: Public Rental, average flat size: 40 sqm	pcu/hour/flat	0.0432	0.0326	0.0237	0.0301
Private Housing: High-density/R(A), average flat size: 60 sqm	pcu/hour/flat	0.0718	0.0425	0.0286	0.0370
Local community welfare facilities and convenience store	pcu/hr/500m <sup>2</sup>	2	2	2	2
PTI	Bus trip/hr/2 bays	12	12	12	12

4.4.3 The adjacent major developments traffic generation and attraction are summarised in **Table 4-5**.

**Table 4-5 Adjacent Major Developments Traffic Generation & Attraction**

Land Use	Morning Peak		Evening Peak	
	Generation	Attraction	Generation	Attraction
	(pcu/hour)			
1. A/KC/407 Proposed public housing development at Ex-Kwai Chung Police Married Quarters				
866 flats Average flat size = 40 sqm	37	28	21	26
Welfare Facilities (2,450m <sup>2</sup> IFA)	10	10	10	10
Convenience store 100m <sup>2</sup> IFA	1	1	1	1
PTI (2 bays is assumed)	12	12	12	12
Sub-total (1)	60	51	44	49
2. Private residential development at Lai Kong Street (opposite to Highland park)				
410 flats Average flat size = 60 sqm	29	17	12	15
PTI (2 bays is assumed)	12	12	12	12
Sub-total (2)	41	29	24	27
3. A/KC/445 Lai Cho Road public housing development				
819 flats Average flat size = 40 sqm	35	27	19	25
Sub-total (3)	35	27	19	25
Total	136	107	87	101



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## **4.5 Road Network Changes**

- 4.5.1 HKHA has proposed junction improvement for J6 and J7 to TD in project “*Public Transport Interchange at Container Port Road and Junction Improvement Works along Kwai Chung Road, Kwai Chung*”. This TIA has assessed performance of J6 and J7 based on the proposed junction improvement.

## 5. TRAFFIC IMPACT ASSESSMENT

### 5.1 2028 Reference Scenario

5.1.1 Reference scenario traffic forecasts in 2028 are shown in **Figure 5-1**. The results of junction capacity assessment in 2028 reference scenario are summarised in **Table 5-1**. Calculation details are shown in **Appendix A**.

**Table 5-1 2028 Reference Scenario Junction Performance**

Location	Junction Type	Junction Performance 2016		Junction Performance 2028 Reference Scenario	
		Morning Peak	Evening Peak	Morning Peak	Evening Peak
J1 – Tai Lin Pai Road/San Kwai Street	Priority	0.32	0.31	0.34	0.33
J2 – Tai Lin Pai Road/Ka Ting Road	Priority	0.14	0.13	0.15	0.14
J3 – Tai Lin Pai Road/Ka Hing Road/Wing Yip Street	Priority	0.14	0.31	0.16	0.34
J4 – Tai Lin Pai Road/Kwai Ting Road	Priority	0.21	0.28	0.23	0.30
J5 – Tai Lin Pai Road/Kwai On Road	Priority	0.68	0.69	0.74	0.75
J6 - Kwai Chung Road/Kwai On Road/Kwai Yik Road	Signal-controlled	28%	4%	20%	-2%
J7 – Kwai Chung Road/Kwai Foo Road/Tai Lin Pai Road	Signal-controlled	4% (24%)	15% (27%)	-7% (12%)	3% (15%)
J8 – Kwai Fuk Road/Lai King Hill Road	Priority	0.20	0.23	0.22	0.24

**Notes:**

- Figures in percentage represent reserve capacity (R.C.) of signal-controlled junctions, and in decimal represent Design Flow to Capacity Ratio (DFC) of priority junctions
- J7 R.C. results in ( ) refer to the performance of this junction following junction improvement by the HKHA project “Public Transport Interchange at Container Port Road and Junction Improvement Works along Kwai Chung Road, Kwai Chung”

5.1.2 Junction performance results in **Table 5-1** indicate that study junctions J1 to J5 and J8 are anticipated to operate within design capacity level in both morning peak and evening peak periods in 2028 reference scenario. Continuous growth of background traffic and additional traffic generated from adjacent developments would cause over-capacity at J6 in evening peak period and study junction J7 in morning peak period in 2028 reference scenario; however, the performance of J7 with junction improvement from the HKHA project “*Public Transport Interchange at Container Port Road and Junction Improvement Works along Kwai Chung Road, Kwai Chung*” would be improved to within capacity level in 2028 reference scenario. The changes of junction performance based on comparison between 2016 and 2028 reference scenario are summarised as follows:

- J1, J2, J3, J4 and J8 DFC would increase about 0.01 to 0.03
- J5 DFC would increase about 0.06
- J6 R.C. would reduce about 6% to 8%, this junction would be over-capacity during the evening peak in 2028 reference scenario
- J7 R.C. without junction improvement from the HKHA Project “*Public Transport Interchange at Container Port Road and Junction Improvement Works along Kwai Chung Road, Kwai Chung*” would reduce about 11% to 12%. This junction would be over-capacity during the morning peak and below 15% desirable level during the evening peak in 2028 reference scenario.
- J7 R.C. with junction improvement from the HKHA Project “*Public Transport Interchange at Container Port Road and Junction Improvement Works along Kwai Chung Road, Kwai Chung*” the R.C. would reduce about 12%. This junction would operate below 15% desirable level during the morning peak, but maintain 15% desirable level during the evening peak in 2028 reference scenario.

## 5.2 2028 Design Scenario

5.2.1 Design scenario traffic forecasts in 2028 are shown in **Figure 5-2**. The results of junction capacity assessment in 2028 design scenario are summarised in **Table 5-2**. Calculation details are shown in **Appendix A**.

**Table 5-2 2028 Design Scenario Junction Performance**

Location	Junction Type	Junction Performance 2028 Reference Scenario		Junction Performance 2028 Design Scenario	
		Morning Peak	Morning Peak	Morning Peak	Evening Peak
J1 – Tai Lin Pai Road/San Kwai Street	Priority	0.34	0.33	0.36	0.34
J2 – Tai Lin Pai Road/Ka Ting Road	Priority	0.15	0.14	0.16	0.14
J3 – Tai Lin Pai Road/Ka Hing Road/Wing Yip Street	Priority	0.16	0.34	0.16	0.34
J4 – Tai Lin Pai Road/Kwai Ting Road	Priority	0.23	0.30	0.23	0.30
J5 – Tai Lin Pai Road/Kwai On Road	Priority	0.74	0.75	0.74	0.75
J6 - Kwai Chung Road/Kwai On Road/Kwai Yik Road	Signal-controlled	20%	-2%	20%	-2%
J7 – Kwai Chung Road/Kwai Foo Road/Tai Lin Pai Road	Signal-controlled	-7% (12%)	3% (15%)	-7% (12%)	3% (15%)
J8 – Kwai Fuk Road/Lai King Hill Road	Priority	0.22	0.24	0.22	0.24

**Notes:**

Figures in percentage represent reserve capacity (R.C.) of signal-controlled junctions, and in decimal represent Design Flow to Capacity Ratio (DFC) of priority junctions

J7 R.C. results in ( ) refer to the performance of this junction following junction improvements by the HKHA project *“Public Transport Interchange at Container Port Road and Junction Improvement Works along Kwai Chung Road, Kwai Chung”*

- 5.2.2 Junction performance results in **Table 5-2** indicate that study junctions J1 to J5 and J8 are anticipated to operate within design capacity level in both morning peak and evening peak periods in 2028 design scenario. As discussed, continuous growth of background traffic and additional traffic generated from adjacent developments would cause over-capacity at J6 in evening peak period and study junction J7 in morning peak period in 2028 reference scenario; however, the performance of J7 with junction improvement from the HKHA project *“Public Transport Interchange at Container Port Road and Junction Improvement Works along Kwai Chung Road, Kwai Chung”* would be improved to within capacity level in 2028 reference scenario. The HKHA San Kwai Street development traffic is expect to have insignificant impact based on comparison of the junction performance in 2028 between reference scenario and design scenario:
- J1, J2, J3, J4, J5 and J8 DFC would increase about 0.01 to 0.02
  - J6 and J7 R.C. would reduce less than 1%

- 5.2.3 At J7, the Project development generated pedestrian movement (i.e. from the Project development to Police Station approach) will be on an opposite direction of the major pedestrian movement (i.e. from Police Station to industrial buildings approach). Referring to J7 traffic signal method of control (MOC), pedestrian movements from the two opposite directions (i.e. from the Project development to Police Station approach versus from Police Station to industrial buildings approach) standing at traffic islands will be stored at different traffic signal stages. Therefore, J7 traffic islands are expected enable to accommodate additional pedestrian flows generated from the Project development. HKHA would carry out separate pedestrian assessments for pedestrian network among the Project development and other public housing developments in the vicinity.

- 5.2.4 Notwithstanding no significant traffic impact is anticipated from the proposed Project development, the relevant departments/authorities could consider to implement junction improvement schemes to J6 and J7 as described in **Appendix B**. Again, the traffic impact of the proposed Project development is considered insignificant, the associated traffic improvement schemes (if any required) should not constitute an essential development requirement, and they would not be carried out under the Project.

### 5.3 Impact on Public Transport Provision

- 5.3.1 With reference to Census 2011 Kwai Fong Estate mechanized trips, the project development residents' modal split is as follows:
- MTR - about 44.6%
  - Buses - about 23%
  - Public light buses - about 10.7%
  - On foot - about 15.9%
  - Others (private car, company bus/van, taxi) about 5.8%
- 5.3.2 The Project development is expected to generate the morning peak (8am – 9am) transport demand as follows:
- MTR - on average about 2.9 persons per minute (about 173 persons per hour)
  - Buses - on average about 1.5 persons per minute (about 89 persons per hour)
  - Public light buses - on average about 0.7 person per minute (about 42 persons per hour)
  - On foot - on average about 1 person per minute (about 62 persons per hour)
  - Others (private car, company bus/van, taxi) - on average about 0.4 person per minute (about 23 persons per hour)

- 
- 5.3.3 MTR would be the major transport mode of the Project development residents.
- 5.3.4 The nearest bus stop to the Project development site for Kowloon bound buses is located at Kwai Chung Road southbound near Yee Lim Industrial Building. In the morning peak, this bus stop is mainly for bus passengers from New Territories such as Tuen Mun, Yuen Long, Sha Tin, etc. dropping off to their workplaces along Kwai Chung Road, Kwai Ting Road, Tai Lin Pai Road, etc. Therefore, bus passengers in the morning peak generated from the Project development are expected enable to ride on buses at this bus stop easily following other bus passengers alighting at the same bus stop.
- 5.3.5 As discussed in section 2.5 of this report, the Project site is well-served by different kind of public transport services including the MTR, over 30 franchised bus routes and about 10 GMB routes; therefore, the Project site public transport demand is expected to have insignificant impact on public transport provision adjacent to the Project site.

## **6. SUMMARY AND CONCLUSIONS**

### **6.1 Summary**

- 6.1.1 Hong Kong Housing Authority (HKHA) proposed to develop public housing at San Kwai Street (hereinafter referred as the Project). The Project will consist of 684 flats public housing. HKHA anticipates 2023 as the Project population intake year.
- 6.1.2 This report has undertaken a detailed analysis on junctions leading to the Project site, based on traffic forecasts in 2028.
- 6.1.3 Continuous growth of background traffic and additional traffic generated from adjacent developments would cause over-capacity at J6 Kwai Chung Road/Kwai On Road/Kwai Yik Road Junction in evening peak period and J7 Kwai Chung Road/Kwai Foo Road/Tai Lin Pai Road Junction in morning peak period in 2028 reference scenario; however, the performance of J7 with junction improvement from the HKHA project *"Public Transport Interchange at Container Port Road and Junction Improvement Works along Kwai Chung Road, Kwai Chung"* would be improved to within capacity level in 2028 reference scenario. The HKHA San Kwai Street development traffic is expected to have insignificant impact on junction performance comparing between reference scenario and design scenario. Notwithstanding no significant traffic impact is anticipated from the proposed Project development, the relevant departments/authorities could consider to implement junction improvement schemes to J6 and J7. Again, the traffic impact of the proposed Project development is considered insignificant, the associated traffic improvement schemes (if any required) should not constitute an essential development requirement, and they would not be carried out under the Project.

### **6.2 Conclusions**

- 6.2.1 It is concluded that the proposed public housing development at San Kwai Street following implementation of junction improvement schemes at J6 – Kwai Chung Road/Kwai On Road/Kwai Yik Road and J7 – Kwai Chung Road/Kwai Foo Road/Tai Lin Pai Road is acceptable in transport terms.

## Figures



NOTES:  
1. All Dimensions Are In Meters  
Shown Otherwise.

#### LEGEND:

Study Junctions



Proposed Development



Proposed Vehicular  
Access



Rev.	Date	Description	Drawn	Checked
01	01/04/17	Initial		



HONG KONG  
HOUSING AUTHORITY

Project Title

Agreement No.: CB20130657 –  
Term Traffic and Environmental  
Consultancy Services 2014–2016  
for Kowloon Central and West  
and Islands Region –  
Development at San Kwai Street,  
Kwai Chung

Drawing Title

Study Area

Drawing No.

Figure 2-1

Scale

1:4000

Author

WJY

Checker

WJY

Approved

01/04/17

Drawn

01/04/17

Checked

01/04/17

Scale

1:4000

Author

WJY

Checker

WJY

Approved

01/04/17

Drawn

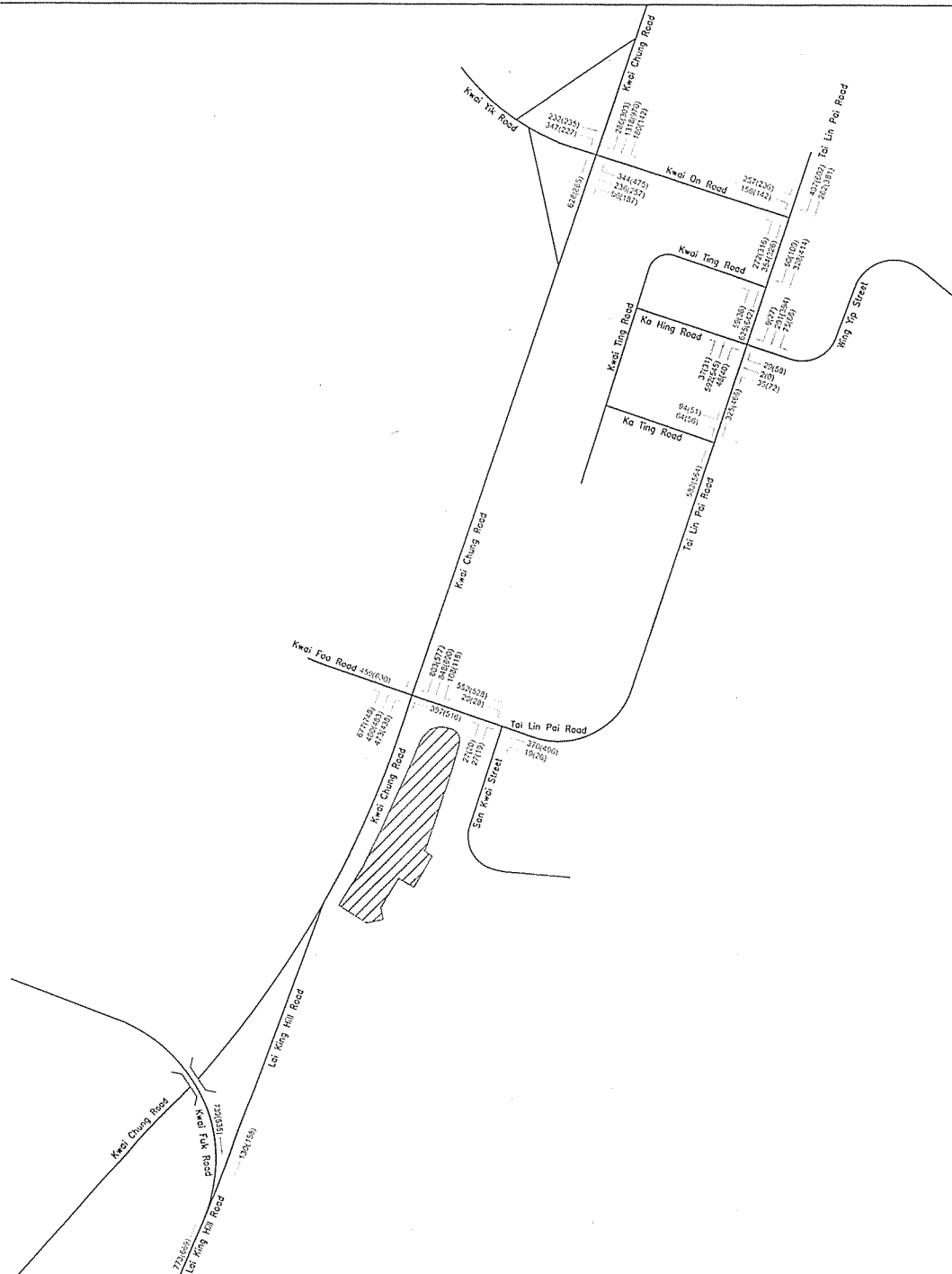
01/04/17

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01/04/17

**AECOM**





NOTES:  
1. All Dimensions Are in Meters  
Shown Otherwise.

LEGEND:

Proposed Development Site



888(888)  
AM Peak Hour Traffic Flow in PCU  
PM Peak Hour Traffic Flow in PCU

Rev.	Date	Description	Drawn	Checked
01	01/01/16	Issue for Tender		



HONG KONG  
HOUSING AUTHORITY

Project Title:

Agreement No.: CB20130657 -  
Term Traffic and Environmental  
Consultancy Services 2014-2016  
for Kowloon Central and West  
and Islands Region -  
Development at San Kwai Street,  
Kwai Chung

Drawing Title:

2016 Observed Traffic Flows

Drawing No.

Figure 2-2



Drawn	Checked	Date	Scale
W.Y.	W.Y.	16/05/16	1:1
Approved	Date	Signature	
CCD	16/05/2016		

**AECOM**



NOTES:  
1. All Dimensions Are In Meters  
Shown Otherwise.

LEGEND:

Adjacent Development   
Proposed Carriageway 

Rev.	Date	Description	Drawn	Checked
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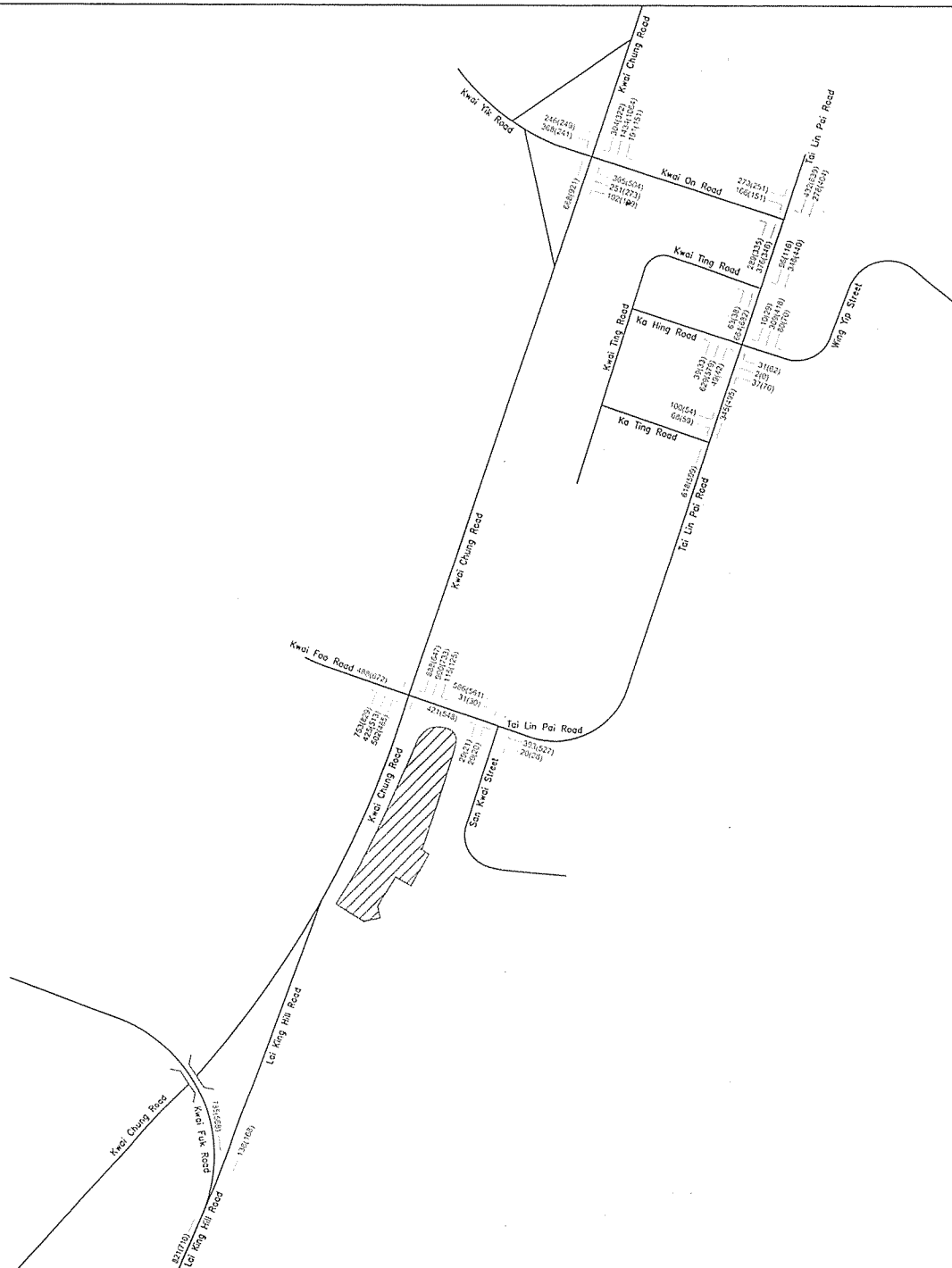
HONG KONG  
HOUSING AUTHORITY

Project Title:  
Agreement No.: CB20130657 –  
Term Traffic and Environmental  
Consultancy Services 2014–2016  
for Kowloon Central and West  
and Islands Region –  
Development at San Kwai Street,  
Kwai Chung

Drawing Title:  
  
Adjacent Major  
Development Key Plan

Drawing No.	Drawn	Checked	Scale
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Revised	Date	Revised	
001	01/08/2017	001	

**AECOM**



NOTES:  
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Shown Otherwise.

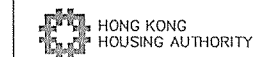
#### LEGEND:

Proposed Development Site

888(888)

AM Peak Hour Traffic Flow in PCU  
PM Peak Hour Traffic Flow in PCU

Rev.	Date	Description	Drawn	Checked
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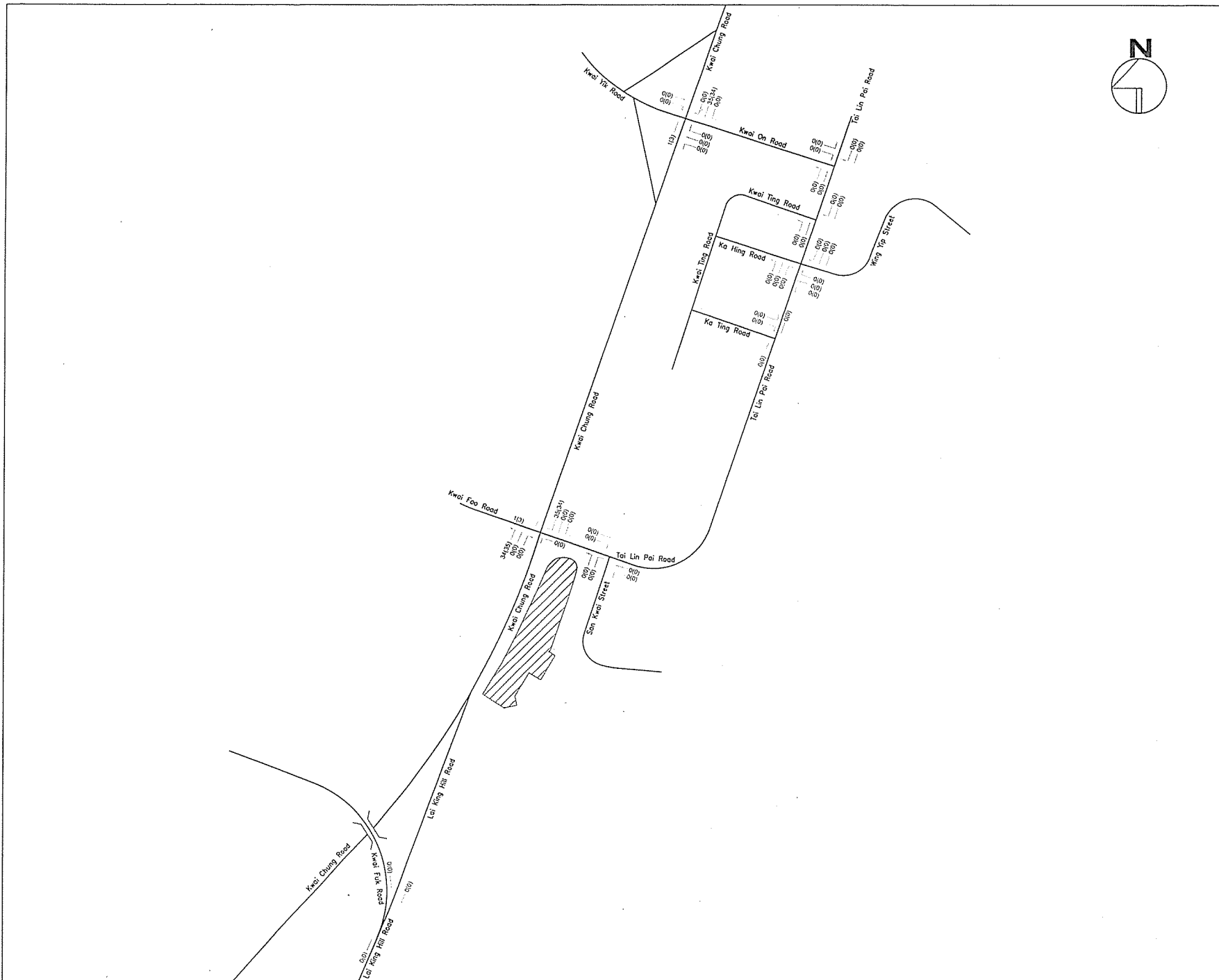


Project Title:  
Agreement No.: CB20130657 –  
Term Traffic and Environmental  
Consultancy Services 2014–2016  
for Kowloon Central and West  
and Islands Region –  
Development at San Kwai Street,  
Kwai Chung

Drawing Title:  
2028 Reference Traffic Flows

Drawing No.	Drawn	Checked	Scale	RTS
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**AECOM**



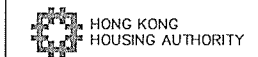
NOTES:  
1. All Dimensions Are in Meters  
Shown Otherwise.

LEGEND:

Proposed Development Site

AM Peak Hour Traffic Flow in PCU  
PM Peak Hour Traffic Flow in PCU

Rev.	Date	Description	Drawn	Checked
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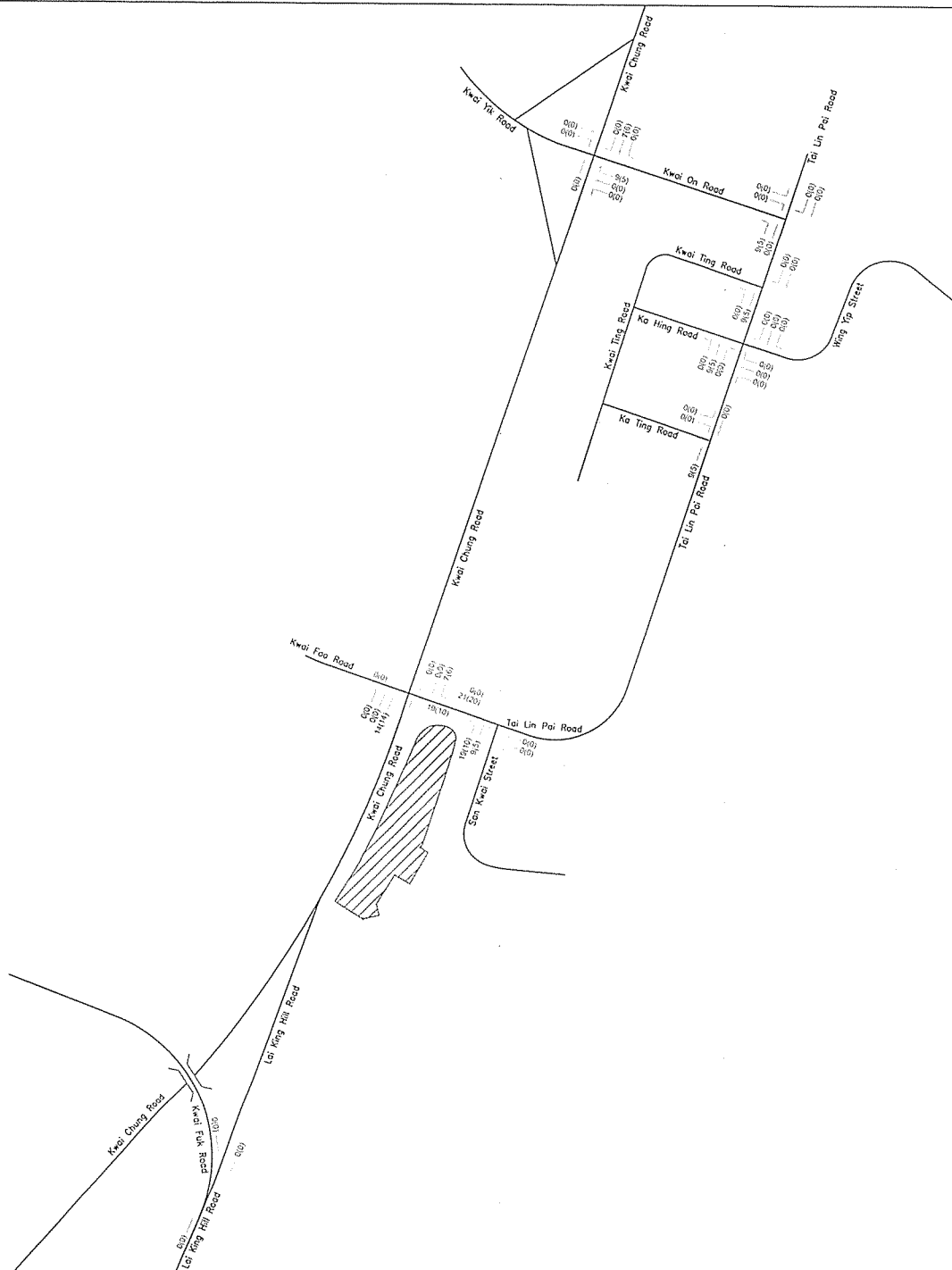


Project Title:  
Agreement No.: CB20130657 –  
Term Traffic and Environmental  
Consultancy Services 2014–2016  
for Kowloon Central and West  
and Islands Region –  
Development at San Kwai Street,  
Kwai Chung

Drawing Title:  
Adjacent Developments Traffic Flows

Drawing No.	Figure 5-1A
Drawn	Checked
12/12/17	12/12/17
12/12/17	12/12/17
12/12/17	12/12/17
12/12/17	12/12/17

**A=COM**



NOTES:  
1. All Dimensions Are In Meters  
Shown Otherwise.

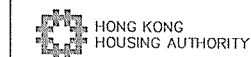
LEGEND:

Proposed Development Site



888(888)  
All Peak Hour Traffic Flow in PCU  
Pls Peak Hour Traffic Flow in PCU

Rev.	Date	Description	Drawn	Checked
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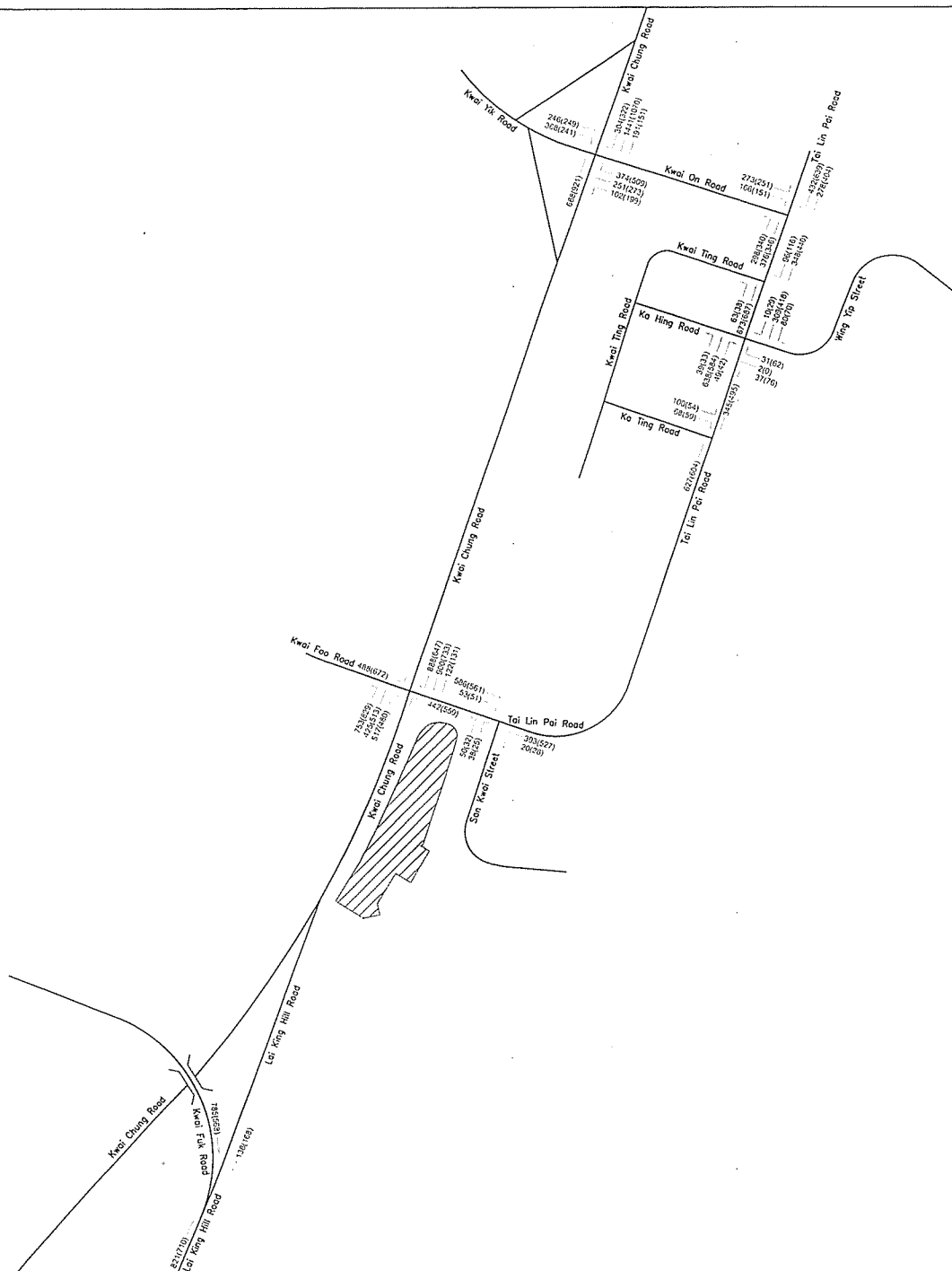


Project Title:  
Agreement No.: CB20130657 -  
Term Traffic and Environmental  
Consultancy Services 2014-2016  
for Kowloon Central and West  
and Islands Region -  
Development at San Kwai Street,  
Kwai Chung

Drawing Title:  
The Project Traffic Flows


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Checked	W/JY
Approved	01/01/14
Date	01/01/14
Scale	1:1
Units	M/S

**AECOM**



NOTES:  
1. All Dimensions Are In Meters  
Shown Otherwise.

#### LEGEND:

Proposed Development Site   
AM Peak Hour Traffic Flow in PCU 888(888)  
PM Peak Hour Traffic Flow in PCU

Rev.	Date	Description	Drawn	Checked
01	01/01/2017	Initial	01	01



Project Title:  
Agreement No.: CB20130657 –  
Term Traffic and Environmental  
Consultancy Services 2014–2016  
for Kowloon Central and West  
and Islands Region –  
Development at San Kwai Street,  
Kwai Chung

Drawing Title:  
2028 Design Traffic Flows

Drawing No.	Figure 5-2
Drawn	WZY
Checked	WZY
Scale	1:1
NTS	NTS

**AECOM**

**Visual Appraisal for the Proposed Public Housing Development  
at San Kwai Street, Kwai Chung**

**Purpose**

This Visual Appraisal (VA) is to examine the possible visual effect of the public housing development (proposed development) so as to facilitate the rezoning of the site from “Government, Institutional and Community” (“G/IC”) and Village Type Development (“V”) to “Residential (Group A)2” (“R(A)2”).

**The Site**

2. The site, with an area of about 0.5 hectare, is situated at the northern part of Ha Kwai Chung Area in Kwai Chung and is zoned “G/IC” and “V” on the Draft Kwai Chung Outline Zoning Plan No. S/KC/28. It is a piece of government land occupied by the Highway Department (Works Area for Express Rail Link) and Drainage Services Department' (Maintenance Depot and Works Area). A small portion of the land is un-leased government land.

**The Proposed Development**

3. The Hong Kong Housing Authority proposes to develop a public housing building block at the San Kwai Street site. The proposed development parameters are:

Site Area	:	About 0.5 hectare
Maximum Plot Ratio	:	6/9.5 (domestic/non-domestic)
Maximum Building Height	:	130mPD
Number of Flats	:	About 650
Design Population	:	About 1,600

4. The proposed development at 130mPD has taken into account the existing local context and character with a view to create a stepped height profile in the vicinity. The proposed development of 130mPD will locate between the developments along Kwai Chung Road, which are restricted to the maximum building height of 105mPD, and the planned building heights of the uphill residential developments Lai Yiu Estate, which are restricted to 160mPD and 190mPD. The proposed development will extend towards Tai Lin Pai Road to the north, leaving a gap between the proposed development and the hill slope. This will also enhance the stepped height profile from Ha Kwai Chung Village (maximum building height of 3 storeys), to the housing developments at Ex-Kwai Chung Police Married Quarters (90mPD) and the New Kwai Fong Gardens (110mPD). The gap can also protect the breezeway as identified in the Air Ventilation Assessment for the Kwai Chung Area (March 2012).

## Visual Appraisal

5. The following five viewpoints (VPs) from different directions and distances were selected (**Figure 1**). These viewpoints represent the views of popular pedestrian nodes accessible by the public from key public open space.

- |  |   |
|--|---|
| (a) <b>VP1</b> (southeast of the site) | — Central Kwai Chung Park (near San Kwai Street Entrance) at about 27mPD; |
| (b) <b>VP2</b> (south of the site)     | — Open Space at Lai King Sports Centre at about 55mPD;                    |
| (c) <b>VP3</b> (west of the site)      | — Open Plaza in front of Kwai Tsing Theatre at about 7mPD;                |
| (d) <b>VP4</b> (north of the site)     | — Hing Fong Road Garden at about 7mPD; and                                |
| (e) <b>VP5</b> (southwest of the site) | — Kwai Yi Road Playground at about 6mPD.                                  |

6. Five photomontages (**Figure 2 to 6**) are prepared to illustrate the visual impact of the proposed development at the above selected VPs.

### VP1 — Central Kwai Chung Park (San Kwai Street Entrance)

7. This VP is at the San Kwai Street Entrance of the Central Kwai Chung Park and is about 200m to the southeast of the site. The Central Kwai Chung Park is a popular park of about 10.5 hectares. It is equipped with different facilities including soccer pitches, basketball courts and sitting-out areas. This VP was selected as most of the views towards the proposed development from the Central Kwai Chung Park are blocked by the verdant trees and hence the sensitivity for the recreational users within the park is considered to be low. Though this VP has a slightly better view of the proposed development, the view is still distracted by intervening vegetation along San Kwai Street near the park entrance and the existing buildings/development under construction (Ha Kwai Chung Village, Kwai Fong Terrace, New Kwai Fong Gardens and the public housing development at Ex-Kwai Chung Police Married Quarters (Ex-KCMQ)). In addition, the key visually sensitive receivers (VSRs) passing through the Entrance of the park would be transient in nature, the visual sensitivity at this VP towards the site is therefore considered low.



8. The photomontage (**Figure 2**) shows that the proposed development will be partially screened-off by the dense vegetation at the VP. Though the development will slightly obstruct the sky view, it fits in well with the high-rise residential developments nearby (Kwai Fong Terrace, New Kwai Fong Gardens, and the public housing developments at Lai Cho Road (LCR) and at Ex-KCMQ). Given the magnitude of change is slight, the overall visual impact of the proposed development is considered negligible/slightly adverse.

#### VP2 — Open Space at Lai King Sports Centre

9. This VP is at the open space adjacent to the soccer pitch of Lai King Sports Centre which provides a sitting-out area for local residents. It is about 550m to the south of the site. Only the northern portion of the sitting-out area would have a relatively open and panoramic direct view towards the site, though view towards the site is relatively faraway and partially blocked by the slope at the foreground. The visual sensitivity of the VSRs towards the site is considered medium.

10. The photomontage (**Figure 3**) shows that the proposed development would be partially screened-off by the slope at the foreground. Although the sky view will be slightly affected, the proposed development is compatible with the dense developments in the Kwai Chung area. The overall open scenic towards the north would largely remain in the background. As the magnitude of change is slight, the overall visual impact of the proposed development is considered slightly/ moderately adverse.

#### VP3 — Open Plaza in front of Kwai Tsing Theatre

11. This VP is at the open plaza in front of Kwai Tsing Theatre, which is about 360m to the west of the site. The plaza serves as a breathing space in the urban built environment. Members of the public would gather at the plaza before taking part in the arts and cultural activities in the Theatre. However, the VSRs' view towards the proposed development is limited due to the existing high-density residential developments in the foreground, such as New Kwai Fong Gardens, Kwai Fong Terrace and Ex-KCMQ. The visual sensitivity of the VSRs at this VP towards the site is considered low.

12. The photomontage (**Figure 4**) shows that the proposed development would be partially blocked by the Ex-KCMQ public housing development, Kwai Fong MTR station and the vegetation in the foreground. The major visual resources at this VP are mainly the portion of sky view available behind the high density residential developments and some road side vegetation. As the proposed development would appear at the backdrop with a very

limited obstruction to the sky view and road side vegetation, the magnitude of change is negligible. The overall visual impact of the proposed development is therefore considered negligible.

#### VP4 — Hing Fong Road Garden

13. This VP is at the Hing Fong Road Garden, which is about 540m to the north of the site. The garden provides a number of sitting-out areas for public enjoyment, however, the view towards the proposed development is limited due to the relatively faraway distance, the extensive vegetation in the garden as well as the structure (a pavilion with notice board) and buildings (Kwai On House and Golden Dragon Industrial Centre) between the VP and the site. The visual sensitivity of the VSRs towards the site is therefore considered low.

14. The photomontage (**Figure 5**) shows that the sights of the VSRs are largely distracted by the buildings (Kwai On House and Golden Dragon Industrial Centre) at the foreground. Apart from the road-side vegetations and the sky view at the visual backdrop, there are no other major visual resources at this VP. The proposed development would appear at the backdrop causing no obvious obstruction to the sky view. Given the magnitude of change is negligible, the overall visual impact of the proposed development is considered negligible.

#### VP5 — Kwai Yi Road Playground

15. This VP is at Kwai Yi Road Playground and is about 170m to the southwest of the site. Kwai Yi Road Playground provides a number of recreational facilities, such as two 5-a-side soccer pitches, a roller skating rink, and children's play area for public enjoyment. The existing view of this VP is largely restricted due to the extensive tree planting within the playground and the existing buildings/ development under construction (Kwai Fong Terrace and Ex-KCMQ). Given that the VSRs at this VP would be engaging in recreational activities and would not have direct views towards the site, the visual sensitivity of the VSRs towards the site is considered low.

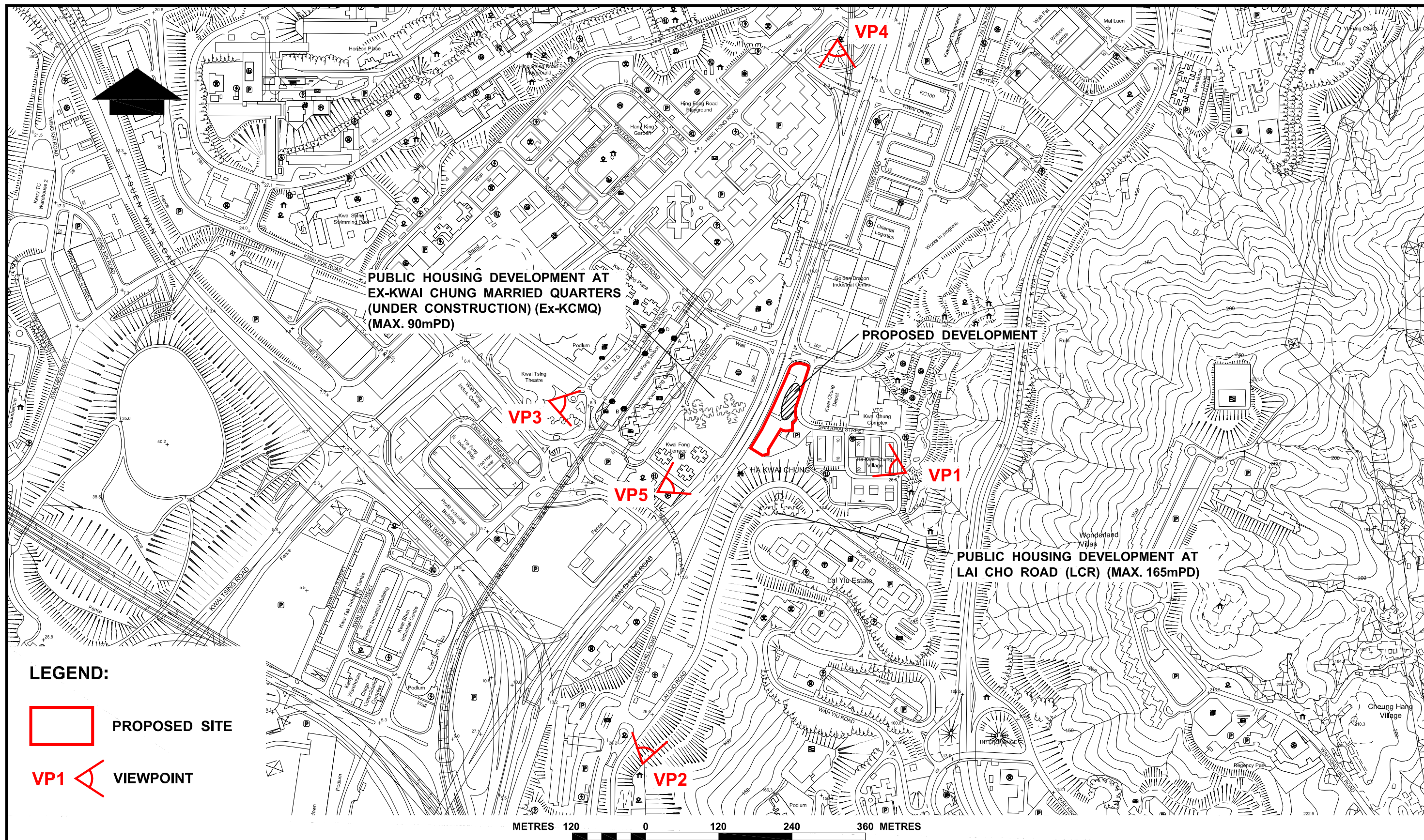
16. The photomontage (**Figure 6**) shows that the proposed development is entirely blocked by Kwai Fong Terrace. The development would cause no visual impact at this VP. Given the magnitude of change is negligible, the overall visual impact of the proposed development is considered negligible.

## **Conclusion**

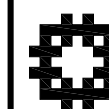
17. Based on the above assessment, the proposed development with maximum building height of 130mPD is compatible with the surrounding environment and would not induce substantial visual impact on the surrounding areas. The scope of rearranging the disposition of residential block is limited due to the elongated shape of the site. Nevertheless, visual enhancement measures to minimise the residual visual impact including open space, green coverage, greening measures, façade treatment with harmonious colour scheme or pattern, etc would also be considered at the detailed design stage.

## **Attachments**

<b>Figure 1</b>	Location of the Five VPs
<b>Figure 2</b>	VP1 — Central Kwai Chung Park (San Kwai Street Entrance)
<b>Figure 3</b>	VP2 — Open Space at Lai King Sports Centre
<b>Figure 4</b>	VP3 — Open Plaza in front of Kwai Tsing Theatre
<b>Figure 5</b>	VP4 — Hing Fong Road Garden
<b>Figure 6</b>	VP5 — Kwai Yi Road Playground



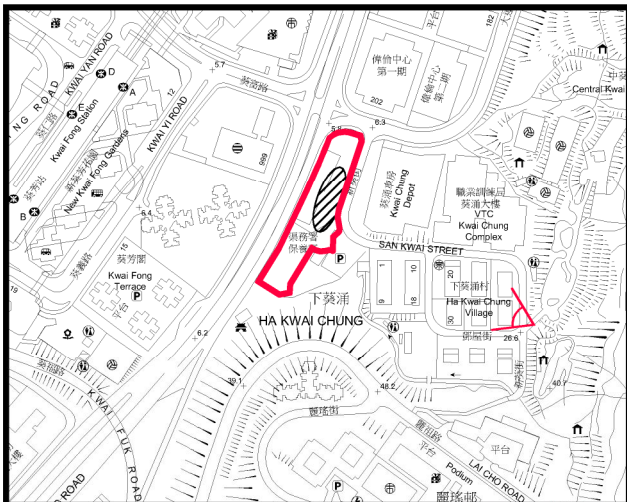
## LOCATION PLAN AND VIEWPOINTS



**HOUSING DEPARTMENT  
PLANNING SECTION**

**DATE :  
15. 5. 2017**





Existing View



With Proposed Development



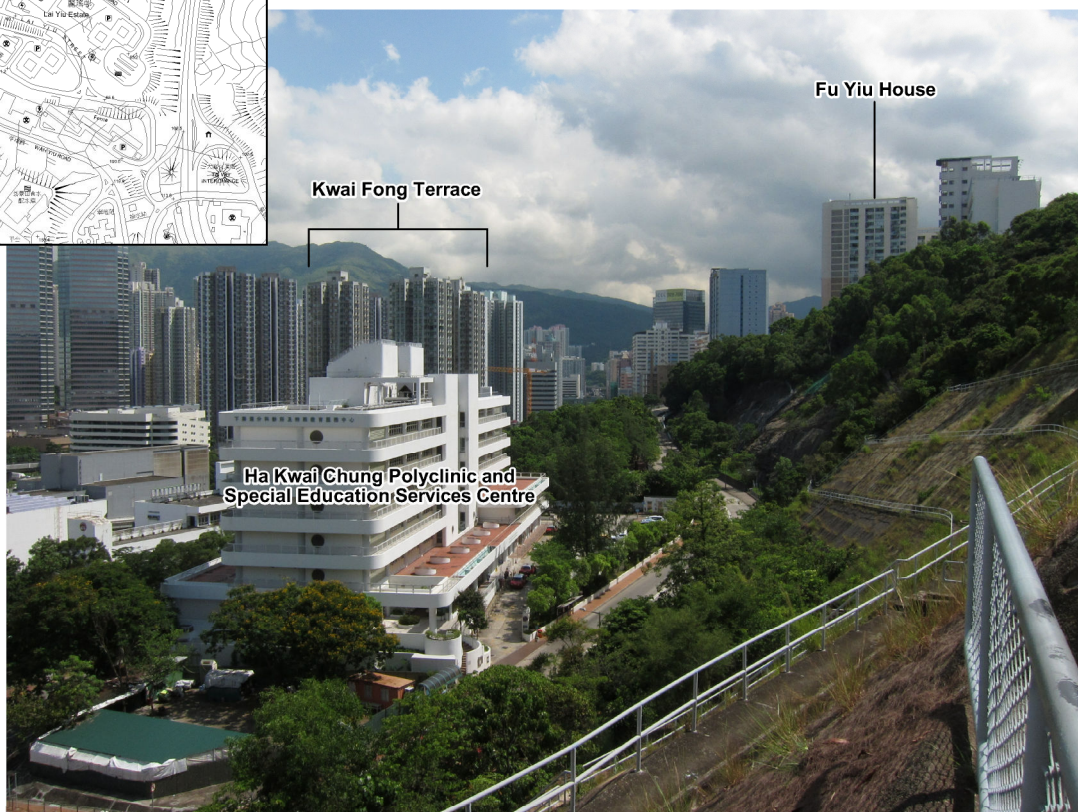
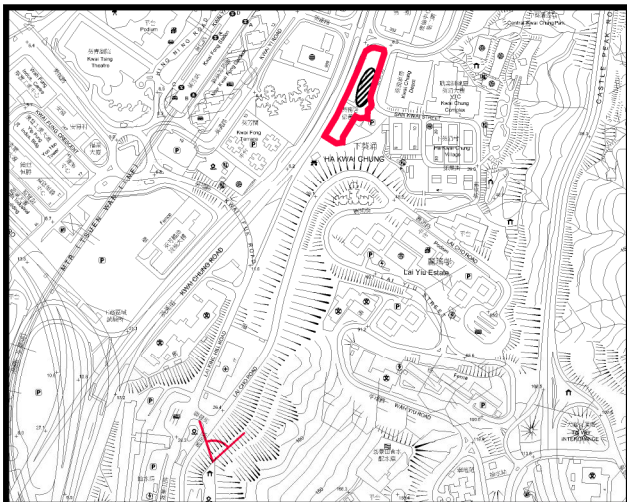
**PHOTOMONTAGE AT VIEWPOINT 1  
(CENTRAL KWAI CHUNG PARK  
NEAR SAN KWAI STREET AT ABOUT 27mPD)**



**HOUSING DEPARTMENT  
PLANNING SECTION**

**DATE :  
15. 5. 2017**





**PHOTOMONTAGE AT VIEWPOINT 2  
(OPEN SPACE AT LAI KING SPORTS CENTRE  
AT ABOUT 55mPD)**

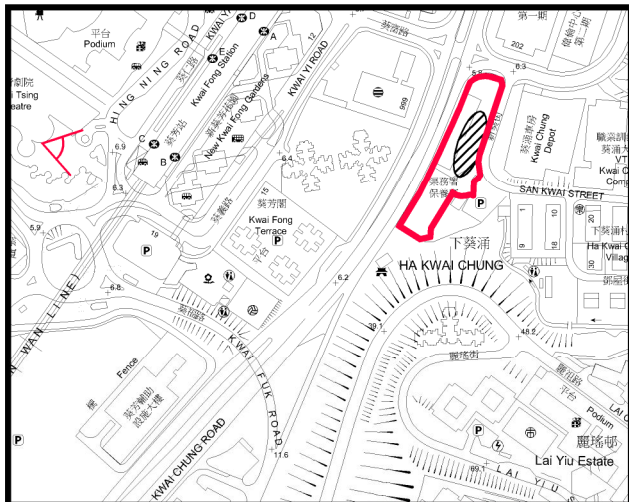


**HOUSING DEPARTMENT  
PLANNING SECTION**

**Figure 3**

**DATE :  
30. 3. 2017**





Existing View



With Proposed Development

**PHOTOMONTAGE AT VIEWPOINT 3**  
**(OPEN PLAZA IN FRONT OF KWAI TSING THEATRE**  
**AT ABOUT 7mPD)**



HOUSING DEPARTMENT  
 PLANNING SECTION

**Figure 4**

DATE :  
 30. 3. 2017





Existing View



With Proposed Development

**PHOTOMONTAGE AT VIEWPOINT 4  
(HING FONG ROAD GARDEN AT ABOUT 7mPD)**

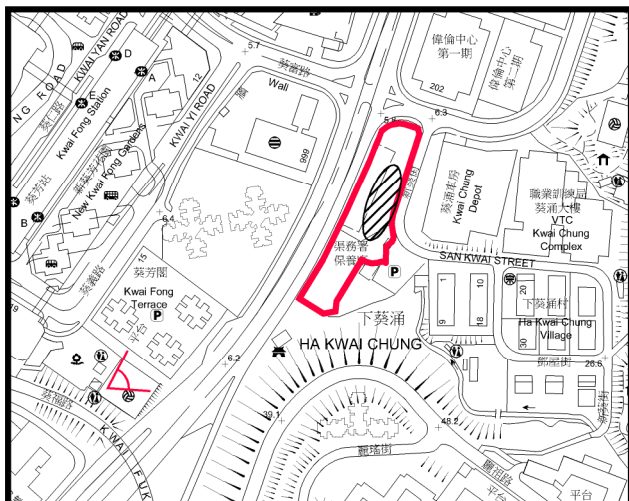


**HOUSING DEPARTMENT  
PLANNING SECTION**

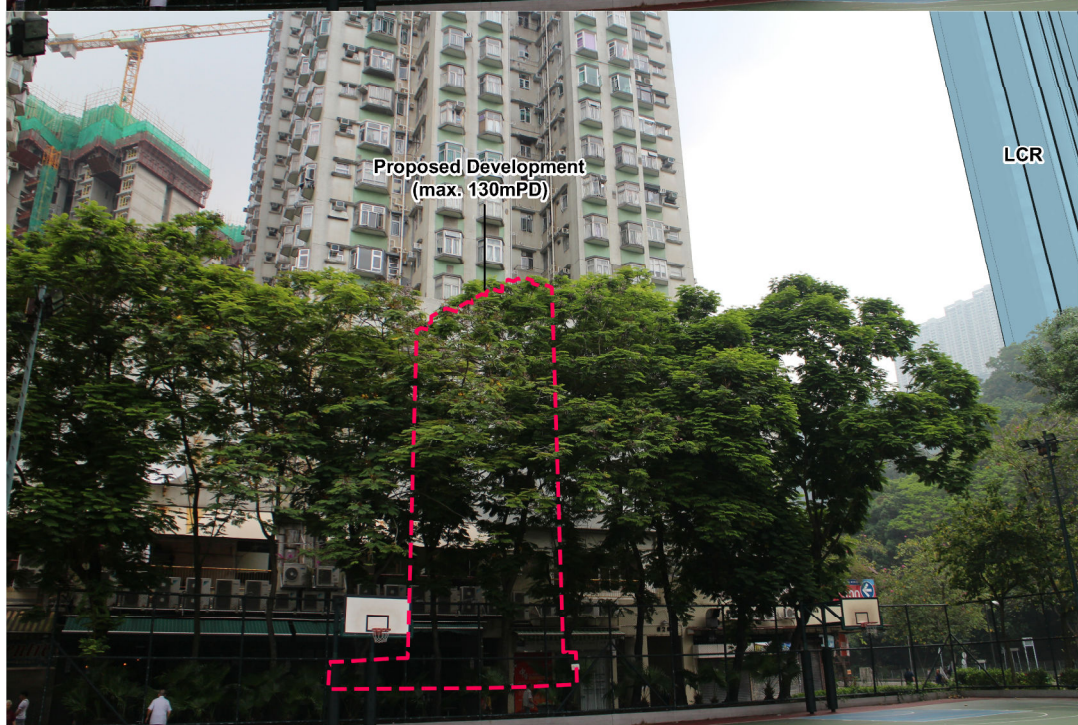
**Figure 5**

**DATE :  
30. 3. 2017**





Existing View



With Proposed Development

# **PHOTOMONTAGE AT VIEWPOINT 5** (KWAI YI ROAD PLAYGROUND AT ABOUT 6mPD)



**HOUSING DEPARTMENT  
PLANNING SECTION**

**DATE :  
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Expert Evaluation on Air Ventilation for  
Proposed Residential Development  
At San Kwai Street, Kwai Chung

Prepared by:  
**Ramboll Environ Hong Kong Limited**

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Expert Evaluation on Air Ventilation for  
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## **1. Introduction**

### **1.1 Project Location**

The Subject Site at San Kwai Street is to be developed as Public Housing (PH). The Subject Site is located to the immediate west of San Kwai Street, to the south of the Tai Lin Pai Road, and to the east of the Kwai Chung Road. It is currently partly used as site offices. The zoning of the Subject Site is “Government, Institution or Community” (G/IC) and “Village” (V) under the draft Kwai Chung Outline Zoning Plan No. S/KC/28 gazetted on 13 June 2014.

### **1.2 Objectives**

Ramboll Environ Hong Kong Limited (the Consultant) has been commissioned by the Applicant (Hong Kong Housing Authority) to conduct this AVA – Expert Evaluation for the proposed development. Architectural drawings of the proposed development were provided for the assessment.

In order to demonstrate that the proposed development has considered various air ventilation aspects and that there is no adverse impact on the pedestrian level in the vicinity of the Subject Site, an AVA is conducted to support the rezoning of the Site from air ventilation point of view.

### **1.3 Subject Site and its Environs**

The Subject Site is located in Kwai Chung. The Subject Site is zoned G/IC and V under the Draft Kwai Chung Outline Zoning Plan No. S/KC/28 (OZP). The building height restriction for the Subject Site is 1 storey for the G/IC zone and maximum 3 storeys for the V zone. The location and its environs are shown in **Figure 1**.

The Subject Site is located at low level and elevated at around 6mPD to 8mPD. It is located at San Kwai Street, Kwai Chung; where it is bounded by San Kwai Street to the east; Kwai Chung Road to the west and; Tai Lin Pai Road to the north. A steep slope is located to the immediate south of the Subject Site.

The Subject Site is located at the west of the Kwai Chung Depot and Ha Kwai Chung Village is located at the southeast of the Subject Site. The public housing development at Ex-Kwai Chung Police Married Quarters is located to the west of the Subject Site which is currently under construction. Besides, a proposed Public Housing at Lai Cho Road is located uphill to the south of the Subject Site. Some mid-rise to high-rise industrial buildings are located at the northern of the Subject Site, e.g. Wyler Centre Phase 1 & 2, Golden Dragon Industrial Centre Block 1 to 4 etc.

There is an open central Kwai Chung Park located at the further east of the Subject Site.

### **1.4 Proposed Development**

The area of the Subject Site is about 0.5 ha. The proposed development consists of one residential block with maximum building height of 130mPD on top of a podium with 14.2mPD. A proposed footbridge will be elevated at 16.8mPD and connected to the Ex-Kwai Chung Police Married Quarters and proposed public housing at Lai Cho Road at 37.25mPD. The proposed residential tower is rectangular in shape and aligned with the southwest wind direction.

## 2. Site Wind Availability

### 2.1 Site Wind Availability Data

This expert evaluation is supposedly not a detailed study of the air ventilation performance. It is therefore considered acceptable to use the Regional Atmospheric Modeling System (RAMS) data for Site Wind Availability initially as a starting point. Based on the RAMS data of the grid (071,050) of the RAMS data extracted from the Site Wind Availability Data of Planning Department's web site where the subject site is located.

**Figure 2** shows the relevant windrose diagram representing the frequency and wind speed distribution at 200m of the district concerned under the annual condition and summer condition (Jun – Aug). According to the windroses, the annual prevailing wind directions for the site are from NE to E; where summer prevailing wind directions are from E, SSW to SW. In general, annual prevailing wind comes from northeast to southeast quarter and summer prevailing wind come from south to southwest quarter. The wind frequency data under the annual and summer condition is shown in **Table 1** below.

**Table 1** Summary of RAMS Data and Wind Direction under Annual and Summer Condition

Wind Direction	Probability for Annual Condition	Probability for Summer Condition
N	1.2%	0.7%
NNE	5.6%	1.6%
NE	<b>13.1%</b>	2.1%
ENE	<b>16.7%</b>	3.6%
E	<b>20.7%</b>	<b>10.7%</b>
ESE	8.5%	9.5%
SE	4.7%	7.9%
SSE	3.7%	7.5%
S	4.2%	9.0%
SSW	7.1%	<b>16.6%</b>
SW	5.6%	<b>14.7%</b>
WSW	2.5%	5.5%
W	2.9%	5.7%
WNW	1.5%	2.6%
NW	1.0%	1.4%
NNW	0.9%	0.8%

### 2.2 Topography and Building Morphology

#### Topography

The topography is generally flat at the Subject Site (around 6mPD to 8mPD). There is an elevated road (around 13.2mPD) at Kwai Chung Road. Wonderland Villa at the high mountain is located about 500m to the southeast of the Subject Site with hill top at about 230mPD and Ha Kwai Chung Hill with about 150mPD is located at about 630m to the south of the Subject Site. **Figure 1** indicated the locations of Wonderland Villa and Ha Kwai Chung Hill.

#### Building Morphology

There are mainly mid-rise to high-rise industrial buildings i.e. Golden Dragon Industrial Centre Block 1 to 4 (about 90mPD), Goldfield Industrial Building (about 96mPD) located at the north to northeast of the Subject Site. Mid-rise Kwai Chung Depot and VTC Kwai Chung Complex (about 30mPD and 53mPD respectively) are located to the immediate east of the Subject Site. There

are some low-rise village houses (about 30mPD) at the immediate southeast of the Subject Site. A proposed public housing (about 165mPD) at Lai Cho Road and high-rise residential buildings such as Fu Yiu House and Lok Yiu House (about 120mPD and 148mPD) are located at the south of the Subject Site. It is anticipated that summer SW wind flow may be reduced by the mentioned proposed residential development at the south of the Subject Site. Besides, high-rise residential buildings i.e. Ex Kwai Chung Police Married Quarter (about 90mPD) and Kwan Fong Terrace (about 100mPD) are located at the west of the Subject Site. New Kwai Fong Garden Block A to E are located at the further west of the Subject Site. Kwai Ching House and Kwai Ming House (about 114mPD) are located at the northwest of the Subject Site. Kwai Oi House with about 70mPD is located at the further northwest of the Subject Site.

There are some open parks/playgrounds near the Subject Site. Central Kwai Chung Park is located at about 200m to the northeast to southeast of the Subject Site. This area is an open park that no wind obstruction at this area. Kwai Yi Road Playground is located at about 170m to the southwest of the Subject Site which is next to the Kwai Fong Terrace.

### **2.3 Summary of Existing Wind Availability**

**Figure 4** indicates the surrounding developments after considering the existing and future building in the area.

#### Annual Condition

It is noted that the annual prevailing wind directions for the area are from NE, ENE and E. It is noted that high topography is located at the east of the Subject Site. Besides, some nearby mid-rise buildings i.e. Kwai Chung Depot and VTC Kwai Chung Complex will obstruct the wind flow to the Subject Site from the E annual prevailing wind. Downwind areas under annual prevailing wind directions mainly include: Kwai Chung Road, Kwai Fong Terrace, Ex-Kwai Chung Police Married Quarters and Kwai Chung Division Police Station.

Under the NE prevailing wind direction, it is observed that a cluster of high-rise industrial buildings (i.e. Golden Dragon Industrial Buildings and Wyler Centre Phase 1&2) are located at the immediate northeast of the Subject Site. Refer to the AVA EE Report for Kwai Chung Area (March 2012), these industrial buildings are regarded as problem area due to the continuous cluster of 420m long with only some narrow corridors in between. Thus it is predicted that these existing industrial buildings are generally impermeable and would block and reduce the wind availability at the Subject Site and downwind areas (e.g. Kwai Chung Road, Kwai Tsui Estate, Kwai Fong Terrace, Kwai Yi Road Playground, etc.). According to the AVA EE Report for Kwai Chung Area (March 2012), the NE wind will mainly flow from Central Kwai Chung Park, then skim over VTC Kwai Chung Complex to reach Kwai Chung Road, due to the continuous industrial building cluster to the north of the Subject Site.

Under the ENE prevailing wind direction, wind would flow from Central Kwai Chung Park to Tai Lin Pai Road. Similar to NE wind, the ENE wind will mainly flow from Central Kwai Chung Park, then skim over VTC Kwai Chung Complex to reach Kwai Chung Road. Some of the prevailing winds may also be blocked by the high-rise industrial buildings at the northeast of the Subject Site, thus wind flow to the Subject Site would be reduced which is similar to the NE wind direction.

Existing developments such as Kwai Chung Depot and VTC Kwai Chung Complex is located to the immediately east of the Subject Site. Under the E prevailing wind direction, these developments would block the prevailing wind and create a wake zone at the Subject Site. On

the other hand, it is likely that some wind will flow along Tai Lin Pai Road and to Kwai Foo Road on one hand, and flow over low-rise Ha Kwai Chung Village to the downwind areas including the Subject Site on the other hand. With continuous industrial cluster along Kwai Chung Road, it is expected that Tai Lin Pai Road is the only air path that allow wind penetration at pedestrian level although it cannot function as important air corridor to benefit the district area due to its limited width (~20m).

### Summer Condition

The summer prevailing wind directions for the area are from E, SW and SSW. It is noted that Kwai Chung Road is a major air path to let the wind flow from southwest to northeast wind directions. There are some mid-rise developments (i.e. Kwai Fong Ancillary Building, Lingnan Dr. Chung Wing Kwong Memorial Middle School and Lai King Catholic Secondary School) located at the southwest of the Subject Site. Since the building height of these buildings is about 30mPD, thus it is anticipated that the blockage effect from the summer prevailing wind directions is not significant. Downwind areas under summer prevailing wind directions mainly include: Kwai Chung Road, Ex-Kwai Chung Police Married Quarters, Kwai Chung Division Police Station (under E wind), Tai Lin Pai Road, San Kwai Street (under SW and SSW wind).

Under the E wind direction, the existing developments at the east of the Subject Site (i.e. VTC Kwai Chung Complex and Kwai Chung Depot) would block the prevailing wind and reduce the wind flow at the Subject Site. Besides, the low-rise Ha Kwai Chung Village (about 30mPD) is located at the southeast of the Subject Site. It is assumed that these low-rise village houses would not reduce wind flow to the downwind areas.

Under the SW wind direction, it is anticipated that Kwai Chung Road can act as a main air path from southwest to northeast wind directions. Some high-rise residential developments (i.e. Kwai Fong Terrace and Ex-Kwai Chung Police Married Quarter) are located at the southwest to west of the Subject Site, thus these residential developments would reduce the wind availability at the Subject Site. The reduced wind flow would pass through the Subject Site to the downwind areas such as Tai Lin Pai Road. It is predicted that the existing site office at the Subject Site would not obstruct the wind flow significantly except area immediately behind.

Under SSW wind direction, similar wind flow pattern with SW wind is predicted. Kwai Chung Road can act as the main air path under SSW wind direction. It is also notable that the topography at the south of the Subject Site is high (about 50mPD) and a proposed Public Housing development with about 165mPD would be constructed near Lai Cho Road. The higher topography would reduce the wind flows at the downwind areas (e.g. Kwai Chung Road, Tai Lin Pai Road, etc.). The reduced wind flow would pass through the Subject Site to further downwind areas such as Tai Lin Pai Road.

To conclude, existing building clusters and topography will obstruct part of the wind flow under both annual and summer conditions. Besides, high-rise residential developments at the south of the Subject Site will also obstruct wind availability at the Subject Site. It is anticipated that the existing and future site wind availability would mainly rely on air paths including Kwai Chung Road, Tai Lin Pai Road, San Kwai Street under annual condition and Kwai Chung Road under summer condition.



### **3. Discussion on Important Pedestrian Areas, Focus Area and Good Building Layout Design**

#### **3.1 Important Pedestrian Areas**

There are a few low-rise village houses, residential developments, and schools near Subject Site should be considered as important pedestrian areas. e.g. VTC Kwai Chung Complex and Ha Kwai Chung Village to the east, to the northeast, Kwai Fong Terrace and Ex-Kwai Chung Police Married Quarter to the west, etc.

There are some open areas and roads are also considered as important pedestrian areas e.g. Tai Lin Pai Road, San Kwai Street, Kwai Chung Road, Lai Cho Road, Lai King Hill Road etc.

**Figure 8** indicates the important pedestrian areas near the Subject Site.

#### **3.2 Problem Areas in Existing Condition**

As mentioned in section 2.3, existing wind availability of the area is discussed and the main air paths are identified under both annual and summer conditions. As there are bulky developments (i.e. Kwai Chung Depot and VTC Kwai Chung Complex) located to the immediate east of Subject Site. Part of the winds would be obstructed under annual condition. Besides, cluster of industrial building such as Golden Dragon Industrial Centres and Wyler Centres are situated at the northeast of the Subject Site. These buildings would block the annual prevailing wind to its downwind areas as well. Since these developments would block part of the breezeway from annual condition, it is anticipated that wind availability at the downwind areas would be reduced. Therefore, Subject Site, Tai Lin Pai Road (to the north of Subject Site and San Kwai Street (to the east of the Subject Site) are considered as problem areas in existing annual condition.

Under the summer condition, there is a proposed Public Housing Development at Lai Cho Road to the south of the Subject Site. This high-rise residential building together with high topography is likely to obstruct prevailing summer wind to Ha Kwai Chung Village and the Subject Site. Therefore, Subject Site, San Kwai Street (to the east of the Subject Site) and Ha Kwai Chung Village (to the southeast of the Subject Site) are considered as problem areas in existing summer condition.

#### **3.3 Good Building Layout Design Features**

Chapter 11 of HKPSG on Air Ventilation has been referenced in order to determine the good features and problem area from air ventilation standpoint. Building disposition and building height have been considered for this proposed development.

##### **3.3.1 Building Height**

The proposed development comprises one residential tower with maximum building height of 130mPD on top of a podium with 14.2mPD. There is a lift lobby and EMO (with 18.0 mPD) located on the north part of the podium garden. The podium structure and the tower block are aligned with Kwai Chung Road which would reduce obstruction for the summer prevailing winds to pass through the mentioned air path.

The Subject Site is currently occupied with a low-rise site office (about 14mPD). Thus it is anticipated that the proposed high-rise residential development will partially obstruct the existing wind flows under both annual and summer condition.

**Figure 3** shows the proposed master layout plan of the site.

### **3.3.2 Building Disposition and Setback**

For the residential tower, at least 15m setback is provided from the tower to the road kerb of Kwai Chung Road. Besides, at least 40m setback is provided from the proposed tower to the Ha Kwai Chung Village. As recommended in the Chapter 11 of Urban Design Guidelines of the HKPSG on Air Ventilation regarding podium structure, it is suggested that less bulky podium structure can reduce potential air ventilation impact (compared with a bulk one) at the pedestrian level near the Subject Site. There is about 6m setback between the west boundary and southern portion of the podium structure. The podium structure mainly occupies area to the north and east's site boundary so as to maintain the separation from Ha Kwai Chung Village and Kwai Chung Road mentioned above. It is because the design is necessary to accommodate the required floor space for carpark, shops and plant rooms etc. Thus further reduction of the podium extent may not be feasible.

As the main annual prevailing wind will be obstructed by the nearby developments such as industrial development at northeast and existing development at the immediate east of the Subject Site, wind will mainly flow along Tai Lin Pai Road and San Kwai Street Road to the downstream areas.

**Figure 3** shows the setback distance for the proposed development.

### **3.3.3 Building Orientation**

According to the MLP, the building tower is a long rectangular shape and aligned with Kwai Chung Road. Most of the annual prevailing winds (i.e. NE and ENE) and summer prevailing winds (SW and SSW) can flow along the Kwai Chung Road and also through the gap of at least 40m (from Ha Kwai Chung Village) at San Kwai Street to the downstream areas. For the prevailing E wind direction, it is anticipated that part of the wind flow would be obstructed to its downwind areas, but as Kwai Chung Road is an identified important air path, it is the intention to design the tower to minimize impact to it. Due to the elongated shape (north/south aligned) of the Subject Site, it is not practicable to orient the tower along prevailing E wind direction. It should be noted that the building footprint can allow the wind flow through San Kwai Street and Tai Lin Pai Road to minimize the impact.

### **3.3.4 Landscaping and Use of Materials**

While it may not help in enhancing wind flow, provision of greening and use of cool materials can help in reducing heat island effect. Cool materials including water features or materials with high emissivity should also be employed where possible.

## **4. Expert Evaluation of Air Ventilation Performance of the Proposed Development**

### **4.1 Assessment Methodology**

Section 3 describes the good features in the design of the Proposed Development. Section 2 describes the wind availability at the Subject Site; and the dominant wind flow during annual and summer condition. It is noted that the annual prevailing wind directions for the area are from NE to E; where summer prevailing wind directions are from E, SW and SSW. The Proposed Development design will be evaluated against the dominant wind directions identified.

### **4.2 Directional Analysis**

It is noted that the annual prevailing wind directions for the area are from NE to E. **Figure 5-1 to Figure 5-3** illustrate the wind flow under NE to E wind directions.

There are many existing mid to high-rise industrial buildings (i.e. Golden Dragon Industrial Buildings and Wyler Centre Phase 1&2) at the northeast of the Subject Site. Under annual prevailing NE wind, these closely packed industrial developments would obstruct the NE wind flow to the Subject Site and other downwind areas (e.g. Kwai Chung Road, Ex-Kwai Chung Police Married Quarter, Kwai Fong Terrace, etc.).

The NE wind would flow along Central Kwai Chung Park to Tai Lin Pai Road and then reach the Subject Site. Under the existing scenario, the low-rise site office and the open space can allow the NE wind pass to the downwind areas without significant obstruction. It is predicted that the podium block and the building tower of the proposed development would slightly reduce the NE wind flow to its downwind areas (e.g. Kwai Chung Road, Ex-Kwai Chung Police Married Quarter, Kwai Fong Terrace, etc.). But it should be noted that the disposition of the building tower is located at the middle of the site boundary, thus at least 30m setback of the high-rise tower is provided from the north boundary for the air flow to its downwind areas. The podium block is not excessively high and wind can likely flow over it to downwind area although some wake area immediate to the Subject Site should experience stagnant flow.

It is predicted that some NE wind flows would be redistributed and diverted to Kwai Foo Road next to the Kwai Chung Division Police Station. However, it is also predicted that the NE wind availability at the downwind areas such as Ex-Kwai Chung Police Married Quarter, Kwai Fong Terrace near Kwai Chung Road would be reduced due to the proposed development.

Under annual prevailing ENE wind, similar wind flow pattern with the NE prevailing wind is expected. There are some mid to high-rise industrial buildings at the northeast directions, thus it is expected some wind flows would be reduced at the downstream areas (e.g. Kwai Chung Road, Ex-Kwai Chung Police Married Quarter, etc.) including wake area immediate to the Subject Site. When compared existing scenario and after the construction of the proposed development, more obstruction to the downwind areas (including Kwai Chung Road, Ex-Kwai Chung Police Married Quarter) are expected after the development. The high-rise proposed development would block part of the winds to the mentioned areas (e.g. Kwai Chung Road, Ex-Kwai Chung Police Married Quarter, etc.). It is expected that some

winds would be diverted to Kwai Foo Road nearby residential developments such as Ex-Kwai Chung Police Married Quarter.

Besides, wind from ENE wind direction will flow from Central Kwai Chung Park to Tai Lin Pai Road. As there is a 5-storeys Kwai Chung Depot, it is anticipated that wind will be diverted and channelized at Tai Lin Pai Road and the building gap between Kwai Chung Depot and VTC Kwai Chung Complex. It is predicted that the proposed development would reduce the wind availability to the downwind areas, i.e. Ex-Kwai Chung Police Married Quarter, Kwai Chung Road and Kwai Fong Terrace Blocks. However, since the proposed tower is not sitting on the air path (Kwai Chung Road, Tai Lin Pai Road, San Kwai Street), thus it is anticipated that the reduction of wind flow is not significant other than the blockage problem above.

Under annual prevailing E wind, the Kwai Chung Depot and VTC Kwai Chung Complex which located at the upwind areas would also obstruct the wind flows. Thus it is anticipated the wind flow to the Subject Site will be reduced by the mentioned developments. Under the existing scenario, prevailing E wind would flow from Ha Kwai Chung Village to the Subject Site and the further downwind areas, e.g. Ex-Kwai Chung Police Married Quarter, Kwai Fong Terrace, etc. After the proposed development, it is predicted that some winds at higher level would be blocked by the high-rise residential tower and cause downwash effect at San Kwai Street or Tai Lin Pai Road. Thus it is assumed that wind availability at these roads would be increased after the development while the blockage effect of the residential tower would reduce wind flow at Kwai Chung Road and Ex-Kwai Chung Police Married Quarter right behind.

It is noted that the summer prevailing wind directions for the area are from E, SW and SSW. **Figure 6** Illustrates the wind flow from south to southwest portion. Figure 5-3 shows the wind flow from summer prevailing E wind direction.

Under summer prevailing E wind, similar flow pattern is expected with the annual condition as mentioned above. Area right behind the Subject Site such as Kwai Chung Road and Ex-Kwai Chung Police Married Quarter will be affected and wind availability will be reduced.

Under summer prevailing SSW wind, wind would flow along Kwai Chung Road to the existing site office. Since there are many open spaces within the Subject Site, it is predicted that wind can pass through the Subject Site to the downwind areas such as Tai Lin Pai Road. When the proposed development is constructed, it is assumed that part of the winds would be diverted to Kwai Chung Road and slightly increase the wind flow at Kwai Chung Road but will reduce flow along Tai Lin Pai Road. As the tower of the proposed development is setback by at least 15m from the road kerb of Kwai Chung Road, it can maintain more setback to facilitate wind flow along the identified air path. There is at least 40m air corridor between the proposed tower and Ha Kwai Chung Village, thus this setback can allow SSW wind flow to San Kwai Street and other downwind areas (i.e. Tai Lin Pai Road).

Under summer prevailing SW wind, Kwai Chung Road acts as the main air path from southwest to northeast wind directions. Under the existing scenario, the low-rise site office would not cause strong wind obstruction to its downwind area. Thus it is expected that wind can flow to Tai Lin Pai Road. When the proposed development is constructed, it is predicted that the proposed podium would divert some wind to two sides including Kwai Chung Road and Ha Kwai Chung Village. Besides, the high-rise residential tower would block the wind

flow and reduce the wind availability at Tai Lin Pai Road and even Central Kwai Chung Park in some extent. Some good design such as at least 40m air corridor between proposed tower and Ha Kwai Chung Village house can allow more wind flow along San Kwai Street which minimise the impact.

#### **4.3 Summary of Air Ventilation Performance**

There is an open carpark with a site office in current condition of the Subject Site. It is believed that the proposed high-rise residential development might obstruct wind flow to the downwind areas under both annual and summer conditions. Under the annual condition, wind flow at Ex-Kwai Chung Police Married Quarter, Kwai Chung Road and Kwai Fong Terrace Blocks would be slightly reduced. Under the summer condition, the wind flow at San Kwai Street and Tai Lin Pai Road would be reduced due to the blockage effect of the proposed development.

However, there are existing bulky developments at the E prevailing wind direction and it would reduce the wind availability at the Subject Site. Besides, the proposed development would not block the existing air paths such as Tai Lin Pai Road and San Kwai Street. Thus it is anticipated that the proposed development would not have significant impact on the leeward areas at pedestrian level under annual condition.

For the summer prevailing SW and SSW wind directions, it is noted that Kwai Chung Road is a main air path. The proposed development is aligned with this air path and at least 15m setback is provided from the tower blockage to the road kerb of Kwai Chung Road. Thus the good design of the building disposition is incorporated into the proposed development to minimize the potential impact on air ventilation. For the summer prevailing E wind direction, air paths at Tai Lin Pai Road would not be blocked due to the proposed development.

## **5. Conclusions**

After considering the potential environmental impacts upon the Subject Site, the layout of the proposed development has carefully considered the good design in air ventilation aspect. After considering the existing topography, the location of the existing built areas and provision of mitigation measures, it is considered that the Proposed Development would not have significant adverse impact to surrounding environment.

It is recommended upon detailed design of the development with scheme refinement, further enhancement measures should be explored and incorporated into latest development scheme where practicable. A quantitative air ventilation assessment should be carried out to demonstrate the optimal design is selected in comparing with different options.

Hong Kong Housing Authority

**Public Housing Development at  
San Kwai Street**

**Broad Environmental Assessment Study**

August 2017

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## EXECUTIVE SUMMARY

A Broad Environmental Assessment Study (BEAS) has been conducted to evaluate the environmental feasibility for the proposed Public Housing Development at San Kwai Street Site, Kwai Chung, with respect to Chapter 9 of the Hong Kong Planning Standards and Guidelines (HKPSG).

The potential air quality impact due to vehicular and chimney emissions from Wah Wing Industrial Building have been assessed. No exceedance of AQOs of RSP, FSP and SO<sub>2</sub> would occur at any identified Air Sensitive Receivers (ASRs). Area with non-compliance of relevant AQO criteria of annual average NO<sub>2</sub> concentrations is found at the south western side of subject site at 1.5mAG. As this area would be subject to non-air sensitive uses, adverse air quality impact to the proposed development would not be expected.

For traffic noise impact, in case of any traffic noise exceedance of relevant traffic noise criteria, mitigation measures will be proposed. With the implementation of appropriate noise mitigation measures, it is anticipated that the relevant HKPSG requirements on noise impact can be met.

Fixed noise sources from Food and Environmental Hygiene Department Kwai Chung Depot (FEHD Depot), VTC Kwai Chung Training Center Complex (VTC Kwai Chung Complex) and Kwai Tsing District Headquarters & Kwai Chung Divisional Police Station (Kwai Chung Police Station) have been identified in this Study. With the implementation of appropriate mitigation measures, it is anticipated that the relevant HKPSG requirements can be met.

Hong Kong Housing Authority (HKHA) will further review the development layouts and carry out environmental assessment study on the potential air quality, traffic noise and fixed noise impacts with the proposed mitigation measures for enhancement at the detailed design stage.

## 行政摘要

根據《香港規劃標準與準則》的規定，是次概括環境評估研究評估了位於葵涌新葵街的公營房屋擬建發展計劃的環境可行性。

道路交通所產生的車輛廢氣及華榮工業大廈煙囪所排放出的廢氣已作評估。累積空氣質素評估結果顯示可吸入懸浮粒子 (PM10)、微細懸浮粒子 (PM2.5) 及二氧化硫都附合空氣質素指標。預測於擬建發展計劃的西南面的部份區域離地面高度 1.5 米的全年平均二氧化氮濃度，將超過空氣質素指標。此擬建發展的區域並非空氣敏感受體，因此預計該擬建發展項目不會受到任何不良空氣質素影響。

道路交通噪音方面，如果交通噪音超出相關的交通噪音標準，將實施緩解措施。在實施適當的噪音緩解措施後，預料將能夠達到《香港規劃標準與準則》的噪音標準。

在食物環境衛生署葵涌車廠、職業訓練局葵涌大樓及葵涌警察局的固定噪音源已被識別。實施適當的噪音緩解措施後，預料所有具代表性的噪音敏感受體的預測噪音水平將能夠符合《香港規劃標準與準則》的固定噪音標準。

香港房屋委員會將於詳細設計階段進一步檢閱發展計劃的設計，和對潛在的空氣質素、道路交通噪音及固定噪音方面的影響和緩解措施進行環境評估研究。

## **1 INTRODUCTION**

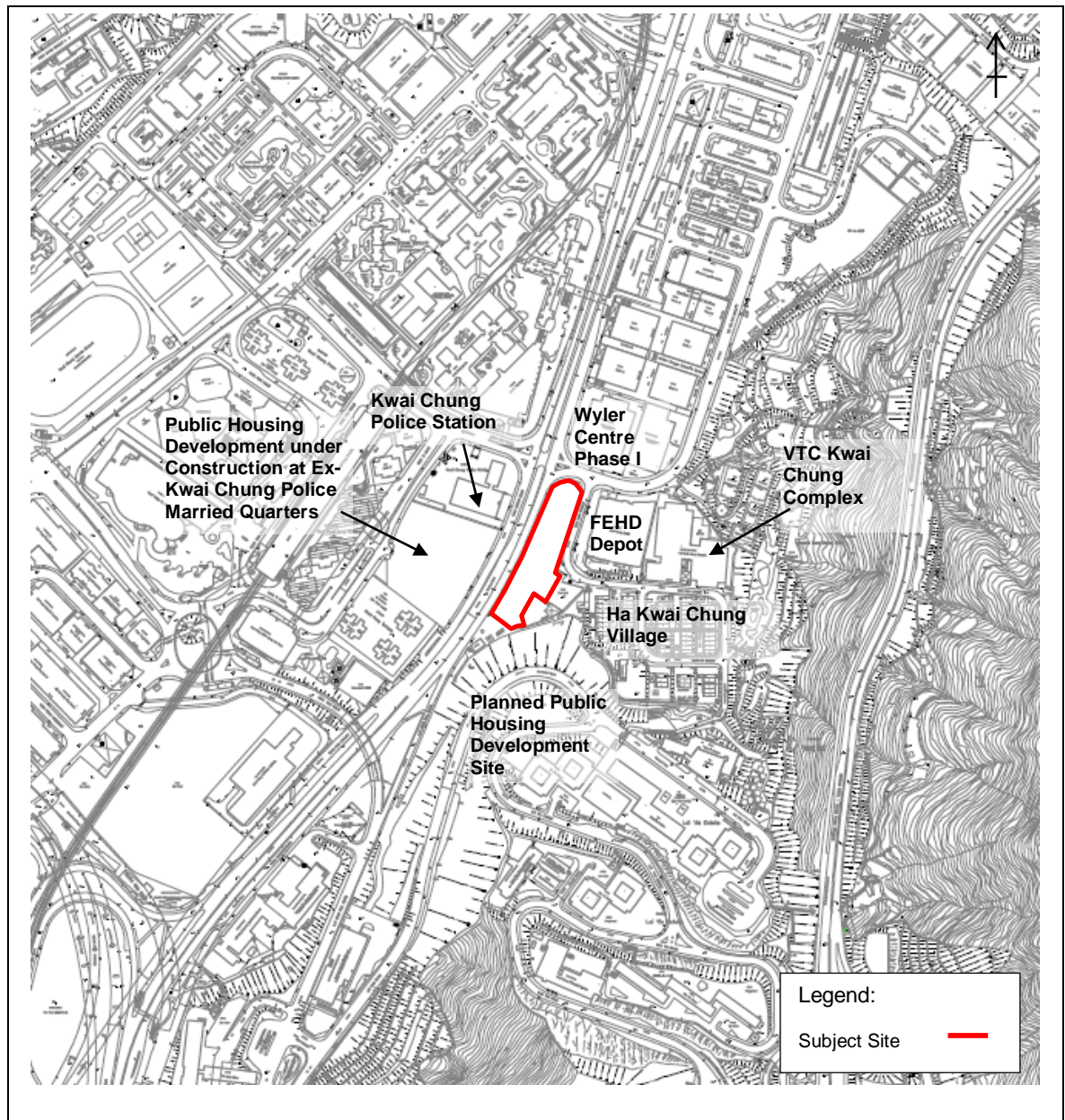
### **1.1 Background**

- 1.1.1 Hong Kong Housing Authority (HKHA) intends to develop a Public Housing Development at San Kwai Street Site (the subject site). AECOM Asia Co. Ltd was commissioned by HKHA to carry out a Broad Environmental Assessment (BEAS) for the proposed development.
- 1.1.2 The subject site is bounded by Kwai Chung Road to the west, Tai Lin Pai Road to the north and San Kwai Street to the east. The proposed development will construct one residential block with 38-storeys domestic floors and welfare facilities on ground floor and podium. The anticipated completion year is 2023.
- 1.1.3 This BEAS aim to identify the potential environmental impacts on the proposed development with respect to the guidance for environmental considerations provided in Chapter 9 “Environment” of the Hong Kong Planning Standards and Guidelines (HKPSG).
- 1.1.4 In view of the environmental setting of the site, the proposed development would be subject to potential impact of traffic noise and fixed noise from the Food and Environmental Hygiene Department Kwai Chung Depot (FEHD Depot), VTC Kwai Chung Training Centre Complex (VTC Kwai Chung Complex) and Kwai Tsing District Headquarters & Kwai Chung Divisional Police Station (Kwai Chung Police Station). The air quality impact including open roads, background and chimneys emissions from Kwai Fong Terrace, VTC Kwai Chung Complex and Wah Wing Industrial Building have also been reviewed.

## 2 SITE LOCATION AND BUILDING DESIGN

### 2.1 Site Location

- 2.1.1 The proposed site for public housing development is located at Kwai Chung. It is bounded by Kwai Chung Road to the west, Tai Lin Pai Road to the north and San Kwai Street to the east. Surrounding of the subject site includes Wyler Centre Phase I to the north, Kwai Chung Police Station to the west separating by the Kwai Chung Road, whereas FEHD Depot and VTC Kwai Chung Complex are to the east. In addition, another HKHA planned development is located uphill to the south of the Subject Site next to Lai Cho Road. **Figure 2.1** shows the location of the subject site.



**Figure 2.1** Site Location Plan

## 2.2 Building Block Design

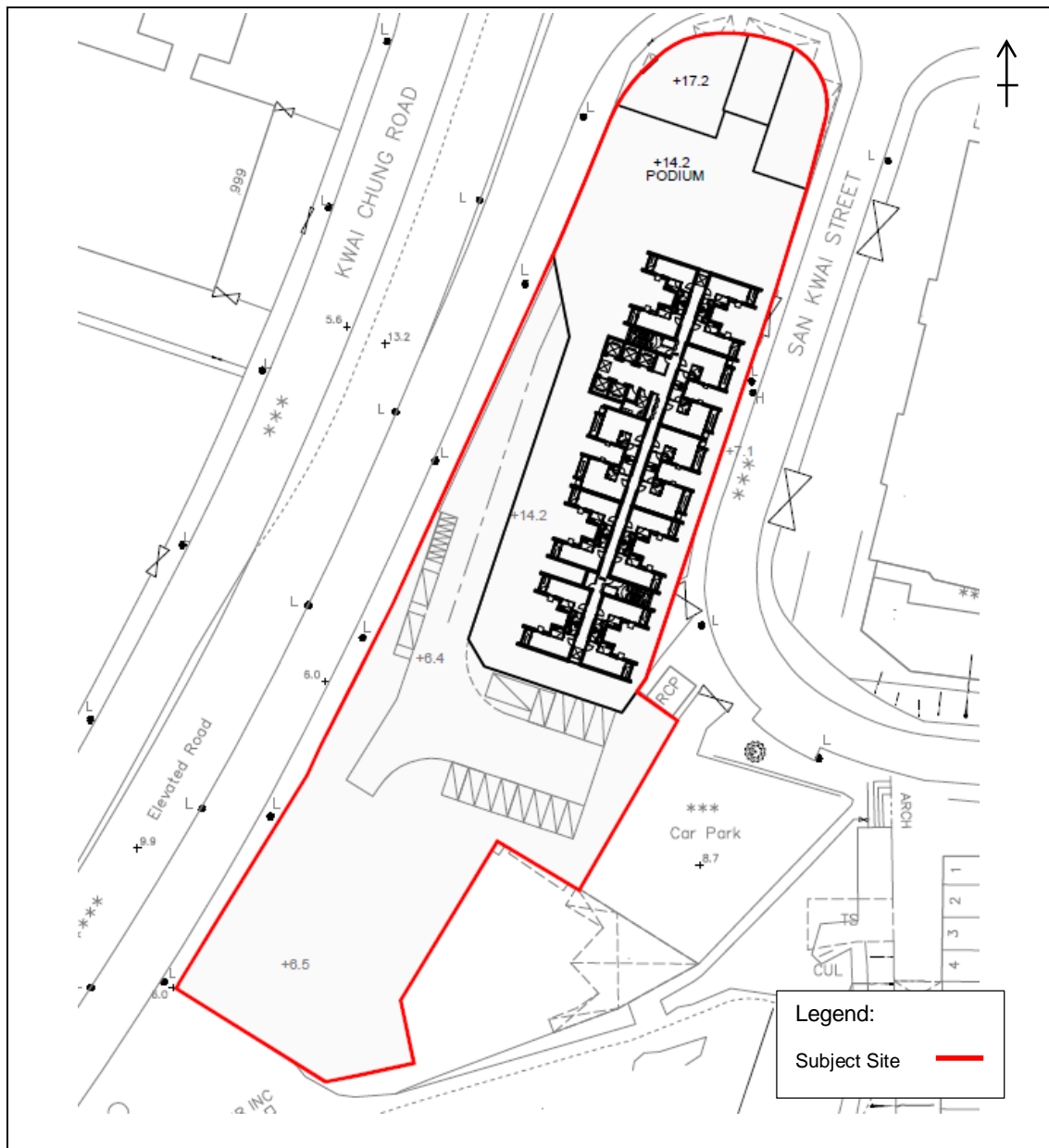
- 2.2.1 The current proposed public housing development, with the site area approximately 0.5 hectare, consists of one residential block providing about 650 flats with 38-storeys domestic floors and social welfare facilities on the ground floor and podium. The key development parameters are given in **Table 2.1** and **Table 2.2**.
- 2.2.2 **Figure 2.2** to **Figure 2.4** show the site layout plan. HD will further provide the details on the type of social welfare facilities and the room usages at the detailed design stage.

**Table 2.1 Key Development Parameters for Residential Blocks**

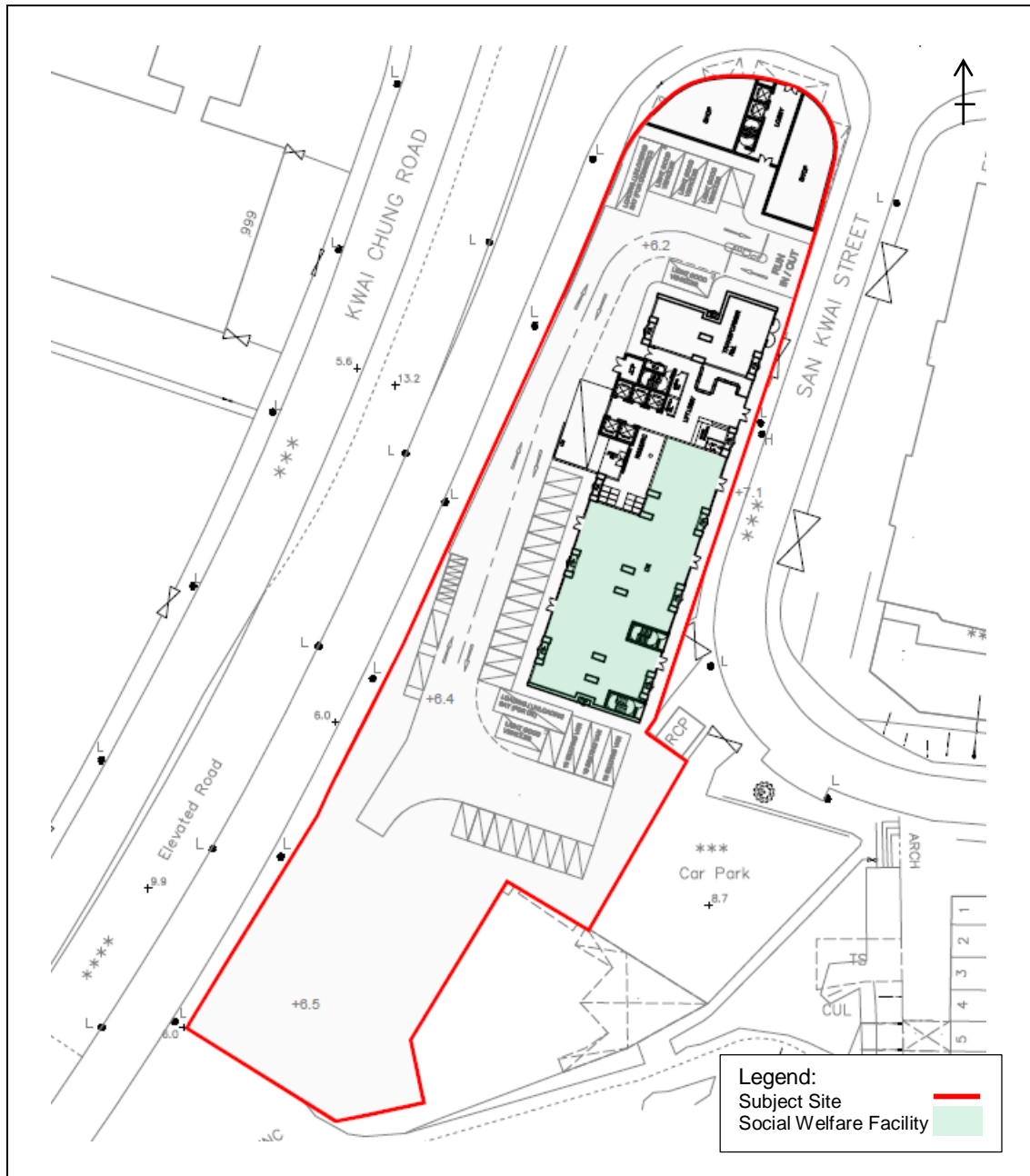
Parameters	Residential Block
No. of Residential Floors	38
Floor to Floor Height	2.75m
Ground Floor Level	+6 mPD
First Domestic Assessment Level	+21 mPD
Main Roof Level	130 mPD
No. of Domestic Flats	~650
Proposed Intake Year	2023

**Table 2.2 Key Development Parameters for Welfare Facilities**

Parameters	Social Welfare Facilities	
Location	G/F	Podium
Floor Level	+6 mPD	+14.2 mPD
NSR Level	+7.2 mPD	+15.4 mPD
Proposed Intake Year	2023	







**Figure 2.3 Site Layout Plan – Ground Floor (Social Welfare Facility)**



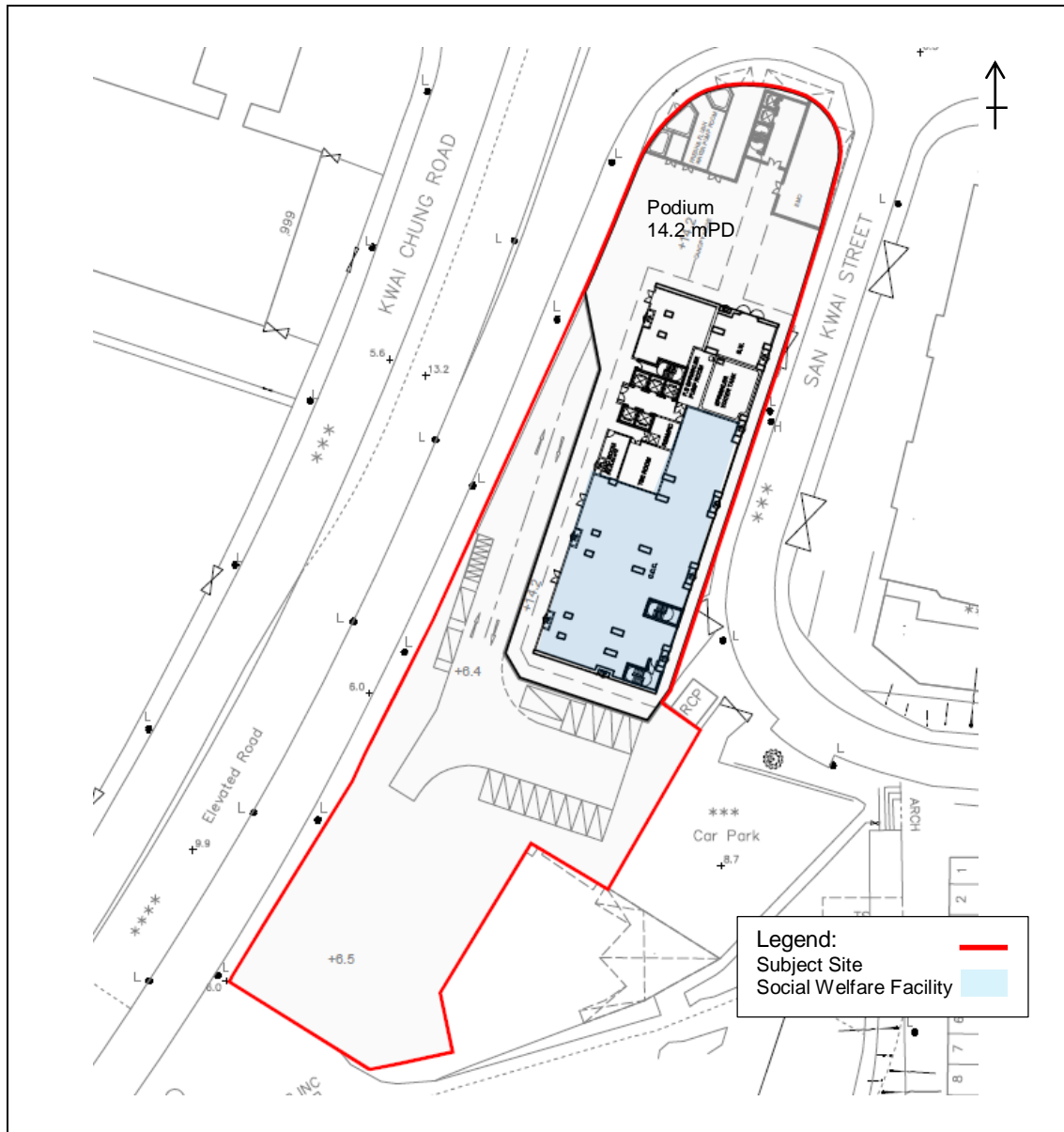


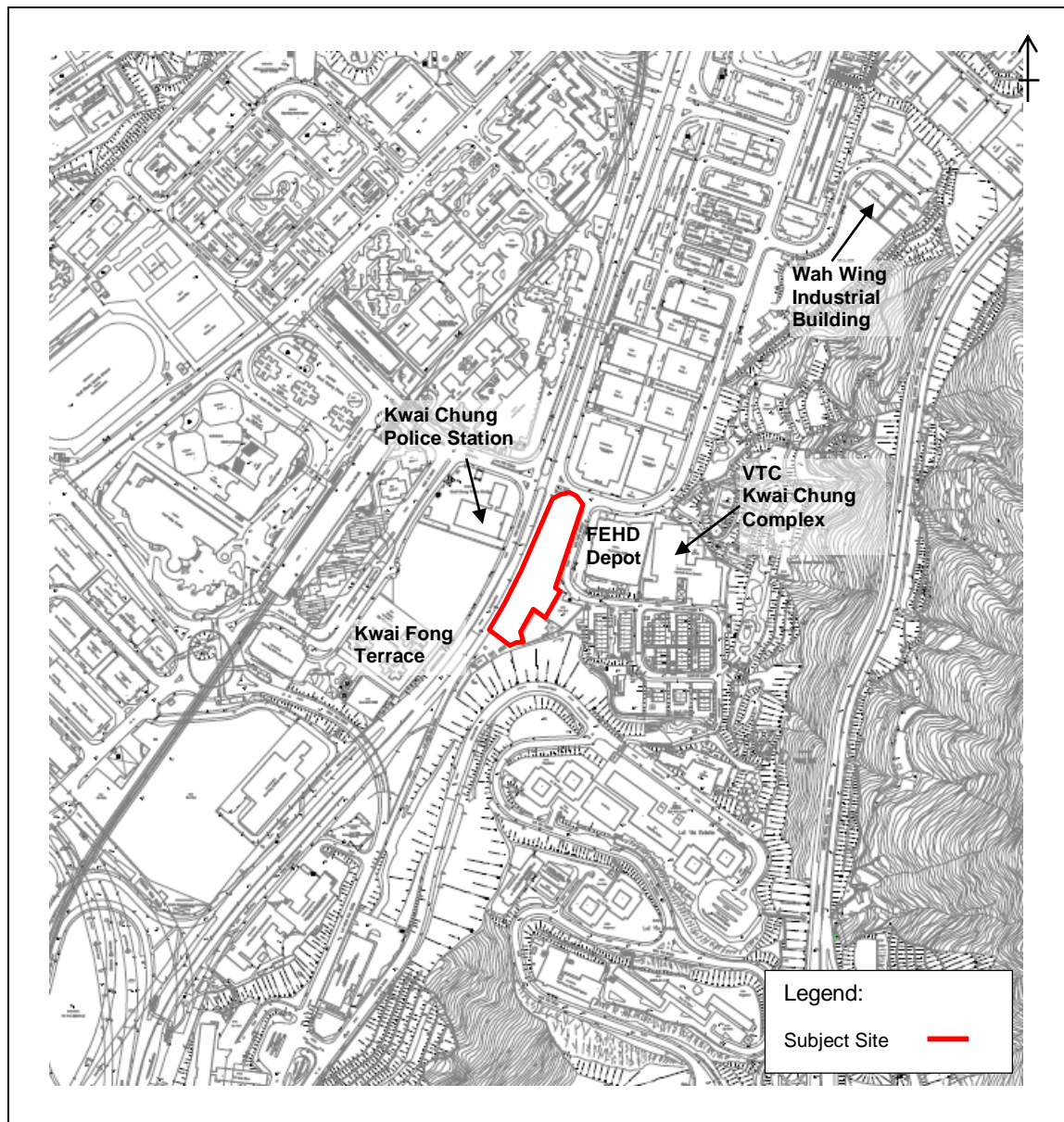
Figure 2.4 Site Layout Plan – Podium (Social Welfare Facility)

### 3 SITE INSPECTION

- 3.1.1 Several site visits were conducted in December 2015, January and March 2016 to identify and investigate any environmental polluting sources affecting the proposed development, including traffic noise from the nearby roads, fixed plant noise, chimney emission and etc.
- 3.1.2 According to site visits, the subject site is currently Highways Department's Works Area for Express Rail Link, Drainage Service Department's Maintenance Depot and Works Area and unleased government land. Three chimneys were observed within 500m study area, they were located at Kwai Fong Terrace, VTC Kwai Chung Complex and Wah Wing Industrial Building.
- 3.1.3 A number of potential fixed noise sources were observed around the subject Site including mechanical ventilation systems on the roofs of VTC Kwai Chung Complex, chillers at the Kwai Chung Police Station, as well as the vehicle in/out and open car park at FEHD Depot.
- 3.1.4 The summarized details and location of these developments are shown in **Table 3.1** and **Figure 3.1**. Photos of identified chimneys and potential fixed plant noise sources are shown in **Figure 3.2** to **Figure 3.7**.

**Table 3.1 Identified Potential Fixed Noise Sources and Chimney Emission Sources**

	Premises	Location	Installations	Photographs
Fixed Noise Sources	FEHD Depot	Roof	Open Car Park	Figure 3.7
		Ground	Entrance and exit of car park	Figure 3.7
	Kwai Chung Police Station	Podium	2 Cooling Fans	Figure 3.5
	VTC Kwai Chung Complex	Roof	2 Louvers	Figure 3.6
			6 Chillers	
		Upper Roof	6 Large Ventilation Outlet	
			1 Small Ventilation Outlet	
Chimneys	Kwai Fong Terrace	Roof	1 Chimney	Figure 3.3
	VTC Kwai Chung Complex	Roof	1 Chimney	Figure 3.6
	Wah Wing Industrial Building	Roof	1 Chimney	Figure 3.4



**Figure 3.1** Locations of Industrial Developments with Identified Fixed Noise Sources and Chimneys



Figure 3.2 Existing site area

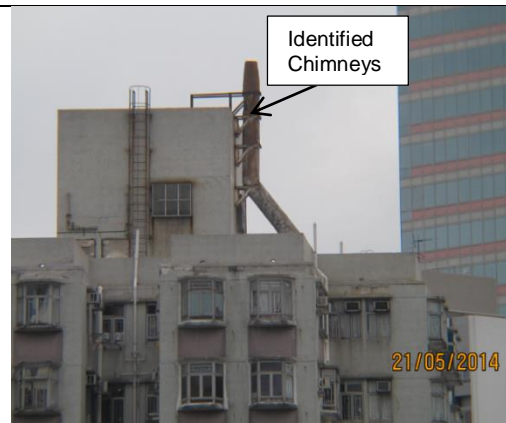


Figure 3.3 Kwai Fong Terrace

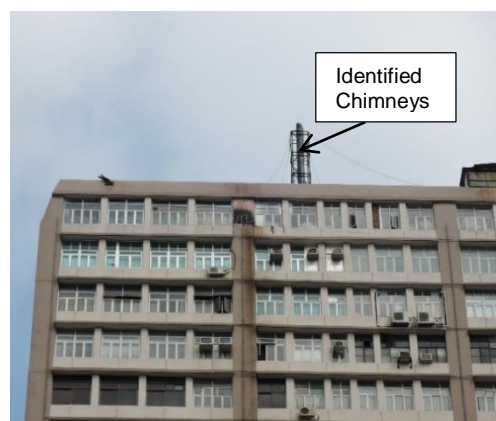


Figure 3.4 Wah Wing Industrial Building

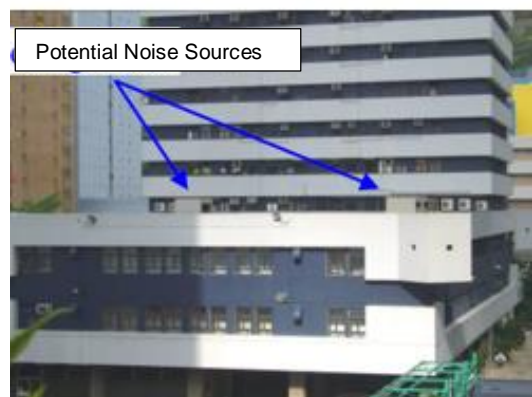


Figure 3.5 Kwai Chung Police Station

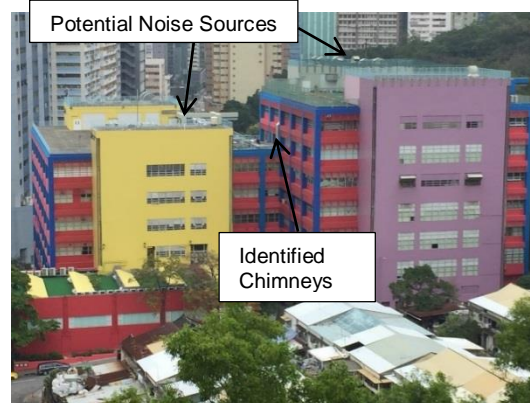


Figure 3.6 VTC Kwai Chung Complex

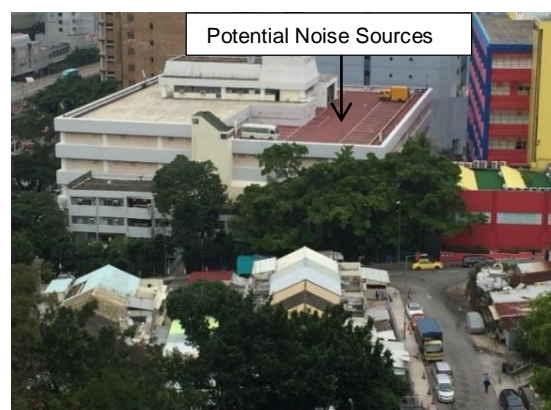


Figure 3.7 FEHD Depot



## 4 AIR QUALITY IMPACT ASSESSMENT

### 4.1 Assessment Criteria

- 4.1.1 The air quality impact assessment criteria shall make reference to the Air Pollution Control Ordinance (APCO) (Cap. 311) and the HKPSG.
- 4.1.2 The APCO provides the statutory authority for controlling air pollutants from a variety of sources. The Hong Kong Air Quality Objectives (AQOs), which must be satisfied, stipulate the maximum allowable concentrations over specific periods for a number of criteria air pollutants. The AQOs are listed in **Table 4.1**.

**Table 4.1 Hong Kong Air Quality Objectives**

Pollutants	Averaging Time	Concentration Limit ( $\mu\text{g}/\text{m}^3$ ) <sup>(1)</sup>	No. of Exceedances to be Allowed per Calendar Year
Sulphur Dioxide ( $\text{SO}_2$ )	10-min	500	3
	24-hour	125	3
Respirable Suspended Particulates ( $\text{PM}_{10}$ / RSP) <sup>(2)</sup>	24-hour	100	9
	1-year	50	Not applicable
Fine Suspended Particulates ( $\text{PM}_{2.5}$ / FSP) <sup>(3)</sup>	24-hour	75	9
	1-year	35	Not applicable
Nitrogen Dioxide ( $\text{NO}_2$ )	1-hour	200	18
	1-year	40	Not applicable
Ozone ( $\text{O}_3$ )	8-hour	160	9
Carbon Monoxide (CO)	1-hour	30000	0
	8-hour	10000	0
Lead (Pb)	1-year	0.5	Not applicable

Notes:

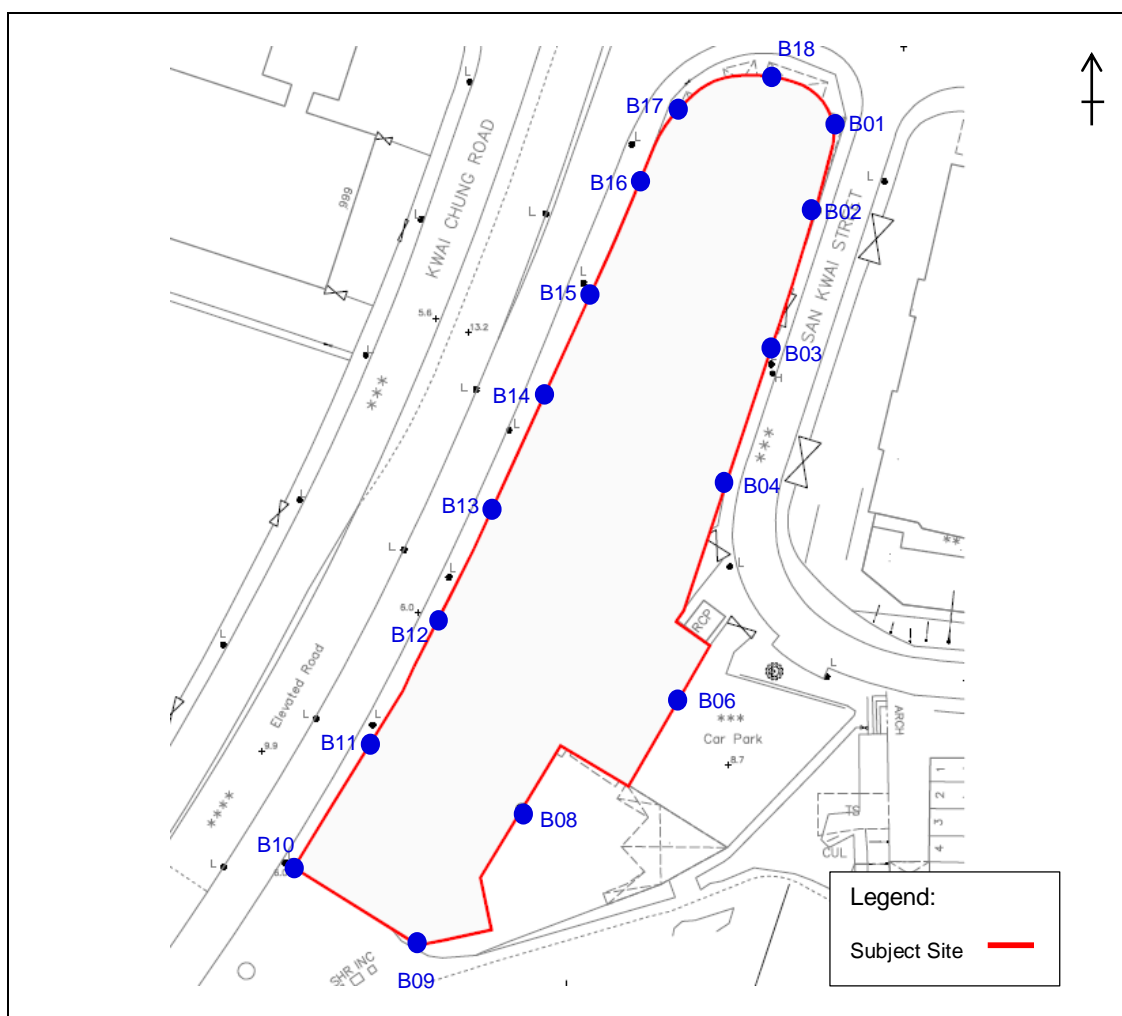
- (1) All measurements of the concentration of gaseous air pollutants, i.e., sulphur dioxide, nitrogen dioxide, ozone and carbon monoxide, are to be adjusted to a reference temperature of 293 Kelvin and a reference pressure of 101.325 kilopascal.
  - (2) Respirable suspended particulates means suspended particles in air with a nominal aerodynamic diameter of 10  $\mu\text{m}$  or less.
  - (3) Fine suspended particulates means suspended particles in air with a nominal aerodynamic diameter of 2.5  $\mu\text{m}$  or less.
- 4.1.3 Chapter 9 of "Environment" of the HKPSG suggests the buffer distance requirement for roads and highways as well as industrial chimney exit.

### 4.2 Study Area

- 4.2.1 The study area for the air quality impact assessment is defined by a distance of 500m from the site boundary.

### 4.3 Air Sensitive Receivers

- 4.3.1 A number of notional assessment points within the site boundary have been identified as air sensitive receivers (ASRs) for the assessment as shown in **Figure 4.1** below. Since social welfare facilities are located on ground floor and podium, and the first residential floor is about 13.8 mAG, as a conservative approach, the assessment heights have been taken as 1.5m, 5m, 10m and 15m above ground and up to the maximum building height.



**Figure 4.1** Locations of Air Sensitive Receivers

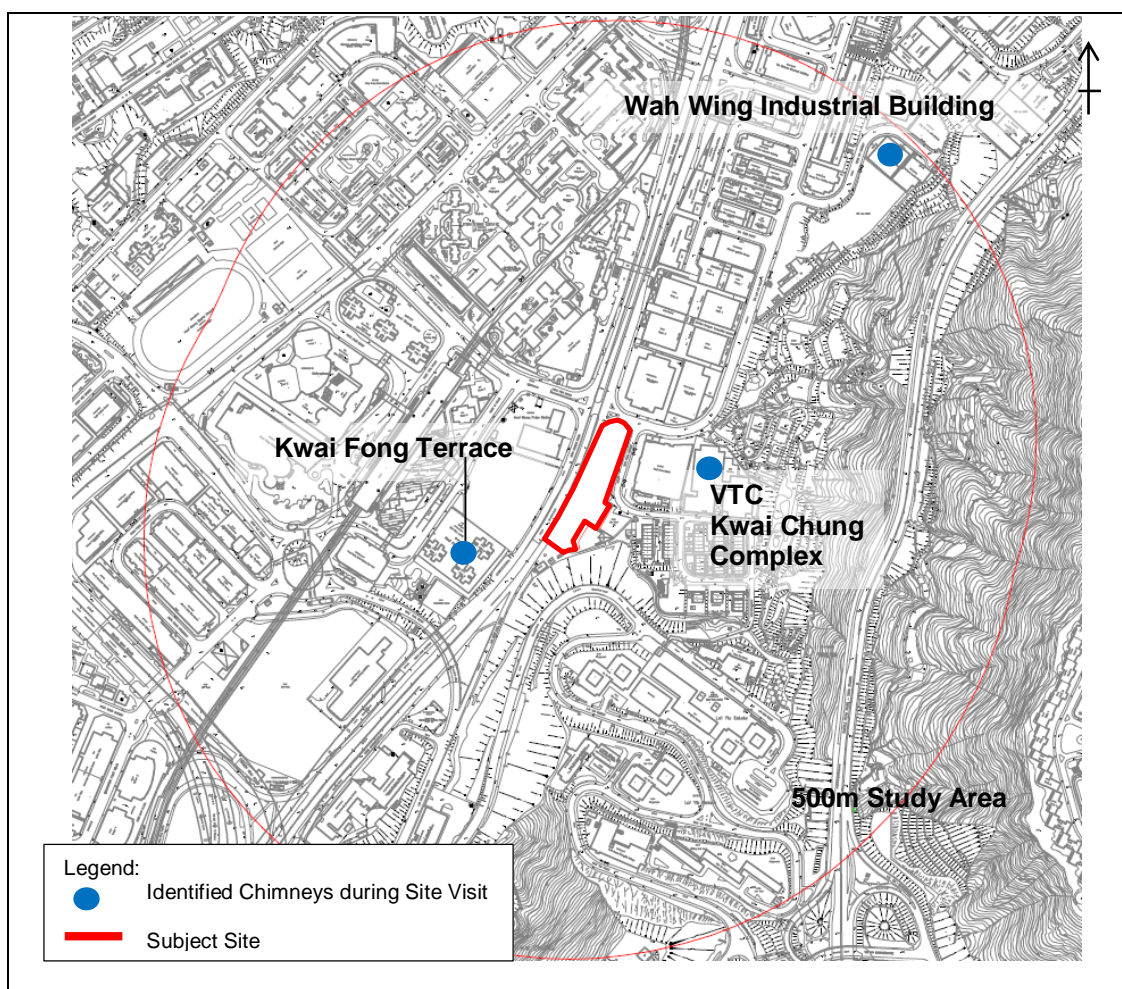
#### 4.4 Identification of Pollution Sources

4.4.1 Potential air quality impacts on the proposed development would be associated with the following pollution sources.

- Background pollutant concentrations;
- Vehicle emissions from surrounding open roads within 500m from the site boundary;
- Industrial chimney within 500m from site boundary listed in **Table 4.2** below with locations shown in **Figure 4.2**.

**Table 4.2** Identified Industrial Stack

Building	No. of Stack	Nature of Activity
Wah Wing Industrial Building	1	Dyeing Industry
VTC Kwai Chung Complex	1	Educational Use (Non-industrial use)
Kwai Fong Terrace	1	Food Industry



**Figure 4.2** Locations of Identified Chimneys within 500m Study Area

#### 4.5 Identification of Key/ Representative Air Pollutants

- 4.5.1 Since vehicular and chimney emission comprises mainly Nitrogen oxides ( $\text{NO}_x$ ), RSP, FSP and  $\text{SO}_2$ , it is anticipated that emission from these identified sources will contribute to the future cumulative impacts of  $\text{NO}_2$ , RSP, FSP and  $\text{SO}_2$  in the assessment area and these four criteria pollutants were therefore selected to be assessed in this study. For other pollutants, due to the low concentration in ambient, they were not considered as key pollutants for the purpose of this study.

#### 4.6 Assessment Methodology

- 4.6.1 The Pollutants in the Atmosphere and the Transport over Hong Kong 2016 Version (PATH-2016), CALINE4 and AERMOD models were used to simulate dispersion of emission from the sources identified in **Section 4.4**. The future background concentrations for air pollutants were predicted by the PATH-2016 model. CALINE4 model was used to simulate line sources including open road emissions within the study area. AERMOD model was used to simulate point sources including chimney emissions within the study area.

##### **Vehicular Emission Impact**

##### Assessment Year

- 4.6.2 The air pollution impacts of future road traffic shall be calculated based on the highest emission strength from the road within the next 15 years upon population intake of the proposed development, i.e. Year 2023. Therefore, Years 2023, 2031 and 2038 were selected to conduct the sensitivity test. As  $\text{NO}_2$  is the pollutant of primary concern for vehicular emission, the assessment

year was determined based on the highest total NO<sub>x</sub> emission burden using the EMFAC-HK model. The latest model version (version 3.3) of EMFAC-HK provided by EPD was employed in this Study. The proposed approach of the EMFAC-HK model is presented in **Sections 4.6.5 et seq.**

- 4.6.3 The calculated total vehicular emissions of NO<sub>x</sub> from the roads in the study area are listed in **Table 4.3**. As shown in **Table 4.3**, the highest vehicle emission is at Year 2023. Therefore, Year 2023 was selected as the assessment year in this study.

**Table 4.3 Emission from the Roads in the Air Quality Impact Assessment Area**

Year	Total NO <sub>x</sub> Daily Emission (kg/d)
2023	149
2031	109
2038	87

#### Background Pollutant Concentrations – PATH-2016 Model

- 4.6.4 PATH-2016 model released by EPD in January 2016 was used to quantify the background air quality. The emission sources including those in Pearl River Delta Economic Zone, roads, marine, airport, power plants and industries within Hong Kong are all considered in the PATH-2016 model. PATH-2016 model with Year 2020 emission inventory was adopted in this Study.

#### EMFAC-HK Model

- 4.6.5 EMFAC-HK model was adopted to determine the vehicle emission factors of NO<sub>x</sub> (i.e. initial NO + initial NO<sub>2</sub>) and RSP. The EMFAC-HK model (version 3.3) provided by EPD was employed in this Study

#### (a) Vehicle Classes

- 4.6.6 The “vehicle fleet” refers to all motor vehicles operating on roads within the Study Area. The modelled fleet was broken down into 16 vehicle classes based on the information as shown in *Appendix 1 of Guideline on Modelling Vehicle Emissions* published by EPD. The 16 vehicle classes modelled in EMFAC-HK are summarized in **Table 4.4**.

**Table 4.4 Vehicle Classes in EMFAC-HK Model**

Index	Vehicle Class Description	Gross Vehicle Weight (tonnes)
1	Private Cars (PC)	ALL
2	Taxi	ALL
3	Light Goods Vehicles (<=2.5t)	<=2.5t
4	Light Goods Vehicles (2.5-3.5t)	>2.5-3.5t
5	Light Goods Vehicles (3.5-5.5t)	>3.5-5.5t
6	Medium & Heavy Goods Vehicles (5.5-15t)	>5.5-15t
7	Medium & Heavy Goods Vehicles (>=15t)	>15t
8	Public Light Buses	ALL
9	Private Light Buses (<=3.5t)	<=3.5t
10	Private Light Buses (>3.5t)	>3.5t
11	Non-franchised Buses (<6.4t)	<=6.36t
12	Non-franchised Buses (6.4-15t)	>6.36-15t
13	Non-franchised Buses (>15t)	>15t
14	Single Deck Franchised Buses	ALL
15	Double Deck Franchised Buses	ALL
16	Motor Cycles	ALL

#### (b) Road Grouping



4.6.7 With reference to the road design, the design speed limits of all road links within the study area include 50kph and 70kph. Hence, two sets of emission factors, i.e. 50kph and 70kph, were calculated

(c) Model Year

4.6.8 Year 2023, 2031 and 2038 are selected as the model years of EMFAC-HK model.

(d) Modelling Modes

4.6.9 According to EPD's guideline, "Burden mode" is used for calculating area-specific emission inventories. It was selected for this Project, since it can provide hourly vehicular emissions, taking into account of ambient conditions and speeds combined with vehicle activity, i.e. the number of vehicles, the kilometers driven per day and the number of daily trips. Both CSV and BDN.CSV output file formats were produced.

(e) Technology Fractions

4.6.10 Each vehicle class has diverse technological factors in different years. According to the underlying assumption in EMFAC-HK model, each vehicle class can be modelled by the individual behaviour of unique technology groups. Each technology group represents the vehicles from the same class (but with distinct emission control technologies) which have similar in-use deterioration rates and respond the same to repair. It means that the vehicles from the same class have the same emission standards or specific equipment installed on them (e.g. multi-port fuel injection, three-way catalyst, adaptive fuel controls, etc) which made them have the same performance.

4.6.11 The latest implementation programme of the vehicle emission standards in Hong Kong as published and available in EPD's website (i.e. updated as of January 2017) was adopted in this assessment. The exhaust technology fractions were made reference to the latest Year 2015 vehicle age distribution data for various vehicle classes that are available in EPD's website ([http://www.epd.gov.hk/epd/english/environmentinhk/air/guide\\_ref/emfac.html](http://www.epd.gov.hk/epd/english/environmentinhk/air/guide_ref/emfac.html)). It was assumed that the fuel properties will also be in line with the implementation of these standards.

4.6.12 Evaporative technology fraction in the model was based on the default value.

(f) Vehicle Population

4.6.13 As recommended in the EPD's *Guideline on Modelling Vehicle Emissions*, default vehicle populations forecast in EMFAC-HK was used.

(g) Accrual Rate

4.6.14 The default accrual rates in EMFAC-HK are estimated from the local mileage data adjusted to reflect the total VKT for each vehicle class. The default value was used.

(h) Diurnal Variation of Daily Trips

4.6.15 The diurnal variation of daily trips is used to estimate the start emissions of petrol and LPG vehicles, thus the trips of diesel vehicles are zero. The number of trips per day of petrol and LPG vehicle should be equal to the number of cold starts per day. The cold start is only allowed at the middle in some of the local roads with speed of 50kph.

4.6.16 For those roads with cold starts, the diurnal variation of daily trips was provided by the traffic consultant, and is presented in **Appendix 4.1**. Agreement from Transport Department (TD) on the use of the traffic forecast for this BEAS is being sought at the time of study.

(i) Diurnal Variation of Daily Vehicle-Kilometer-Travelled (VKT)

4.6.17 Vehicle-kilometer-travelled (VKT) represents the total distance travelled on a weekday. The VKT was calculated by multiplying the number of vehicle and the length of road travelled. The diurnal variation of VKT was provided by the traffic consultant, and is presented in **Appendix 4.1**. The

input in the model was by vehicle/fuel/hour. Agreement from Transport Department (TD) on the use of the traffic forecast for this BEAS is being sought at the time of study.

(j) Speed Fraction

4.6.18 Speed fraction represents the percentage in different speed ranges of each vehicle type weighted by VKT. The speed limits of existing road were made reference to the Traffic AIDs (plan marked the road marking, traffic sign and speed limits) from TD. Design speeds of all roads are presented in **Appendix 4.1**.

4.6.19 In accordance with the Road Traffic Ordinance, for any road with design speed limit of 70kph or above, the maximum speed limit for medium goods vehicles, heavy goods vehicles and buses shall be limited to 70kph. Thus, the speeds of medium goods vehicles, heavy goods vehicles and buses from the flow speed or 70kph, whichever is lower, were adopted. For the public light buses, the maximum speed limit should be limited to 80kph. Thus, the speeds of public light buses from the flow speed or 80kph, whichever is lower, were adopted.

4.6.20 The 24-hour speed fraction of each vehicle type was provided by the traffic consultant, and is presented in **Appendix 4.1**. Agreement from Transport Department (TD) on the use of the traffic forecast for this BEAS is being sought at the time of study.

(k) Hourly Temperature and Relative Humidity Profile

4.6.21 According to the information provided by Hong Kong Observatory (HKO), Tsuen Wan Shing Mun Valley is the nearest station of the Project. Thus, data recorded at Tsuen Wan Shing Mun Valley Weather Station were adopted for the model input.

(l) Emission Factors Adopted in the Air Quality Impact Assessment

4.6.22 The hourly emissions of NO<sub>x</sub> and RSP derived from EMFAC-HK model were divided by the number of vehicles and the distance travelled to obtain the emission factors in gram per miles per vehicle. Individual tailpipe NO<sub>2</sub>/NO<sub>x</sub> ratios of each vehicle type were calculated based on the template provided in EPD's website ([http://103.31.21.127/initial\\_NO2X\\_ratio.html](http://103.31.21.127/initial_NO2X_ratio.html)) and presented in **Table 4.5**. The calculated 24-hour initial NO, initial NO<sub>2</sub> and RSP emission factors of 16 vehicle classes for the two road types were adopted in this air quality impact assessment and are presented in **Appendix 4.2**. As all vehicular emission of RSP were assumed for FSP as a conservative approach, no emission factors of FSP were generated.

**Table 4.5 NO/ NO<sub>2</sub> conversion ratios used in the vehicular emission modelling**

Index	Vehicle Type	NO/ NO <sub>2</sub> conversion ratios	
		50 kph	70 kph
1	PC	0.05227	0.05143
2	TAXI	0.02592	0.02597
3	LGV3	0.07976	0.07974
4	LGV4	0.08047	0.08098
5	LGV6	0.28000	0.28000
6	HGV7	0.30429	0.30381
7	HGV8	0.11945	0.11266
8	PLB	0.12797	0.11973
9	PV4	0.08579	0.05621
10	PV5	0.16074	0.12042
11	NFB6	0.28000	0.28000
12	NFB7	0.27194	0.27194
13	NFB8	0.08924	0.08311
14	FBSD	0.09672	0.09650
15	FBDD	0.07614	0.07504
16	MC	0.04979	0.04979

Vehicle Emissions from Open Roads – CALINE 4

- 4.6.23 Traffic on all open roads within the study area has been included in this assessment. The United States Environmental Protection Agency (USEPA) approved CALINE4 dispersion model was used for calculation of the NO, NO<sub>2</sub> and RSP concentrations. Open sections of road networks within the study area are considered in the model.
- 4.6.24 The predicted 24-hour traffic flows and vehicle mixes for the road networks in Year 2023 were provided by the traffic consultant and adopted in this air quality assessment, and are attached in **Appendix 4.1**. Agreement from Transport Department (TD) on the use of the traffic forecast for this BEAS is being sought at the time of study. The 24-hour traffic flows and composite emission factors for each road link are presented in **Appendix 4.3**.
- 4.6.25 The dispersion modelling was conducted based on the meteorological data extracted from the PATH-2016 model. The grid cell of 3637 was used for extraction of meteorological data and background pollutant concentration. Surface roughness coefficient of 370 cm was taken in the CALINE4 model.
- 4.6.26 Ozone Limiting Method (OLM) was adopted for conversion of NO<sub>x</sub> to NO<sub>2</sub> based on the predicted O<sub>3</sub> level from PATH-2016. For vehicle emissions, OLM was applied to the predicted initial NO concentrations from open roads (from CALINE4). The NO<sub>2</sub>/NO<sub>x</sub> conversion was calculated as follows:

$$[\text{NO}_2]_{\text{pred}} = [\text{NO}_2]_{\text{initial}} + \text{MIN} \{ [\text{NO}]_{\text{initial}}, \text{ or } (46/48) \times [\text{O}_3]_{\text{bkgd}} \}$$

where

- [NO<sub>2</sub>]<sub>pred</sub> is the predicted NO<sub>2</sub> concentration
- [NO<sub>2</sub>]<sub>initial</sub> is the predicted initial NO<sub>2</sub> concentration from open roads
- [NO]<sub>initial</sub> is the predicted initial NO concentration from open roads
- MIN means the minimum of the two values within the brackets
- [O<sub>3</sub>]<sub>bkgd</sub> is the representative O<sub>3</sub> background concentration
- (46/48) is the molecular weight of NO<sub>2</sub> divided by the molecular weight of O<sub>3</sub>

#### **Chimney Emission Impact**

- 4.6.27 Within the 500m study area, several site visits were carried out in December 2015 and January 2016 to identify potential industrial emission sources. Three chimneys were found during site visits. They are located at the roof of VTC Kwai Chung Complex, the rooftop of Block 3 of Kwai Fong Terrace and the roof of Wah Wing Industrial Building. Locations of these three identified chimneys are shown in **Figure 4.2**
- 4.6.28 As confirmed with the VTC Kwai Chung Complex, the one identified chimney at its roof is for general educational use, not for industrial use. Hence, adverse industrial emission impact from this chimney on the proposed site is not anticipated.
- 4.6.29 With reference to the HKHA EAS Report named “Ex-Kwai Chung Police Married Quarters”, the chimney located at the Kwai Fong Terrace is cracked and no operation during site survey in Nov 2007. A site photo taken in 2007 is extracted in **Figure 4.3** for reference. Referring to site visits in May 2014, Oct 2014 and May 2016, the situation for this chimney is similar, no operation during site survey was observed. Photos taken in May 2016 are shown in **Figure 4.4**. Hence, adverse industrial emission impact from this chimney on the proposed site is not anticipated.



Source: HKHA EAS Report for Ex-Kwai Chung Police Married Quarters, photo taken in Nov 2007.

**Figure 4.3 Cracks on Chimney Wall in Kwai Fong Terrace**



**Figure 4.4 Chimney at the roof of Kwai Fong Terrace taken in 2016**

- 4.6.30 The chimney at Wah Wing Industrial Building cannot satisfy with the recommend buffer distance given in HKPSG, quantitative assessment is conducted to anticipate the potential air quality impact from this industrial chimney on the proposed development.
- 4.6.31 Emissions from chimney at Wah Wing Industrial Building as shown in **Section 4.4** has been modelled as point source. The AMS/EPA Regulatory Model (AERMOD) has been employed.
- 4.6.32 The location and height of the stack had been verified by the management staff of Wah Wing Industrial Building. As advised by the management staff, the stack is belong to a dyeing plant.
- 4.6.33 Based on the common practice for a dyeing plant, boiler (with chimney exhaust) would be used for the generation of steam and hot water to fix the dye. As a norm for the dyeing plant, the boiler size would be usually with a capacity of not greater than 2000MJ/hr and diesel oil would be the

fuel type. The fuel consumption rate is assumed 225L/hr. In the calculation of the emission rate of the stack, USEPA AP-42 had been reference based on a small diesel boiler.

- 4.6.34 As no available gas exit velocity data and exit temperature data, the gas exit velocity of the stack 6m/s is estimated for different heat input of the fuel using equipment with reference to Chimney Heights - Third Edition of the 1956 Clean Air Act Memorandum (1981), UK Department of the Environment and an emission temperature of 373K was used.
- 4.6.35 As a conservative assumption, it was assumed that the boiler would be operated 24-hour non-stop annually, as the worst-case scenario. No hourly emission scaling factors had been applied to all sources based on the operation hours per day. Detailed calculation of chimney emission factors is shown in **Appendix 4.4**.
- 4.6.36 Meteorological data, surface roughness and emission sources urban mode are the same as those described in **Section 4.4**. The representative landuse of 3km from the site boundary used in the AERMOD modelling are presented in **Table 4.6**. Annual average and season average moisture condition are assumed in AERMET model. The roughness length, Bowen ratio and albedo are using the default value which are referenced to the AERMET user guide from the U.S. Environmental Protection Agency.

**Table 4.6 Representative landuse of 3km from the site boundary**

Degree	Landuse
0-60	Urban
60-150	Deciduous forest
150-180	Urban
180-240	Water
240-0	Urban

- 4.6.37 Ozone Limiting Method (OLM) is adopted for conversion of NO<sub>x</sub> from these sources to NO<sub>2</sub> based on the predicted O<sub>3</sub> level from PATH. According to the Heathrow Airport EIA report, the initial NO<sub>2</sub>/NO<sub>x</sub> ratios of these sources are 10%, the NO<sub>2</sub>/NO<sub>x</sub> conversion is calculated as follows:

$$[\text{NO}_2]_{\text{pred}} = 0.1 \times [\text{NO}_x]_{\text{pred}} + \text{MIN} \{0.9 \times [\text{NO}_x]_{\text{pred}}, \text{ or } (46/48) \times [\text{O}_3]_{\text{bkgd}}\}$$

where

- [NO<sub>2</sub>]<sub>pred</sub> is the predicted NO<sub>2</sub> concentration
- [NO<sub>x</sub>]<sub>pred</sub> is the predicted NO<sub>x</sub> concentration
- MIN means the minimum of the two values within the brackets
- [O<sub>3</sub>]<sub>bkgd</sub> is the representative O<sub>3</sub> background concentration
- (46/48) is the molecular weight of NO<sub>2</sub> divided by the molecular weight of O<sub>3</sub>

#### 4.7 Cumulative Concentration Calculations

- 4.7.1 The PATH-2016 model output was added to the sum of the CALINE4 and AERMOD model results sequentially on an hour-to-hour basis to derive the short-term and long-term cumulative impacts at the ASRs.
- 4.7.2 With reference to the EPD's *Guidelines on Choice of Models and Model Parameters*, PATH-2016's output of RSP concentration are adjusted as follows:
- 10<sup>th</sup> highest daily RSP concentration: add 26.5 µg/m<sup>3</sup>
  - Annual RSP concentration: add 15.6 µg/m<sup>3</sup>
- 4.7.3 With reference to the EPD's *Guidelines on the Estimation of PM<sub>2.5</sub> for Air Quality Assessment in Hong Kong*, the following conservative formulae was adopted to calculate background FSP concentration from the RSP concentration extracted from PATH model:

Annual ( $\mu\text{g}/\text{m}^3$ ):  $\text{PM}_{2.5} = 0.71 \times \text{PM}_{10}$

Daily ( $\mu\text{g}/\text{m}^3$ ):  $\text{PM}_{2.5} = 0.75 \times \text{PM}_{10}$

- 4.7.4 The outputs from AERMOD and PATH model are hourly averages. To predict 10-min average  $\text{SO}_2$  concentration, conservative (erring on the high side) factors for converting 1-hour averaged concentration to shorter duration averaged concentration should be adopted. As recommended by EPD's *Guidelines on the Estimation of 10-minute Average  $\text{SO}_2$  Concentration for Air Quality Assessment in Hong Kong*, the stability-dependent multiplicative factors from Duffee et al. (1991) were adopted in this assessment (**Table 4.7**). The cumulative hourly  $\text{SO}_2$  concentration was multiplied to these factors according to the prevailing atmospheric stability class in each hour, to obtain the cumulative 10-min average  $\text{SO}_2$  concentration.

**Table 4.7 Stability-dependent Multiplicative Factors from Duffee et al. (1991)**

Stability Class	A	B	C	D	E	F
Conversion Factor	2.45	2.45	1.82	1.43	1.35	1.35

#### 4.8 Evaluation of Environmental Impacts

- 4.8.1 The cumulative 10-min average  $\text{SO}_2$ , hourly average  $\text{NO}_2$ , daily average RSP, FSP and  $\text{SO}_2$ , and annual average  $\text{NO}_2$ , RSP and FSP concentrations at discrete ASRs were predicted and are presented in **Appendix 4.5**.
- 4.8.2 No exceedance of AQOs of RSP, FSP and  $\text{SO}_2$  would occur at any identified ASRs. Most of ASRs would comply with the AQOs of  $\text{NO}_2$ . The non-compliance assessment points are located near the site boundary. A contour plot at the worst levels (i.e. 1.5mAG) for annual average  $\text{NO}_2$  concentrations was shown in **Figure 4.5**.
- 4.8.3 According to **Appendix 4.6**, in view that there are still large margins to the AQOs of RSP, FSP and  $\text{SO}_2$ , these pollutants would not be critical air pollutants of concern and therefore the contour plots for RSP, FSP and  $\text{SO}_2$  are considered not necessary.
- 4.8.4 With reference to **Figure 4.5**, area with non-compliance of relevant AQO criteria of annual average  $\text{NO}_2$  concentrations (illustrated by the bold contour lines) are found at the south western side of subject site. This area should be subject to non-air sensitive uses. **Figure 4.6** illustrates the non-air sensitive use area. Air sensitive uses should not be planned in these areas, such as domestic premises, clinic, office, garden with sitting area, playground, etc. Based on the current layout floor plan and section drawing, the welfare facility at ground floor is outside of these non-air sensitive use areas, therefore, adverse air quality impact to the proposed development is not expected.

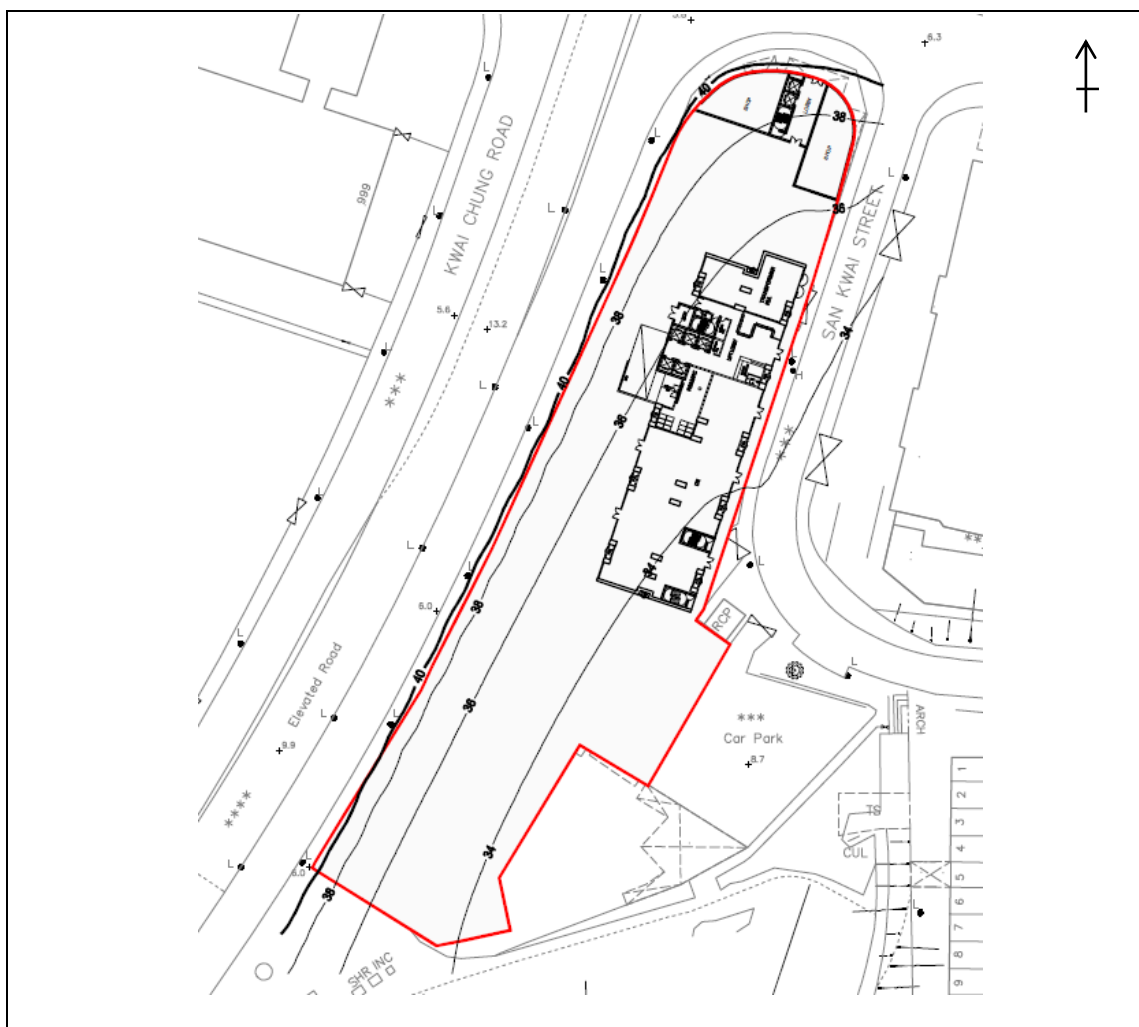
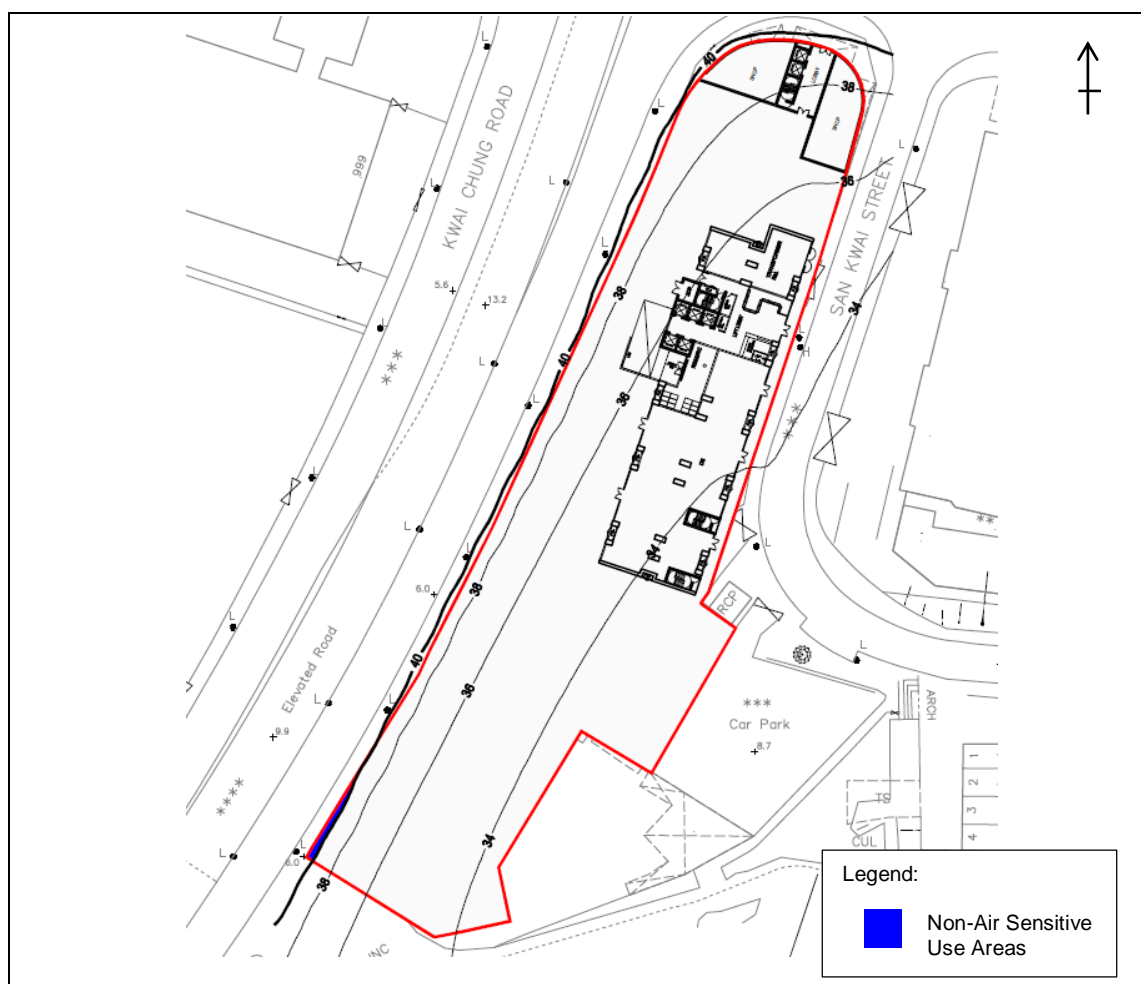


Figure 4.5 Annual Average NO<sub>2</sub> Concentration (µg/m<sup>3</sup>) at 1.5m Above Ground





**Figure 4.6 Location of Proposed Non-Air Sensitive Use Areas**

## 4.9 Conclusion

- 4.9.1 Air quality impacts arising from the road traffic vehicular emissions and chimneys emission on the proposed development have been assessed. No exceedance of AQOs of RSP, FSP and SO<sub>2</sub> would occur at the proposed development. Area with non-compliance of relevant AQO criteria of annual average NO<sub>2</sub> concentrations is found at the south western side of subject site at 1.5mAG. According to the current scheme, this area would be subject to non-air sensitive uses, therefore, adverse air quality impact to the proposed development would not be expected.
- 4.9.2 This air quality impact assessment is based on the current land use in the study area. Emissions from existing open roads surrounding the proposed development has been assessed. In case of any future development in the surrounding area, the developers concerned will conduct further studies to assess any adverse environmental impacts on the Subject Site.

## 5 ROAD TRAFFIC NOISE IMPACT ASSESSMENT

### 5.1 Assessment Criteria

- 5.1.1 Noise standards are recommended in Chapter 9 on Environment of the HKPSG for planning against potential noise impact from road traffic. According to HKPSG, the maximum permissible road traffic noise level at 1 meter away from the external façade is recommended to be 70 dB(A) L10 (1-hour) for domestic premises and offices, and 55 dB(A) or 65 dB(A) for non-domestic and non-offices NSR, depending on room usage and whether it requires un-aided voice communication. These criteria apply to premises which rely on opened windows for ventilation. HD will further provide the details on the type of social welfare facilities, room usages and diagnostic activities at the detailed design stage. As a conservative approach in the assessment, the most stringent criteria of 55 dB(A) will be applied for these social welfare facilities as shown in **Table 5.1**.

**Table 5.1 Traffic Noise Criterion for Domestic and Welfare Facilities in Proposed Development**

Premises	Location	Use of Noise Sensitive Room	Noise Criterion L10-1hr, dB(A)
Domestic	Typical Floors	Residential	70
Social Welfare Facility	Ground Floor	Unknown*	55
Social Welfare Facility	Podium	Unknown*	55

\* Detailed information on the social welfare facilities, room usages and diagnostic activities is still pending.

### 5.2 Identification and Evaluation of Traffic Noise Impact

- 5.2.1 Road traffic from nearby road network is the dominate traffic noise source within the 300m assessment area. Potential road traffic noise impact from roads such as Kwai Chung Road, Tai Lin Pai Road and San Kwai Street are anticipated on the proposed development. In case of any traffic noise exceedance of relevant traffic noise criterion as presented in **Section 5.1**, mitigation measures such as acoustic balcony, acoustic windows and noise barrier will be proposed and adopted. With the implementation of appropriate noise mitigation measures, it is anticipated that the relevant HKPSG requirements on noise impact can be met. HKHA will further review the development layouts and carry out environmental assessment study on the potential impacts with the proposed mitigation measures for enhancement at the detailed design stage.

#### Noise Barrier

- 5.2.2 A cantilever noise barrier is proposed to construct along the podium which is parallel to Kwai Chung Road. It is anticipated that it would help to reduce the noise level of the flat unit located at the lower floors which are facing towards Kwai Chung Road.

#### Enhanced Acoustic Balcony

- 5.2.3 It is recommended to provide enhanced acoustic balcony to replace the main windows of all the potential affected flats. The proposed enhanced acoustic balcony consists of a concrete floor slab extended from the window facade, a front concrete parapet and a full height concrete wall at both sides. The front parapet of the acoustic balcony was used to shield intruding noise and the intruding noise must travel an indirect path through the outer opening to the balcony door. The outer screen wall should be located in front of the opened balcony door, while the window on the plane of balcony door should be kept close. The noise reduction of the enhanced balcony can achieve up to 12.5 dB(A), depends on the elevation angle to road segments and determined based on the study commissioned by HKHA on acoustic performance of acoustic balcony. It is

anticipated that the proposed enhanced acoustic balcony could help to reduce the traffic noise level.

#### Acoustic Window

- 5.2.4 The noise reduction of the proposed acoustic window is based on the study for the Public Housing Development at Ex-San Po Kong Flatted Factory Site using “Acoustic Design and Performance Evaluation of the Acoustic Window – Final Report”. As the flat sizes of the flat units in this proposed development is same as / comparable to those adopted in the Public Housing Development at Ex-San Po Kong Flatted Factory Site, the noise reduction performance of the acoustic window in both reports can be adopted in this development. The acoustic window is in parallel with the dominated road traffic noise source, i.e. Kwai Chung Road. It is expected that sufficient air ventilation can be maintained when the sliding window of the adopted acoustic window is moved behind its opened side-hung window for noise reduction. It is proposed to provide acoustic window system to bedroom window with noise exceedance.

#### Fixed Glazing

- 5.2.5 For side window and open window beneath A/C hood with noise exceedances, it is recommended to change these windows to fixed glazing which are not required to open for ventilation. Window pane thickness of at least 6mm will be provided these side windows designed to be fixed glazing and they are only allowed to be opened by special allen keys occasionally for cleaning and maintenance purposes. Future tenants will be notified that these fixed panes should normally be closed and need not be opened for ventilation, the noise insulation purpose of these windows would also be incorporated in the Decoration Handbook to make future tenants well aware of the above. The proposed fixed glazings can reduce the noise entering into the flat when closed and adverse road traffic noise impacts to the indoor environment of the concerned flats are therefore not anticipated.
- 5.2.6 For affected flats to be proposed with enhanced acoustic balcony, acoustic window system and fixed glazing, it is expected that the relevant ventilation requirements under Building Ordinance can be compiled. HKHA will further review the ventilation performance of these affected flat units.

#### Central Air-Conditioning

- 5.2.7 For the anticipated traffic noise level exceedance of the social welfare facilities, fixed glazing and central air-conditioning would be provided to ensure sufficient ventilation.

### **5.3 Conclusion**

- 5.3.1 In case of any traffic noise exceedance of relevant traffic noise criteria, mitigation measures will be proposed. With the implementation of appropriate noise mitigation measures, it is anticipated that the relevant HKPSG requirements on noise impact can be met. HKHA will further review the development layouts and carry out environmental assessment study on the potential impacts with the proposed mitigation measures for enhancement at the detailed design stage.

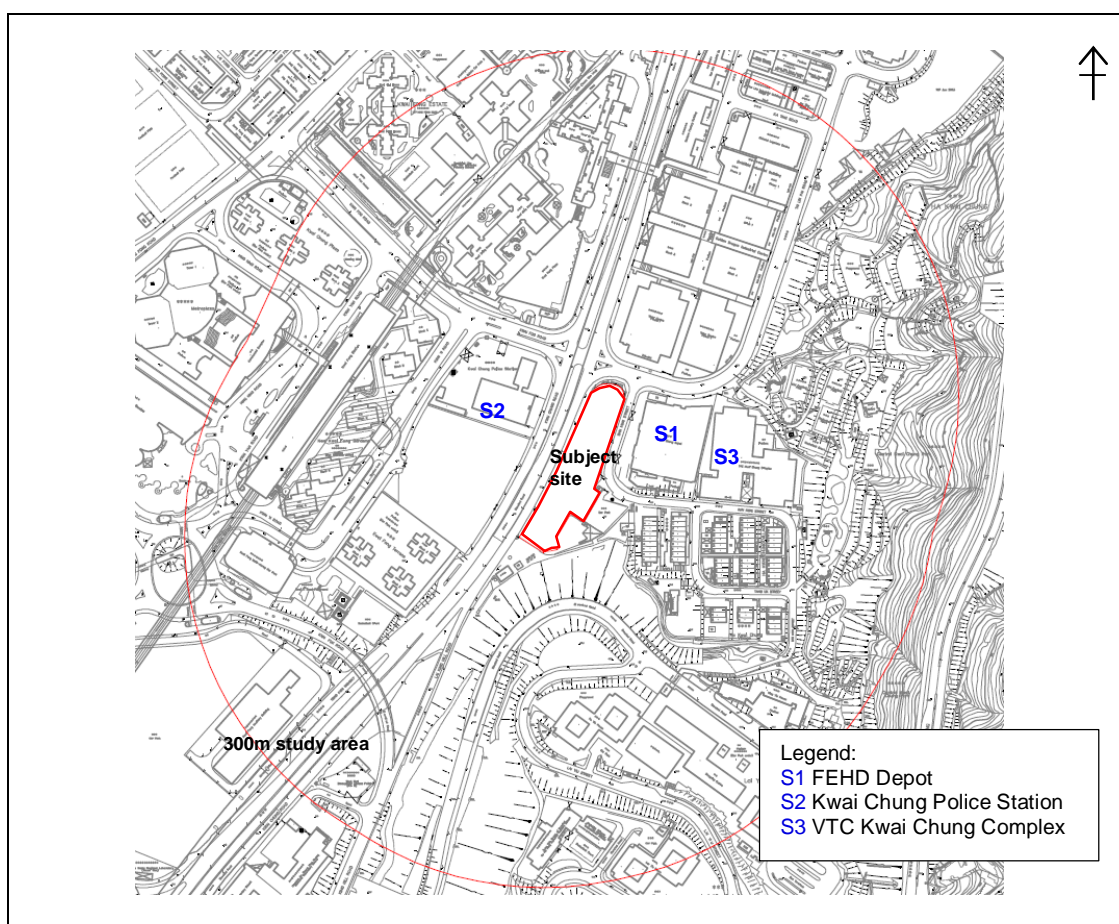
## 6 FIXED NOISE IMPACT ASSESSMENT

### 6.1 Potential noise sources

6.1.1 Based on the site inspections conducted at daytime and night-time in April and May 2016 and desktop review, potential fixed noise sources have been identified at the following developments within 300m study area, and their location are illustrated in **Figure 6.1**:

- S1 – FEHD Depot;
- S2 – Kwai Chung Police Station ; and
- S3 – VTC Kwai Chung Complex

6.1.2 The detailed description of the fixed noise sources on the developments are summarized in **Table 6.1**, while the locations of these fixed noise sources are shown in **Figure 6.1**.



**Figure 6.1 Identified Fixed Noise Sources within 300m Study Area**

**Table 6.1 Summary of Identified Fixed Noise Sources**

ID	Premise	Potential Noise Sources	Location	Level	Any Direct Line of Sight
S1	FEHD Depot	Vehicles in/out	Ground	+6.3 mPD	Yes
S1	FEHD Depot	Open-air car parking	Roof	+21.3 mPD	Yes
S2	Kwai Chung Police Station	Condensers	Podium	+14.6 mPD	Yes
S3	VTC Kwai Chung Complex	Chillers, louvers and ventilation outlets	Roof	+30.6 mPD	Yes

## 6.2 Noise Criteria

- 6.2.1 According to S.4.2.13 in Chapter 9 of the HKPSG, noise assessments for fixed noise sources would normally be conducted in accordance with the Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places Or Construction Sites (TM-Places), published under the Noise Control Ordinance. The TM lays down statutory Acceptable Noise Levels (ANL). The HKPSG also stated that in order to plan for a better environment, all planned fixed noise sources should be so located and designed that when assessed in accordance with the TM, the level of the intruding noise at the facade of the nearest sensitive use should be at least 5 dB(A) below the appropriate ANL shown in Table 3 of the TM or, in the case of the background being 5 dB(A) lower than the ANL, should not be higher than the background. However, as there are no planned fixed noise sources in the vicinity of the proposed development, fixed noise criterion as stipulated in the HKPSG is not applicable for fixed noise impact for this development.
- 6.2.2 The subject site is surrounded by Kwai Chung Road, Tai Lin Pai Road and San Kwai Street located in an area of high density and diverse development including residential premises and industrial development. Hence, the Subject site is considered to be located in an urban area according to the TM-Places. Kwai Chung Road is located at the west of the Subject Site with about 3m horizontal separation and around 40m level difference. With reference to the Traffic Census 2015 published by Transport Department, the Annual Average Daily Traffic (AADT) value of relevant section of Kwai Chung Road is greater than 30,000. Therefore, Kwai Chung Road is considered as an Influencing Factor (IF) according to the TM-Places. For the NSRs facing Kwai Chung Road, they are affected by IF and an Area Sensitivity Rating (ASR) of "C" has been applied for these NSRs. An Acceptable Noise Level (ANL) of 70 dB(A) for day/evening time (from 07:00 to 23:00) and 60 dB(A) for night-time (from 23:00 to 07:00). While San Kwai Street and Tai Lin Pai Road have an annual average daily traffic flows (AADT) less than 30,000, therefore, they are not considered as IF according to the TM-Places. The NSRs facing San Kwai Street and Tai Lin Pai Road are not affected by IF and ASR of "B" has been applied. An ANL of 65 dB(A) at day/evening time and 55 dB(A) at night-time for these NSRs.

## 6.3 Review of Noise Impact from Fixed Noise Sources

- 6.3.1 An open-air car park is found on the rooftop of FEHD Depot. According to the FEHD, only light bus and medium vans are parked on the rooftop of FEHD Depot. No heavy vehicles would normally be on the rooftop. Also, as advised by FEHD, around in total 10 light bus and medium vans are parked on the rooftop of the FEHD Depot. In addition, vehicle washing facilities are enclosed within the building. Therefore, fixed plant noise impact from this potential noise source at the rooftop of FEHD Depot on the proposed site is not anticipated.
- 6.3.2 Vehicle in/ out at the ground floor of FEHD Depot, VTC Kwai Chung Complex and Kwai Chung Police Station would be the potential fixed noise sources. HKHA will further review the development layouts and carry out environmental assessment study on the potential impacts with the proposed mitigation measures for enhancement at the detailed design stage. In case any fixed noise exceedance of relevant fixed noise criterion, an Environmental Assessment Study containing the final adopted mitigation measures and the programme of the implementation works will be prepared by HKHA and submitted to EPD for approval in later stage.

## 6.4 Conclusion

- 6.4.1 Based on site surveys conducted in the vicinity of subject site and nearby developments, several fixed noise sources have been identified. In case any fixed noise exceedance of relevant fixed noise criterion, with the implementation of appropriate noise mitigation measures, it is anticipated that the relevant HKPSG requirements can be met.

**Provision of Major Community and Open Space Facilities in Kwai Chung**

(Existing Population: 338,350)

(Planned Population: 314,000) <sup>(1)</sup>

Type of Facilities	Hong Kong Planning Standards and Guidelines (HKPSG)	HKPSG Requirement (based on planned population)	Provision		Surplus/ Shortfall (against planned provision)
			Existing Provision	Planned Provision	
District Open Space	10 ha per 100,000 persons	31.4ha <sup>(2)</sup>	11.53 ha	34.68 ha	3.28ha
Local Open Space	10 ha per 100,000 persons	31.4ha <sup>(2)</sup>	65.56 ha	71.30 ha	39.9ha
Secondary School	1 whole-day classroom for 40 persons aged 12-17	233 classrooms	686	686	453 classrooms
Primary School	1 whole-day classroom for 25.5 persons aged 6-11	440 classrooms	459	459	19 classrooms
Kindergarten/ Nursery	26 classrooms for 1,000 children aged 3-6	174 classrooms	243	243	69 classrooms
District Police Station	1 per 200,000 to 500,000 persons	1	0	0	-1*
Divisional Police Station	1 per 100,000 to 200,000 persons	2	1	1	-1*
Hospital	5.5 beds per 1,000 persons	1,727 beds	2,490	2,970	1,243 beds
Specialist Clinic/Polyclinic	1 specialist clinic/polyclinic whenever a regional or district hospital is built	NA	2	2	NA
Clinic/Health Centre	1 per 100,000 persons	3	2	2	-1*
Magistracy (with 8 courtrooms)	1 per 660,000 persons	NA	0	0	NA
Market	No set standard	NA	336 stalls	336 stalls	NA
Integrated Children and Youth Services Centre	1 for 12,000 persons aged 6-24	4	11	11	7
Integrated Family Services Centres	1 for 100,000 to 150,000 persons	2	3	3	1
Library	1 district library for every 200,000 persons	2	2	2	0
Sports Centre	1 per 50,000 to 65,000 persons	5	4	5	0
Sports Ground/ Sport Complex	1 per 200,000 to 250,000 persons	1	2	2	1
Swimming Pool Complex - standard	1 complex per 287,000 persons	1	2	2	1

\*Provided in nearby districts

Note: (1) The planned population for the area is 314,000 (usual residents and mobile residents).

(2) The demand for open space is calculated based on the planned population of about 314,000 excluding the transient population.

(3) Some facilities are assessed on a wider district basis by the relevant departments, e.g. secondary school, primary school, sports ground, etc. The shortfall in the OZP area could be addressed by the provision in the adjoining area, subject to the assessment of concerned departments. The provision of primary school classrooms will be assessed by the Education Bureau separately.

(4) The Kwai Tsing District Police Headquarters located at Tsing Yi serves the requirement for district police station in Kwai Chung district.

## 107th Meeting of the Kwai Tsing District Council on 13.7.2017

### **Discussion Items**

#### **Public Housing Development at San Kwai Street, Kwai Chung**

(Proposed by Planning Department and Housing Department)

(K&T DC Paper No. 37/D/2017 and 37a/D/2017 (tabled at the meeting))

31. Ms HUNG Fung Ling, Fannie, Senior Town Planner/Kwai Tsing of PlanD and Mr LUK Kwong-wai, Patrick, Chief Architect (1) of the Housing Department (HD) introduced the paper by slide show.

32. Mr NG Kim-sing put forth opinions and enquiries as follows:

- (i) He enquired about the plot ratios of the San Kwai Street public housing development project (the Project).
- (ii) The Project included the construction of lifts and footbridge to connect the Lai Cho Road site, which would certainly attract residents in Lai



Yiu and Cho Yiu areas to go to Kwai Fong and thus significantly increase pedestrian flow at the pedestrian crossing of Kwai Yi Road, resulting in increased traffic and people flow in that region and probably higher risk of traffic accidents.

- (iii) There was a serious shortage of parking spaces in Kwai Tsing, and he hoped that the Project could provide more parking spaces.
- (iv) He enquired about the number of service quotas the social welfare facilities could provide under the Project.

33. Mr WONG Yun-tat put forth opinions as follows:

- (i) He supported public housing development, but he was concerned about whether the residents would be suffered from noise nuisance. He suggested installation of noise barrier and raising the height of the platform to prevent lower floor residents from noise nuisance.
- (ii) He suggested that the Transport Department (TD) should re-plan the traffic lanes in the Kwai Yi Road area to alleviate the problem of heavy traffic there.
- (iii) The social welfare facilities included in the Project might not be able to meet the demand from the residents.

34. Mr LEUNG Chi-shing put forth opinions as follows:

- (i) As the government gradually stopped granting short term tenancies for operation of car parks, the parking spaces in Kwai Tsing kept decreasing, and he suggested that HD should not only provide parking spaces according to the ratio specified in the Hong Kong Planning Standards and Guidelines (HKPSG), but should increase the number of parking spaces as far as possible.
- (ii) The traffic on Kwai Yi Road was too heavy, and he urged TD to take measures to ease the traffic flow in the region.

35. Mr WONG Yiu-chung put forth opinions as follows:

- (i) The Project could improve the planning in the area and the installation of the lift would enable residents in the uphill areas of Lai Yiu to go to the MTR station more easily. However, he also pointed out that TD should take measures to alleviate the overly heavy traffic situation on Kwai Yi Road.
- (ii) He suggested providing more parking spaces.
- (iii) He suggested adding a roundabout beside a Chinese Banyan tree at the entrance of Ha Kwai Chung Village to reduce outsiders' vehicles from entering the village for turning around.
- (iv) He pointed out that the Lai Yiu Estate had reached 40 years of age and would undergo redevelopment soon. He suggested that the buildings of the Project, upon their completion, could be used for accommodating residents affected by the redevelopment.

36. Mr CHOW Yick-hay put forth opinions and enquiries as follows:

- (i) The air quality of Kwai Chung was poor, and he suggested that HD should pay special attention to the design of the estate to ensure proper air ventilation in the region.
- (ii) He suggested that TD should take advantage of the Project to re-plan the roads in the region.
- (iii) He was concerned about the mode of operation of the social welfare facilities, such as whether they were operated by non-profit making organisations or private organisations.
- (iv) He suggested that relevant departments should carry out public housing development on vacant or under-utilised government lands by way of land exchange, such as exchanging the San Kwai Street public housing development site with the Kwai Chung Depot of the Food and Environmental Hygiene Department (FEHD).

37. Mr LUK Kwong-wai, Patrick gave a consolidated response as follows:

- (i) HD was also concerned about the pedestrian flow at Kwai Yi Road and would maintain close communication with TD to discuss on improvement measures.
- (ii) The proposed parking spaces to be provided under the Project were already the maximum number to be provided in compliance with HKPSG. HD had to strike a balance between open space and parking space.
- (iii) The design of acoustic balconies would be adopted for the public housing blocks in the Project and the podium of 2 floors high could also effectively reduce noise.
- (iv) In the Project, the day care centre for the elderly could provide 60 service quotas and the child care centre could provide 100 service quotas. HD proposed to establish social welfare facilities of these scales after the discussion on the local demand was completed with the planning officers of the Social Welfare Department (SWD), and this had fully exploited the land available under the Project in the plot ratio of 6.

38. Ms HUNG Fung Ling, Fannie gave a consolidated response as follows:

- (i) The site in the Project was located on 2 pieces of lands (according to slide 2 of the Paper No. 37a/D/2017), the blue part was a Government, Institution or Community (GIC) site which had no restriction on plot ratio; the brown part was a land for village type development with the restriction of a maximum building height of 3 storeys but without restriction on plot ratio. The land in Kwai Chung zoned “Residential (Group A)” was with a plot ratio of 5, and to increase the supply of public housing flat units, HD proposed a plot ratio of 6 in the Project.
- (ii) Whether the number of parking spaces specified under HKPSG could be relaxed would need to seek information from TD.
- (iii) PlanD would consider all sorts of measures to better utilise land resources, including development of abandoned government sites.

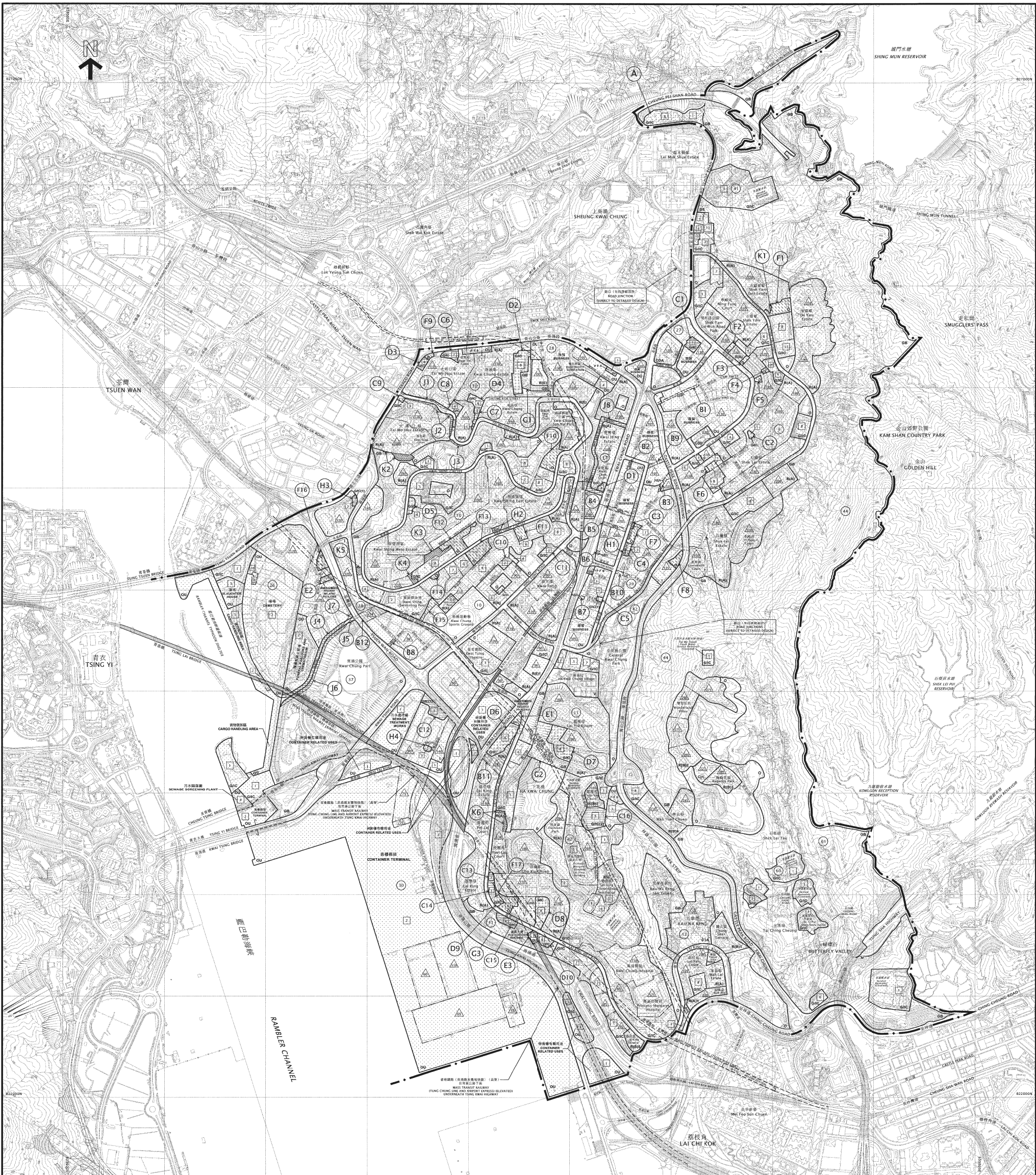
However, they would need to search for relocation sites for some government facilities before the sites could be vacated for other purposes, but it had not been easy in the search for relocation sites.

39. Mr MOK Ying-kit, Kenneth, Chief Transport Officer/New Territories South West of TD, gave a consolidated response as follows:

- (i) TD noted Members' opinions and would relay the opinions to officers responsible for the Project for consideration. In 2 years before the completion of the housing estate, TD would assess if the transport capacity of the relevant area could meet the demand from the additional population and enhance the capacity of existing transport services, if required.
- (ii) As the Project was located near MTR station, it was anticipated that after the completion of the housing estate, residents there would be attracted to take the Tuen Wan Line. Therefore, MTRCL had started to enhance the signal system of the Tuen Wan Line to cater for future demand.
- (iii) In view of shortage in land supply and the government policy on encouraging the public to use public transport services, TD suggested that only an appropriate number of parking spaces should be provided in each district. The continuous increase in parking spaces would also encourage members of the public to purchase and use private cars and further stimulate growth in the number of private cars, thus worsening traffic congestion problems. Members of the public should consider if there was sufficient supply of parking spaces before they purchased a vehicle.

40. Mr CHOW Yick-hay pointed out that the utilisation rate of the proposed lift for installation would be very high and suggested that HD should install more than one lift to avoid service interruption due to damage and maintenance.

41. Mr LUK Kwong-wai, Patrick responded that HD had taken into account the problem mentioned by Mr CHOW Yick-hay and would study on the installation of corresponding number of lifts.



圖例 NOTATION			
<b>ZONES</b>	<b>地帶</b>	<b>COMMUNICATIONS</b>	<b>交通</b>
COMMERCIAL	C	RAILWAY AND STATION	鐵路及車站
COMPREHENSIVE DEVELOPMENT AREA	CDA	RAILWAY AND STATION (UNDERGROUND)	鐵路及車站 (地下)
RESIDENTIAL (GROUP A)	RA(A)	RAILWAY AND STATION (ELEVATED)	鐵路及車站 (高架)
RESIDENTIAL (GROUP B)	RB(B)	MAJOR ROAD AND JUNCTION	主要道路及路口
RESIDENTIAL (GROUP E)	RE(E)	ELEVATED ROAD	高架道路
VILLAGE TYPE DEVELOPMENT	V		
INDUSTRIAL	I	<b>MISCELLANEOUS</b>	<b>其他</b>
GOVERNMENT, INSTITUTION OR COMMUNITY	GIC	BOUNDARY OF PLANNING SCHEME	規劃範圍界線
OPEN SPACE	O	PLANNING AREA NUMBER	規劃區編號
OTHER SPECIFIED USES	OU	BUILDING HEIGHT CONTROL ZONE BOUNDARY	建築物高度管制區界線
GREEN BELT	GB	MAXIMUM BUILDING HEIGHT (IN METRES ABOVE PRINCIPAL DATUM)	最高建築物高度 (在主水平基準上若干米)
		MAXIMUM BUILDING HEIGHT (IN NUMBER OF STOREYS)	最高建築物高度 (樓層數目)
		PETROL FILLING STATION	加油站
		NON-BUILDING AREA	非建築用地

土地用途及面積一覽表 SCHEDULE OF USES AND AREAS			
USES	大約面積及百分比 APPROXIMATE AREA & %		用途
	公頃 HECTARES	% 百分比	
COMMERCIAL	5.33	0.52	商業
COMPREHENSIVE DEVELOPMENT AREA	6.35	0.62	綜合發展區
RESIDENTIAL (GROUP A)	164.24	16.03	住宅 (甲類)
RESIDENTIAL (GROUP B)	15.28	1.49	住宅 (乙類)
RESIDENTIAL (GROUP E)	3.92	0.38	住宅 (戊類)
VILLAGE TYPE DEVELOPMENT	2.55	0.25	鄉村式發展
INDUSTRIAL	46.60	4.55	工業
GOVERNMENT, INSTITUTION OR COMMUNITY	120.88	11.80	政府、機構或社區
OPEN SPACE	115.53	11.27	休憩用地
OTHER SPECIFIED USES	173.08	16.89	其他指定用途
GREEN BELT	260.56	25.43	綠化地帶
MAJOR ROAD ETC.	110.38	10.77	主要道路等
TOTAL PLANNING SCHEME AREA	1024.70	100.00	規劃範圍總面積

夾附的《註釋》屬這份圖則的一部分，  
現經修訂並按照城市規劃條例第5條展示。  
THE ATTACHED NOTES ALSO FORM PART OF THIS PLAN  
AND HAVE BEEN AMENDED FOR EXHIBITION UNDER  
SECTION 5 OF THE TOWN PLANNING ORDINANCE

核准圖編號 S/KC/25 的修訂  
AMENDMENTS TO APPROVED PLAN No. S/KC/25

按照城市規劃條例第5條展示的修訂  
AMENDMENTS EXHIBITED UNDER SECTION 5 OF THE TOWN PLANNING ORDINANCE

修訂項目A項  
AMENDMENT ITEM A

修訂項目B1至B12項  
AMENDMENT ITEMS B1 TO B12

修訂項目C1至C16項  
AMENDMENT ITEMS C1 TO C16

修訂項目D1至D10項  
AMENDMENT ITEMS D1 TO D10

修訂項目E1至E3項  
AMENDMENT ITEMS E1 TO E3

修訂項目F1至F17項  
AMENDMENT ITEMS F1 TO F17

修訂項目G1至G3項  
AMENDMENT ITEMS G1 TO G3

修訂項目H1至H4項  
AMENDMENT ITEMS H1 TO H4

修訂項目J1至J8項  
AMENDMENT ITEMS J1 TO J8

修訂項目K1至K6項  
AMENDMENT ITEMS K1 TO K6

(參看附表)  
(SEE ATTACHED SCHEDULE)

2012年4月20日 按照城市規劃條例第5條展示的  
修訂圖編號 S/KC/25 的修訂  
AMENDMENTS TO APPROVED PLAN No. S/KC/25 EXHIBITED  
UNDER SECTION 5 OF THE TOWN PLANNING ORDINANCE ON  
20 APRIL 2012

參考編號  
REFERENCE No. M/KC/17/33  
PLAN 1a

Ophelia Y. S. WONG 黃婉嫻  
SECRETARY  
TOWN PLANNING BOARD

香港城市規劃委員會依據城市規劃條例擬備的葵涌分區計劃大綱圖  
TOWN PLANNING ORDINANCE, HONG KONG TOWN PLANNING BOARD  
KWAI CHUNG - OUTLINE ZONING PLAN

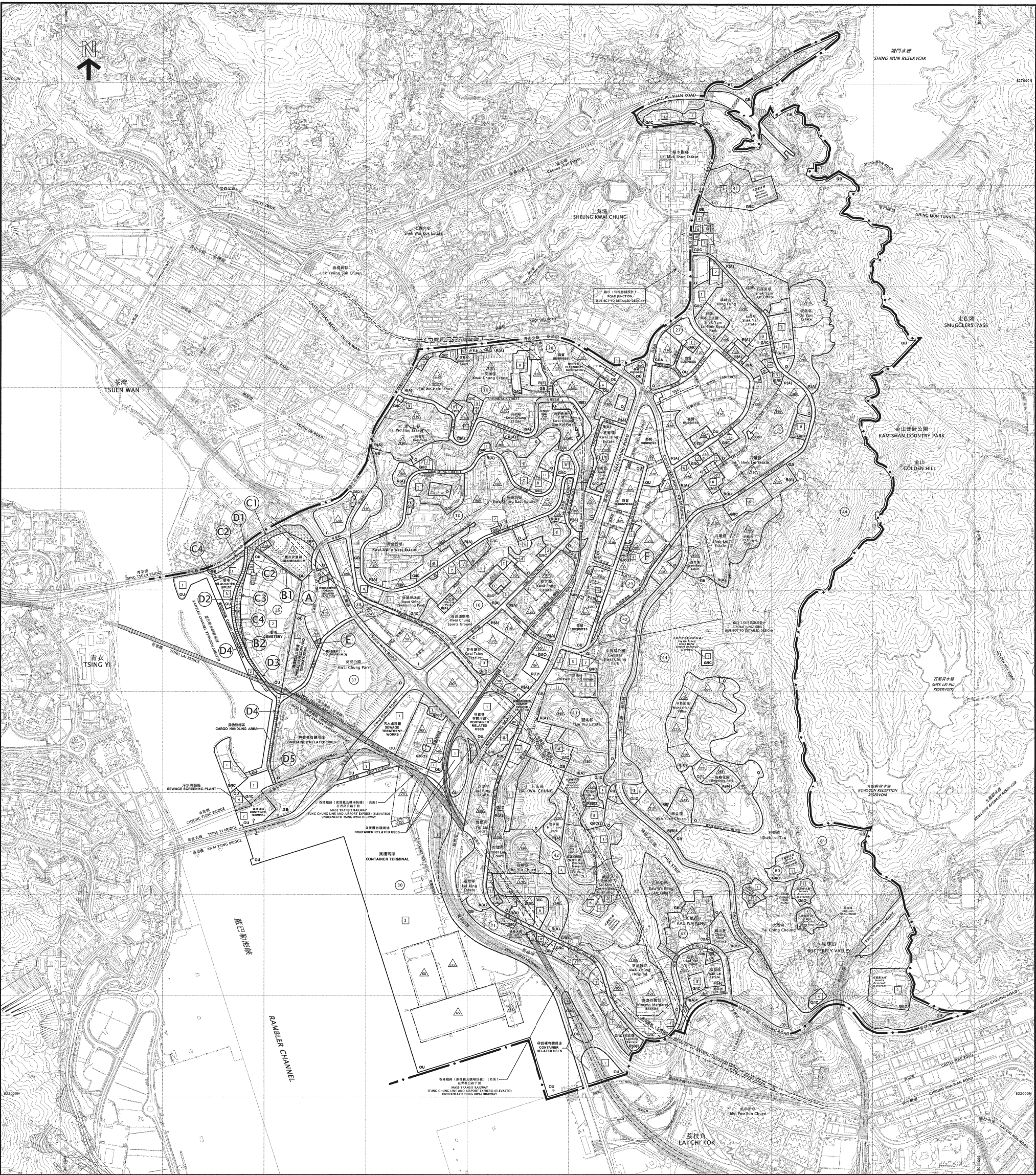
SCALE 1:7500 比例尺

0 200 400 600 800 1000 METRES 米

規劃署遵照城市規劃委員會指示擬備  
PREPARED BY THE PLANNING DEPARTMENT UNDER  
THE DIRECTION OF THE TOWN PLANNING BOARD

圖則編號  
PLAN No. S/KC/26





圖例 NOTATION			
<b>ZONES</b>	<b>地帶</b>	<b>COMMUNICATIONS</b>	<b>交通</b>
COMMERCIAL	C	RAILWAY AND STATION	鐵路及車站
COMPREHENSIVE DEVELOPMENT AREA	CDA	RAILWAY AND STATION (UNDERGROUND)	鐵路及車站 (地下)
RESIDENTIAL (GROUP A)	RA(A)	RAILWAY AND STATION (ELEVATED)	鐵路及車站 (高架)
RESIDENTIAL (GROUP B)	RA(B)	MAJOR ROAD AND JUNCTION	主要道路及路口
RESIDENTIAL (GROUP E)	RA(E)	ELEVATED ROAD	高架道路
VILLAGE TYPE DEVELOPMENT	V		
INDUSTRIAL	I	<b>MISCELLANEOUS</b>	<b>其他</b>
GOVERNMENT, INSTITUTION OR COMMUNITY	GIC	BOUNDARY OF PLANNING SCHEME	規劃範圍界線
OPEN SPACE	O	PLANNING AREA NUMBER	規劃區編號
OTHER SPECIFIED USES	OU	BUILDING HEIGHT CONTROL (IN METRES ABOVE PRINCIPAL DATUM)	建築物高度管制區界線
GREEN BELT	GB	MAXIMUM BUILDING HEIGHT (IN NUMBER OF STOREYS)	最高建築物高度 (在主要基準上若干米)
		PETROL FILLING STATION	加油站
		NON-BUILDING AREA	非建築用地

土地用途及面積一覽表 SCHEDULE OF USES AND AREAS			
USES	大約面積及百分比 APPROXIMATE AREA & %		用途
	公頃 HECTARES	百分比 %	
COMMERCIAL	5.45	0.53	商業
COMPREHENSIVE DEVELOPMENT AREA	6.35	0.62	綜合發展區
RESIDENTIAL (GROUP A)	164.24	16.03	住宅 (甲類)
RESIDENTIAL (GROUP B)	15.28	1.49	住宅 (乙類)
RESIDENTIAL (GROUP E)	3.92	0.38	住宅 (戊類)
VILLAGE TYPE DEVELOPMENT	2.55	0.25	鄉村式發展
INDUSTRIAL	41.33	4.03	工業
GOVERNMENT, INSTITUTION OR COMMUNITY	119.79	11.69	政府、機構或社區
OPEN SPACE	115.26	11.26	休憩用地
OTHER SPECIFIED USES	174.91	17.07	其他指定用途
GREEN BELT	263.34	25.70	綠化地帶
MAJOR ROAD ETC.	112.28	10.96	主要道路等
TOTAL PLANNING SCHEME AREA	1024.70	100.00	規劃範圍總面積

夾附的《註釋》屬這份圖則的一部分，  
現經修訂並按照城市規劃條例第7條展示。  
THE ATTACHED NOTES ALSO FORM PART OF THIS PLAN  
AND HAVE BEEN AMENDED FOR EXHIBITION UNDER  
SECTION 7 OF THE TOWN PLANNING ORDINANCE

草圖編號 S/KC/26 的修訂  
AMENDMENTS TO DRAFT PLAN No. S/KC/26

按照城市規劃條例第7條展示的修訂  
AMENDMENTS EXHIBITED UNDER SECTION 7 OF THE TOWN PLANNING ORDINANCE

修訂項目A項 AMENDMENT ITEM A	修訂項目D 1至D 5項 AMENDMENT ITEMS D1 TO D5
修訂項目B 1至B 2項 AMENDMENT ITEMS B1 TO B2	修訂項目E項 AMENDMENT ITEM E
修訂項目C 1至C 4項 AMENDMENT ITEMS C1 TO C4	修訂項目F項 AMENDMENT ITEM F

(參看附表)  
(SEE ATTACHED SCHEDULE)

參考編號  
M/KC/17/33  
PLAN 1b

2014年5月9日 按照城市規劃條例第7條展示的  
草圖編號 S/KC/26 的修訂  
AMENDMENTS TO DRAFT PLAN No. S/KC/26 EXHIBITED  
UNDER SECTION 7 OF THE TOWN PLANNING ORDINANCE ON  
9 MAY 2014

Ophelia Y. S. WONG 黃婉端  
SECRETARY 城市規劃委員會秘書

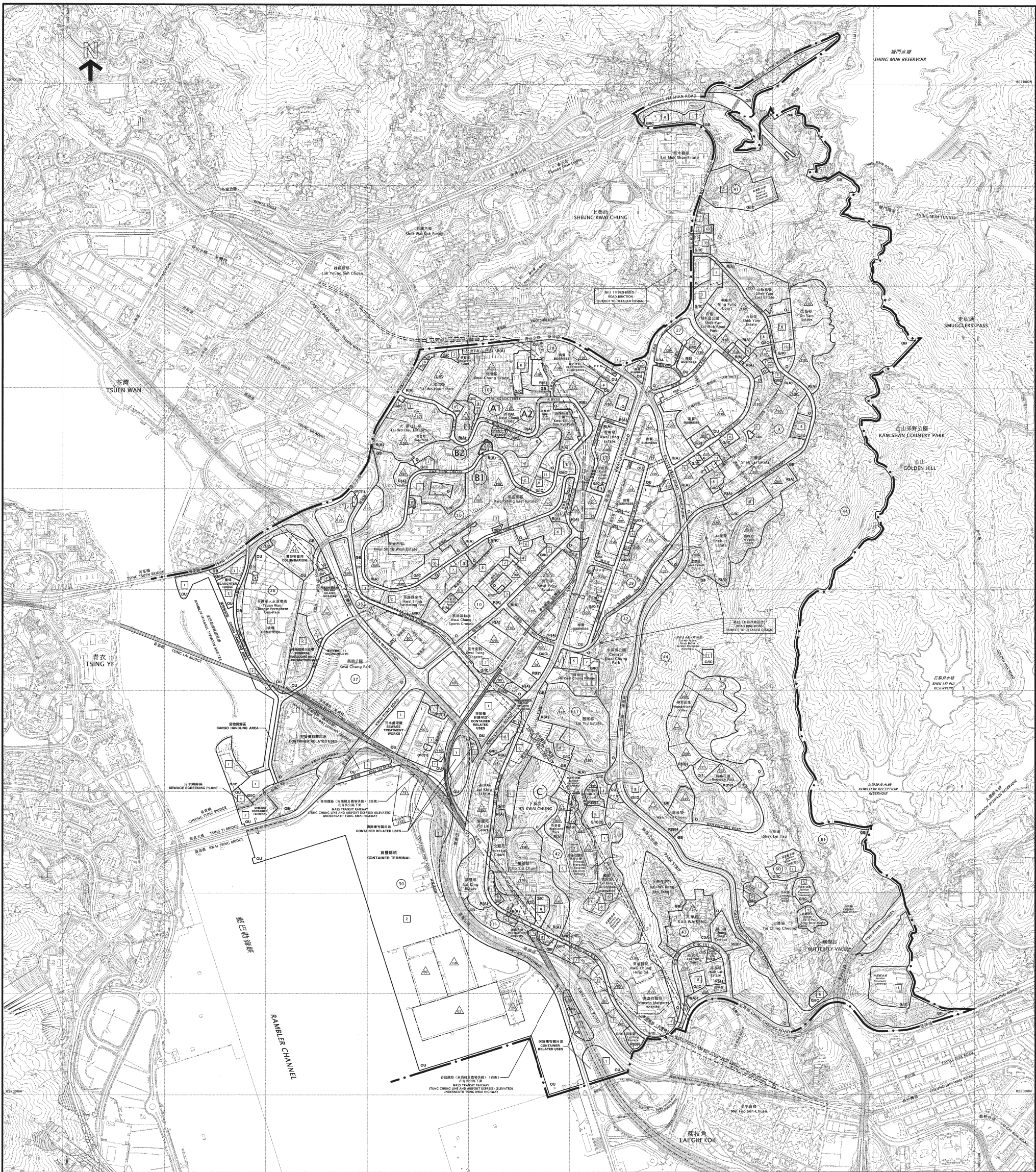
香港城市規劃委員會依據城市規劃條例擬備的葵涌分區計劃大綱圖  
TOWN PLANNING ORDINANCE, HONG KONG TOWN PLANNING BOARD  
KWAI CHUNG - OUTLINE ZONING PLAN

SCALE 1:5000 比例尺  
METRES 200 0 200 400 600 800 1000 METRES 米

規劃署遵照城市規劃委員會指示擬備  
PREPARED BY THE PLANNING DEPARTMENT UNDER  
THE DIRECTION OF THE TOWN PLANNING BOARD

圖則編號  
PLAN No. S/KC/27





圖例 NOTATION				土地用途及面積一覽表 SCHEDULE OF USES AND AREAS				夾附的《註釋》屬這份圖則的一部分， 現經修訂並按照城市規劃條例第7條展示。 THE ATTACHED NOTES ALSO FORM PART OF THIS PLAN AND HAVE BEEN AMENDED FOR EXHIBITION UNDER SECTION 7 OF THE TOWN PLANNING ORDINANCE	
ZONES	地帶	COMMUNICATIONS	交通	USES	大約面積及百分比 APPROXIMATE AREA & %		用途	草圖編號 S / K / C / 27 的修訂 AMENDMENTS TO DRAFT PLAN No. S/KC/27	
					公頃 HECTARES	% 百分比			
COMMERCIAL	C	商業	鐵路及車站	COMMERCIAL	5.45	0.53	商業	修訂項目A 1項 AMENDMENT ITEM A1 修訂項目A 2項 AMENDMENT ITEM A2 修訂項目B 1項 AMENDMENT ITEM B1	
COMPREHENSIVE DEVELOPMENT AREA	CDA	綜合發展區	鐵路及車站 (地下)	COMPREHENSIVE DEVELOPMENT AREA	6.35	0.62	綜合發展區		
RESIDENTIAL (GROUP A)	RA(A)	住宅 (甲類)	鐵路及車站 (高架)	RESIDENTIAL (GROUP A)	105.25	16.13	住宅 (甲類)		
RESIDENTIAL (GROUP B)	RB(B)	住宅 (乙類)	主要道路及路口	RESIDENTIAL (GROUP B)	15.28	1.49	住宅 (乙類)		
RESIDENTIAL (GROUP E)	RE(E)	住宅 (戊類)	高架道路	RESIDENTIAL (GROUP E)	3.92	0.38	住宅 (戊類)		
VILLAGE TYPE DEVELOPMENT	V	鄉村式發展	其他	VILLAGE TYPE DEVELOPMENT	2.55	0.25	鄉村式發展		
INDUSTRIAL	I	工業	短劃範圍界線	INDUSTRIAL	41.33	4.03	工業		
GOVERNMENT, INSTITUTION OR COMMUNITY	GIC	政府、機構或社區	規劃區編號	GOVERNMENT, INSTITUTION OR COMMUNITY	119.17	11.63	政府、機構或社區		
OPEN SPACE	O	休憩用地	建築物高度管制區界線	OPEN SPACE	114.88	11.21	休憩用地		
OTHER SPECIFIED USES	OU	其他指定用途	最高建築物高度 (在主水平基準上若干米)	OTHER SPECIFIED USES	174.91	17.07	其他指定用途		
GREEN BELT	GB	綠化地帶	最高建築物高度 (層數)	GREEN BELT	263.34	25.70	綠化地帶		
			加油站	MAJOR ROAD ETC.	112.27	10.96	主要道路等		
			非建築用地	TOTAL PLANNING SCHEME AREA	1024.70	100.00	規劃範圍總面積	(參看附表) (SEE ATTACHED SCHEDULE)	

2014年6月13日 按照城市規劃條例第7條展示的  
草圖編號 S/KC/27 的修訂  
AMENDMENTS TO DRAFT PLAN No. S/KC/27 EXHIBITED  
UNDER SECTION 7 OF THE TOWN PLANNING ORDINANCE ON  
13 JUNE 2014

Raymond LEE *Raymond Lee* 李啟榮  
SECRETARY 城市規劃委員會秘書

香港城市規劃委員會依據城市規劃條例擬備的葵涌分區計劃大綱圖  
TOWN PLANNING ORDINANCE, HONG KONG TOWN PLANNING BOARD  
KWAI CHUNG - OUTLINE ZONING PLAN

SCALE 1:7500 比例尺  
1:7500

規劃署遵照城市規劃委員會指示擬備  
PREPARED BY THE PLANNING DEPARTMENT UNDER  
THE DIRECTION OF THE TOWN PLANNING BOARD

圖則編號  
PLAN No. S/KC/28

參考編號  
REFERENCE No. M/KC/17/33  
PLAN 1C





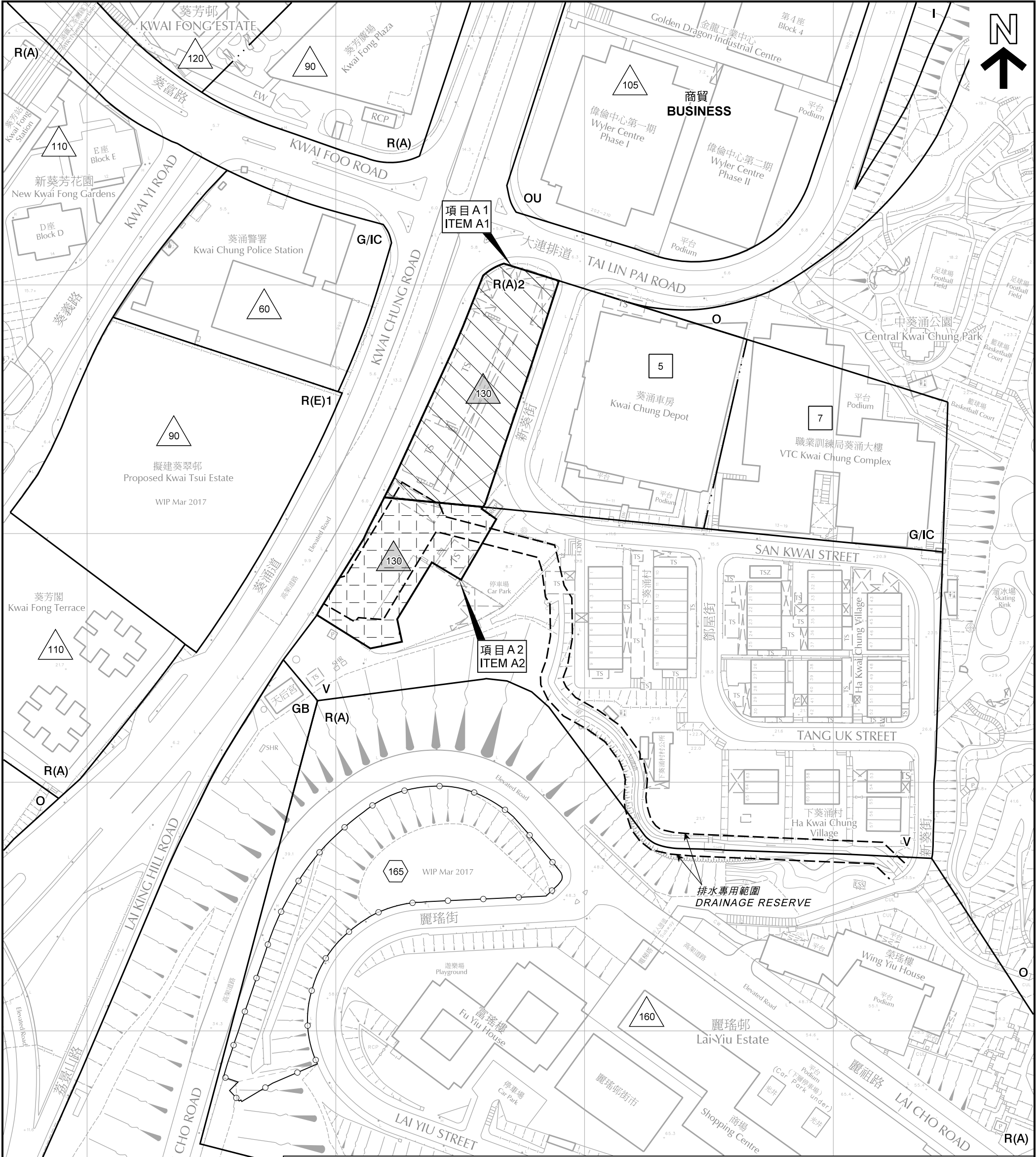
圖例 NOTATION				土地用途及面積一覽表 SCHEDULE OF USES AND AREAS			
ZONES	地帶	COMMUNICATIONS	交通	USES	大約面積及百分比 APPROXIMATE AREA & % 公頃 百分比	用途	
COMMERCIAL	C	商業	鐵路及車站	COMMERCIAL	5.45 0.53	商業	
COMPREHENSIVE DEVELOPMENT AREA	CDA	綜合發展區	鐵路及車站 (地下)	COMPREHENSIVE DEVELOPMENT AREA	6.35 0.62	綜合發展區	
RESIDENTIAL (GROUP A)	R(A)	住宅 (甲類)	鐵路及車站 (高架)	RESIDENTIAL (GROUP A)	165.25 16.13	住宅 (甲類)	
RESIDENTIAL (GROUP B)	R(B)	住宅 (乙類)	主要道路及路口	RESIDENTIAL (GROUP B)	15.28 1.49	住宅 (乙類)	
RESIDENTIAL (GROUP D)	R(D)	住宅 (丁類)	高架道路	RESIDENTIAL (GROUP D)	3.92 0.38	住宅 (丁類)	
RESIDENTIAL (GROUP E)	R(E)	住宅 (戊類)	其他	VILLAGE TYPE DEVELOPMENT	2.55 0.25	鄉村式發展	
VILLAGE TYPE DEVELOPMENT	V	鄉村式發展	其他	INDUSTRIAL	41.33 4.03	工業	
INDUSTRIAL	I	工業	其他	GOVERNMENT, INSTITUTION OR COMMUNITY	119.17 11.63	政府、機構或社區	
GOVERNMENT, INSTITUTION OR COMMUNITY	GIC	政府、機構或社區	其他	OPEN SPACE	114.88 11.21	休憩用地	
OPEN SPACE	O	休憩用地	其他	OTHER SPECIFIED USES	174.91 17.07	其他指定用途	
OTHER SPECIFIED USES	OU	其他指定用途	其他	GREEN BELT	263.34 25.70	綠化地帶	
GREEN BELT	GB	綠化地帶	其他	MAJOR ROAD ETC.	112.27 10.96	主要道路等	
				TOTAL PLANNING SCHEME AREA	1024.70 100.00	規劃範圍總面積	

參考編號  
REFERENCE No. M/KC/17/33


圖  
PLAN 1d









圖例 LEGEND


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
項目 ITEM A1 (面積 AREA: 3,309m<sup>2</sup>)  
由「政府、機構或社區」地帶改劃為  
「住宅(甲類)2」地帶  
REZONING FROM "G/IC" TO "R(A)2"
- 


項目 ITEM A2 (面積 AREA: 2,201m<sup>2</sup>)  
由「鄉村式發展」地帶改劃為  
「住宅(甲類)2」地帶  
REZONING FROM "V" TO "R(A)2"
- 

獲批准的申請編號 A/KC/445  
APPROVED APPLICATION No. A/KC/445
- 界線只作識別用  
BOUNDARY FOR IDENTIFICATION PURPOSE ONLY

- 

擬議最高建築物高度 (在主水平基準上若干米)  
PROPOSED MAXIMUM BUILDING HEIGHT  
(IN METRES ABOVE PRINCIPAL DATUM)
- 

最高建築物高度 (在主水平基準上若干米)  
MAXIMUM BUILDING HEIGHT  
(IN METRES ABOVE PRINCIPAL DATUM)
- 

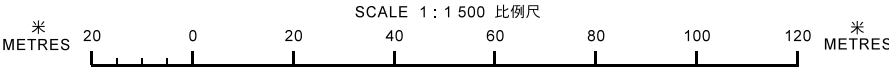
最高建築物高度 (樓層數目)  
MAXIMUM BUILDING HEIGHT  
(IN No. OF STOREYS)
- 

建築物高度  
(主水平基準以上165米)  
BUILDING HEIGHT (165mPD)
- R(A) 住宅(甲類)  
RESIDENTIAL (GROUP A)

- R(E) 住宅(戊類)  
RESIDENTIAL (GROUP E)
- V 鄉村式發展  
VILLAGE TYPE DEVELOPMENT
- I 工業  
INDUSTRIAL
- G/IC 政府、機構或社區  
GOVERNMENT, INSTITUTION  
OR COMMUNITY
- O 休憩用地  
OPEN SPACE
- OU 其他指定用途  
OTHER SPECIFIED USES
- GB 綠化地帶  
GREEN BELT

本摘要圖於2017年12月11日擬備，所根據的資料  
為測量圖編號 7-SW-21D 和 22C 及  
11-NW-1B 和 2A  
EXTRACT PLAN PREPARED ON 11.12.2017  
BASED ON SURVEY SHEETS No.  
7-SW-21D & 22C AND 11-NW-1B & 2A

平面圖 - 項目 A1 及 A2  
SITE PLAN - ITEMS A1 AND A2  
葵涌分區計劃大綱草圖編號S/KC/28的擬議修訂  
PROPOSED AMENDMENTS TO  
DRAFT KWAI CHUNG OUTLINE ZONING PLAN No. S/KC/28



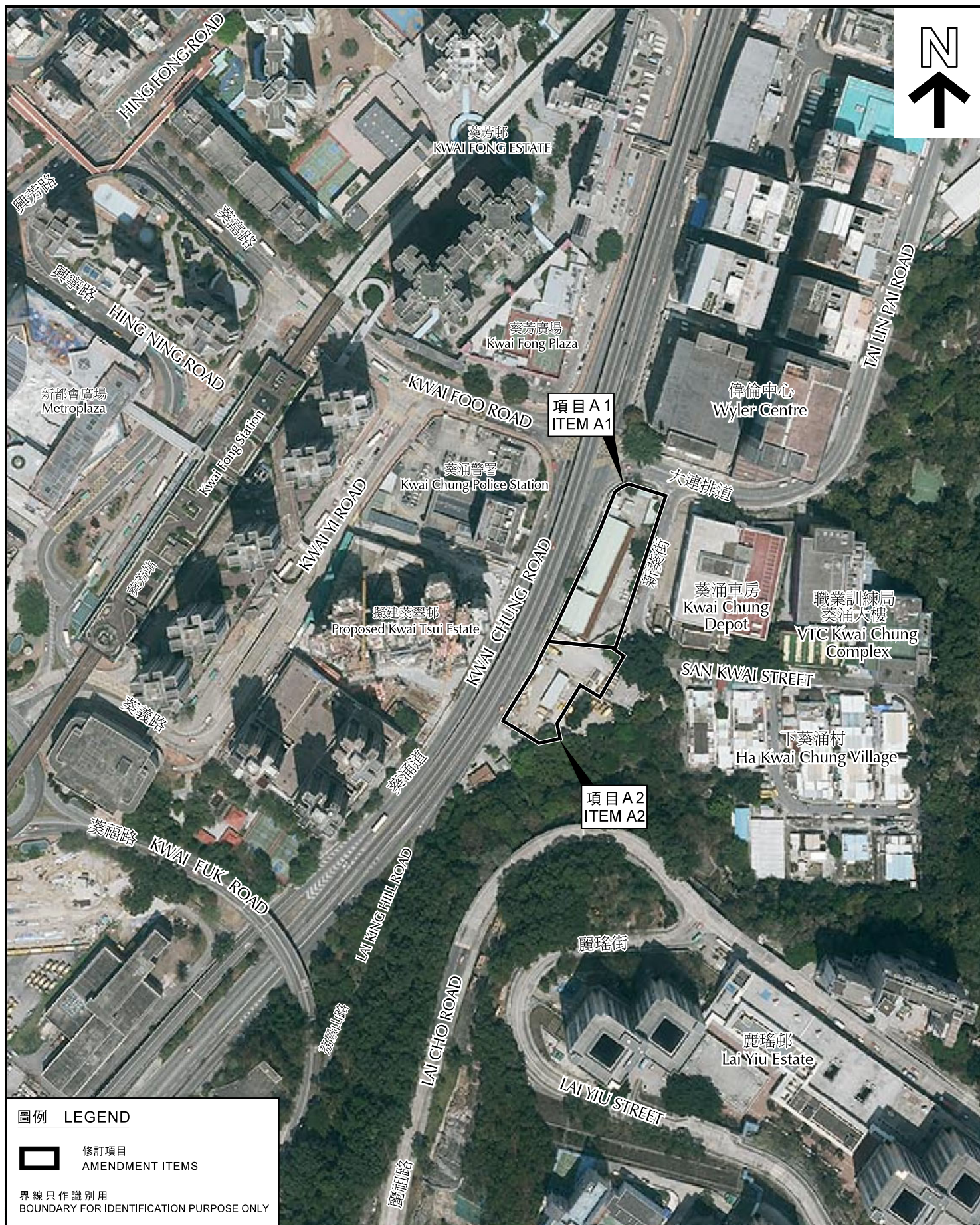
規劃署  
PLANNING  
DEPARTMENT



參考編號  
REFERENCE No.  
M/KC/17/33

圖 PLAN  
3a





# 圖例 LEGEND



修訂項目  
AMENDMENT ITEMS

界線只作識別用  
BOUNDARY FOR IDENTIFICATION PURPOSE ONLY

本摘要圖於2017年11月24日擬備，所根據的資料為地政總署於2017年4月2日拍得的航攝照片編號 E018071C

EXTRACT PLAN PREPARED ON 24.11.2017  
BASED ON AERIAL PHOTO No. E018071C  
TAKEN ON 2.4.2017  
BY LANDS DEPARTMENT

## 航攝照片 - 項目 A1 及 A2 AERIAL PHOTO - ITEMS A1 AND A2

葵涌分區計劃大綱草圖編號S/KC/28的擬議修訂  
PROPOSED AMENDMENTS TO  
DRAFT KWAI CHUNG OUTLINE ZONING PLAN  
No. S/KC/28

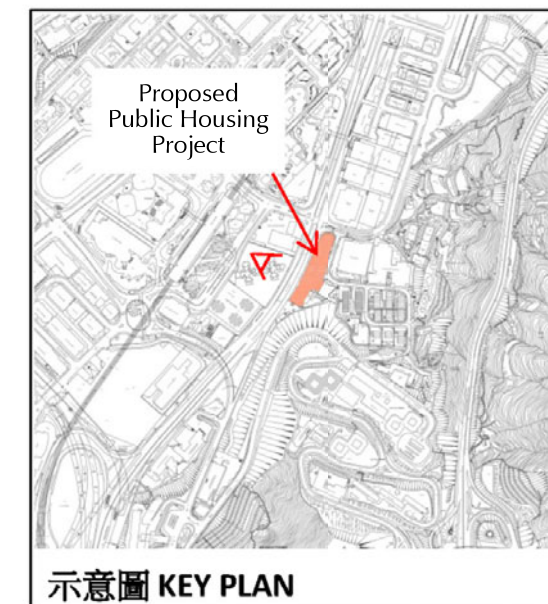
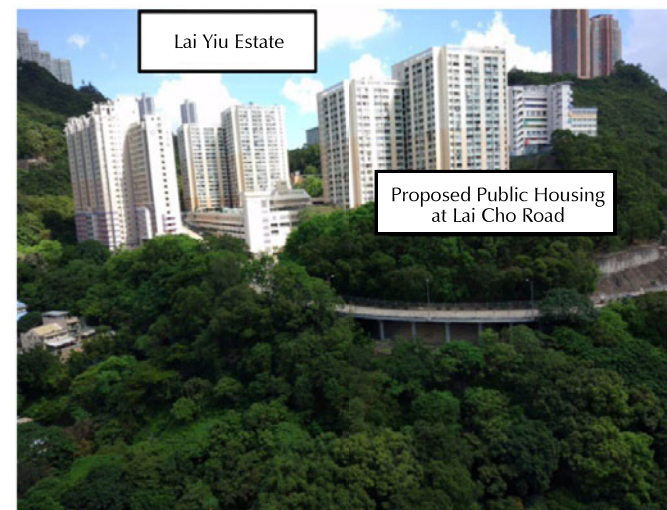
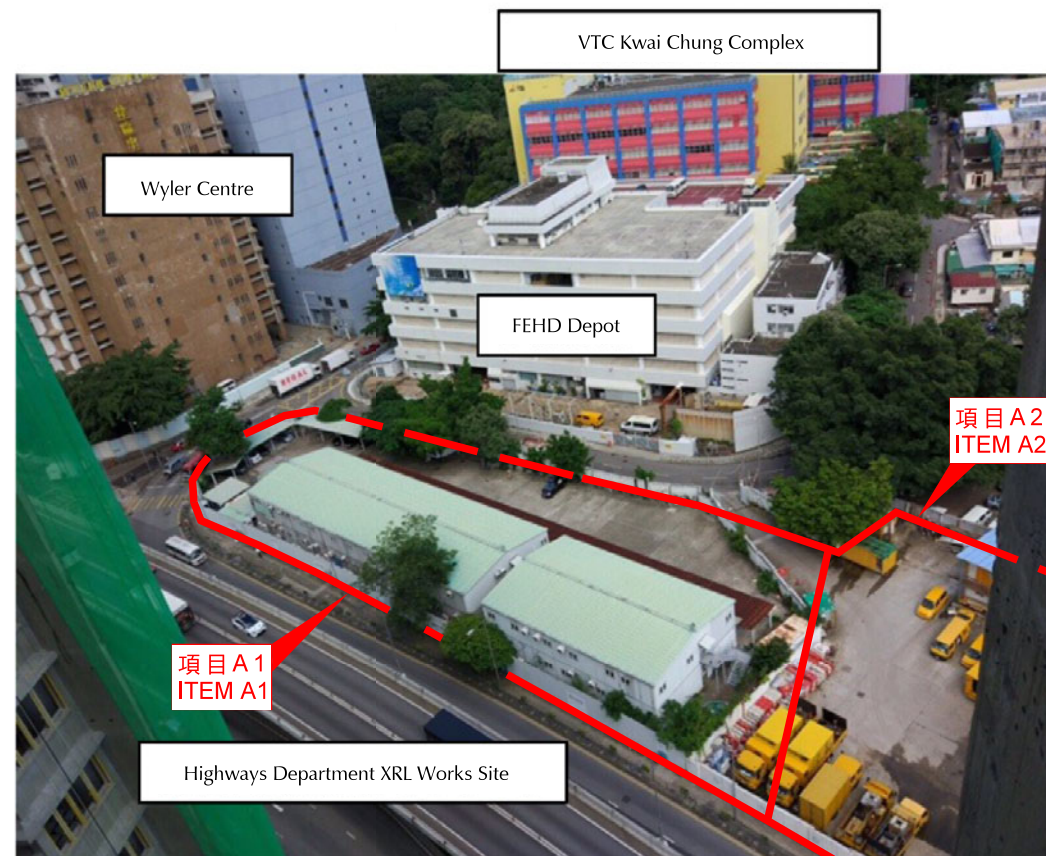
規劃署  
PLANNING  
DEPARTMENT



參考編號  
REFERENCE No.  
M/KC/17/33

圖 PLAN  
3b





來源：房屋署  
SOURCE: HOUSING DEPARTMENT

界線只作識別用  
BOUNDARY FOR IDENTIFICATION PURPOSE ONLY

本摘要圖於2017年11月24日擬備  
PLAN PREPARED ON 24.11.2017

實地照片 - 項目 A1 及 A2  
SITE PHOTOS - ITEMS A1 AND A2  
葵涌分區計劃大綱草圖編號S/KC/28的擬議修訂  
PROPOSED AMENDMENTS TO  
DRAFT KWAI CHUNG OUTLINE ZONING PLAN  
No. S/KC/28

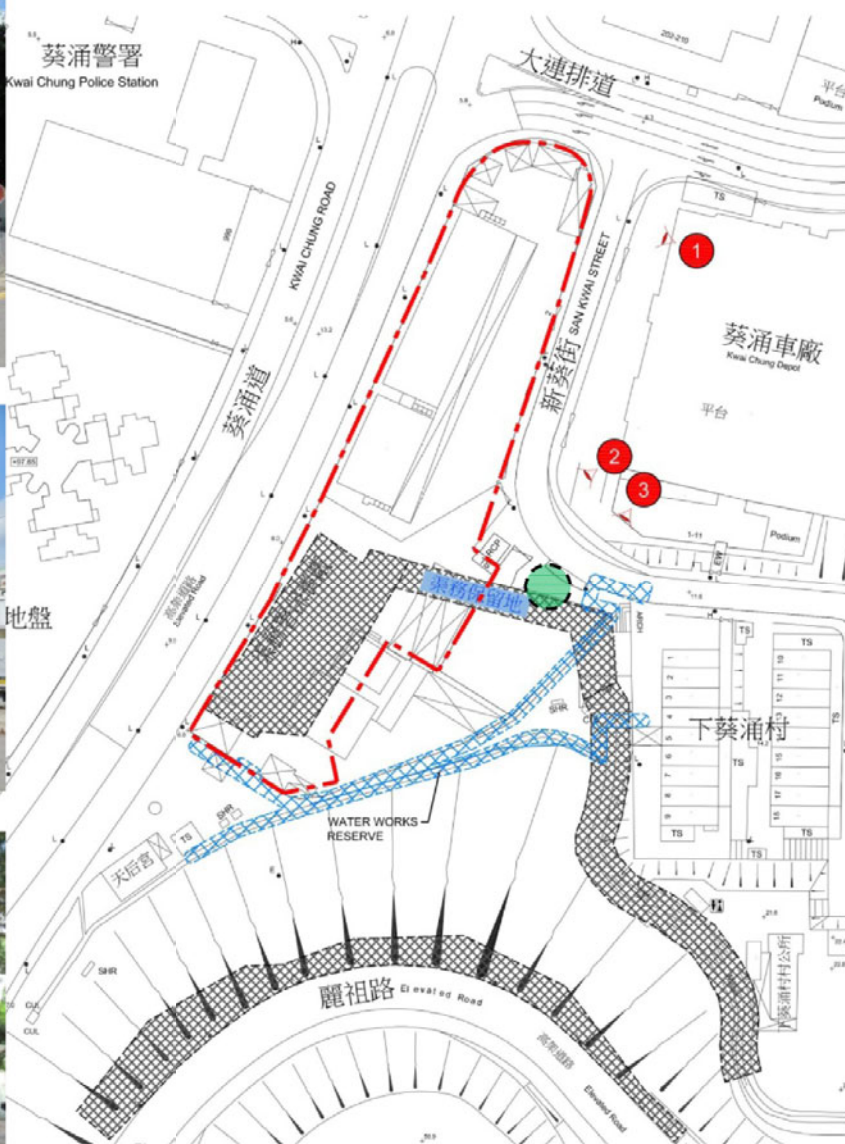
規劃署  
PLANNING DEPARTMENT



參考編號  
REFERENCE No.  
M/KC/17/33

圖 PLAN  
3c





來源：房屋署  
SOURCE: HOUSING DEPARTMENT

本摘要圖於2017年12月6日擬備  
PLAN PREPARED ON 6.12.2017

實地照片 - 項目 A1 及 A2  
SITE PHOTOS - ITEMS A1 AND A2  
葵涌分區計劃大綱草圖編號S/KC/28的擬議修訂  
PROPOSED AMENDMENTS TO  
DRAFT KWAI CHUNG OUTLINE ZONING PLAN  
No. S/KC/28

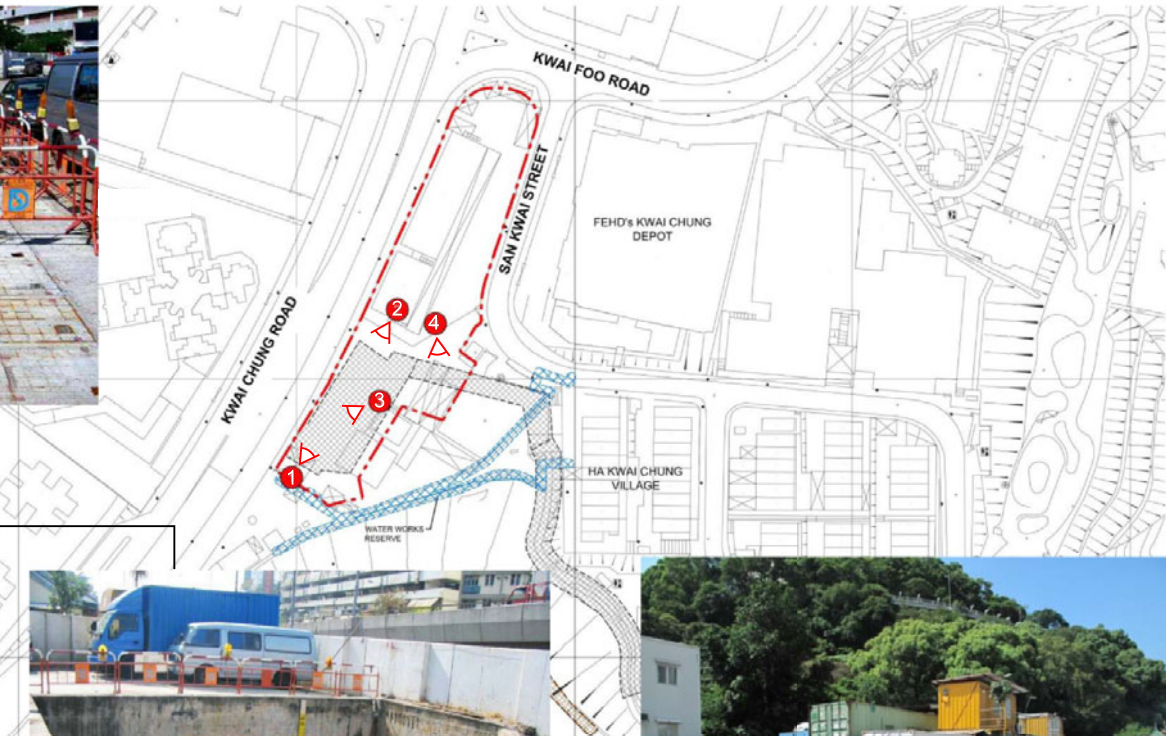
規劃署  
PLANNING  
DEPARTMENT



參考編號  
REFERENCE No.  
M/KC/17/33

圖 PLAN  
3d

Existing removable drainage covers  
on ramp down to box culvert



Condition of ramp covers



Condition of ramp covers to  
box culvert under Kwai Chung Road



來源：房屋署  
SOURCE: HOUSING DEPARTMENT

本摘要圖於2017年12月11日擬備  
PLAN PREPARED ON 11.12.2017

實地照片 - 項目 A1 及 A2  
**SITE PHOTOS - ITEMS A1 AND A2**  
葵涌分區計劃大綱草圖編號S/KC/28的擬議修訂  
PROPOSED AMENDMENTS TO  
DRAFT KWAI CHUNG OUTLINE ZONING PLAN No. S/KC/28

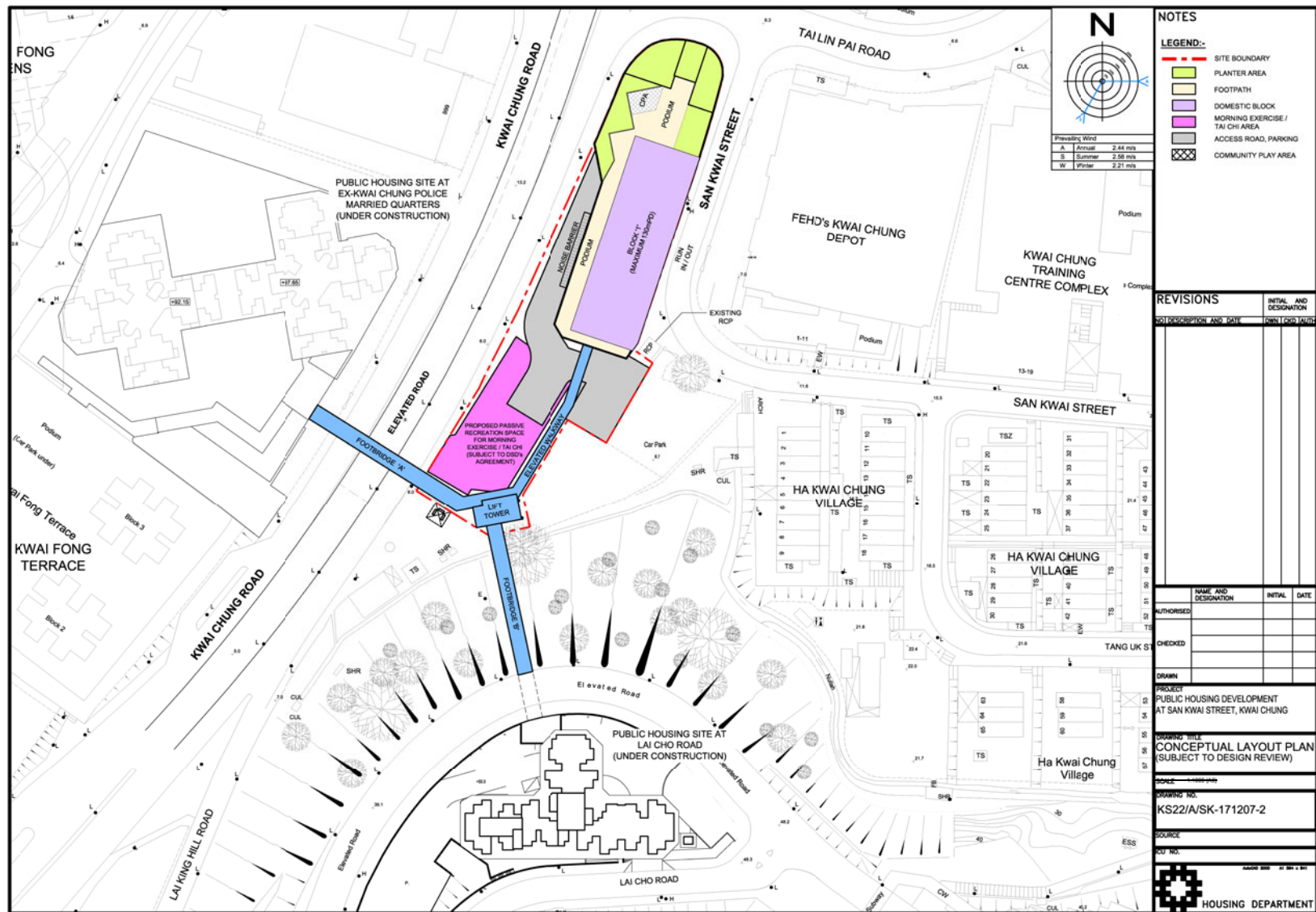
規劃署  
**PLANNING  
DEPARTMENT**



參考編號  
REFERENCE No.  
**M/KC/17/33**

圖 **PLAN**  
**3e**





來源：房屋署  
SOURCE: HOUSING DEPARTMENT

本摘要圖於2017年12月11日擬備  
PLAN PREPARED ON 11.12.2017

## 概念布局設計圖 - 項目 A1 及 A2 CONCEPTUAL LAYOUT PLAN - ITEMS A1 AND A2

葵涌分區計劃大綱草圖編號S/KC/28的擬議修訂  
PROPOSED AMENDMENTS TO  
DRAFT KWAI CHUNG OUTLINE ZONING PLAN No. S/KC/28

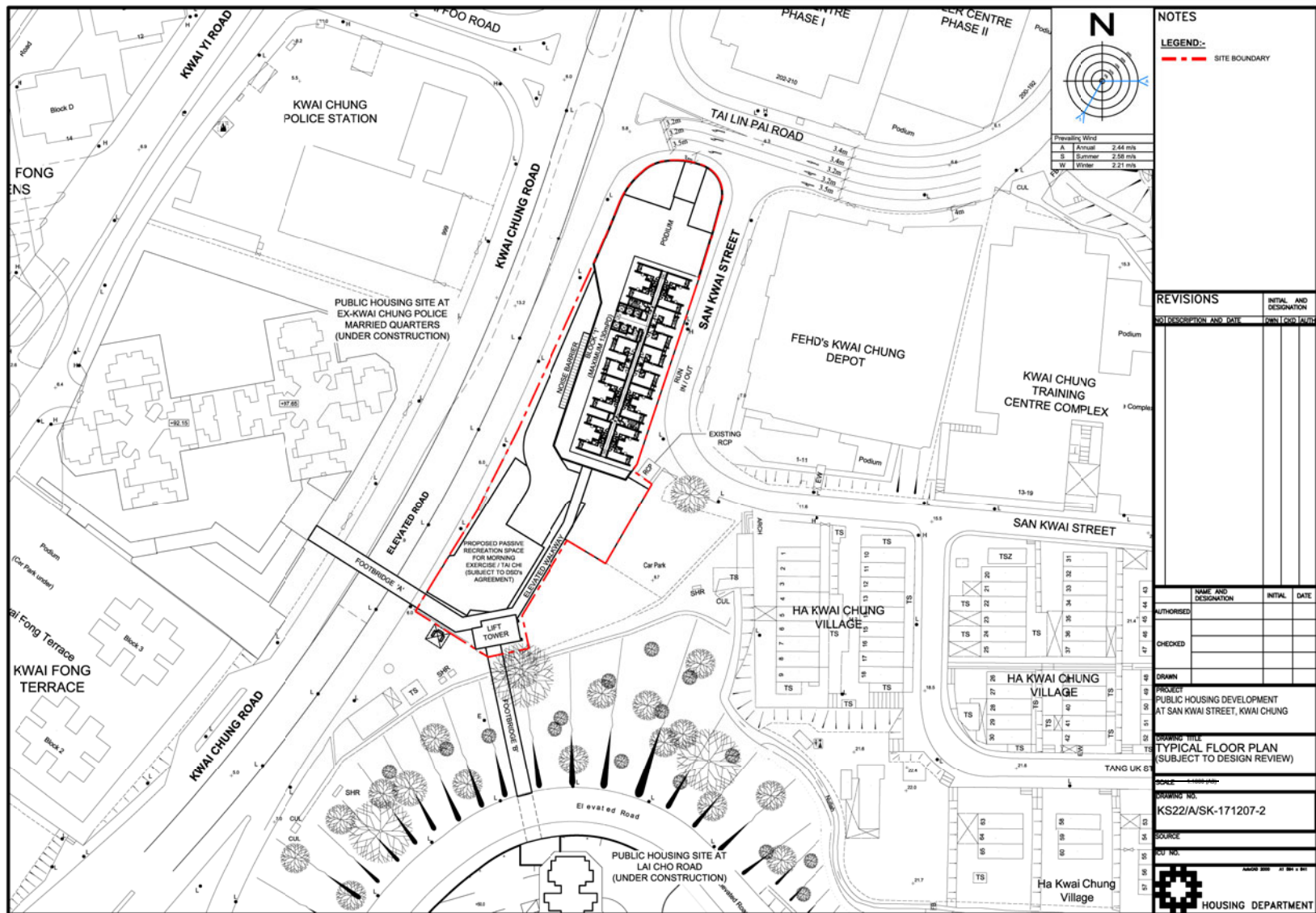
規劃署  
PLANNING  
DEPARTMENT



參考編號  
REFERENCE No.

M/KC/17/33

圖 PLAN  
3f



來源：房屋署  
SOURCE: HOUSING DEPARTMENT

本摘要圖於2017年12月11日擬備  
PLAN PREPARED ON 11.12.2017

## 標準樓層平面圖 - 項目 A1 及 A2 TYPICAL FLOOR PLAN - ITEMS A1 AND A2

葵涌分區計劃大綱草圖編號S/KC/28的擬議修訂  
PROPOSED AMENDMENTS TO  
DRAFT KWAI CHUNG OUTLINE ZONING PLAN No. S/KC/28

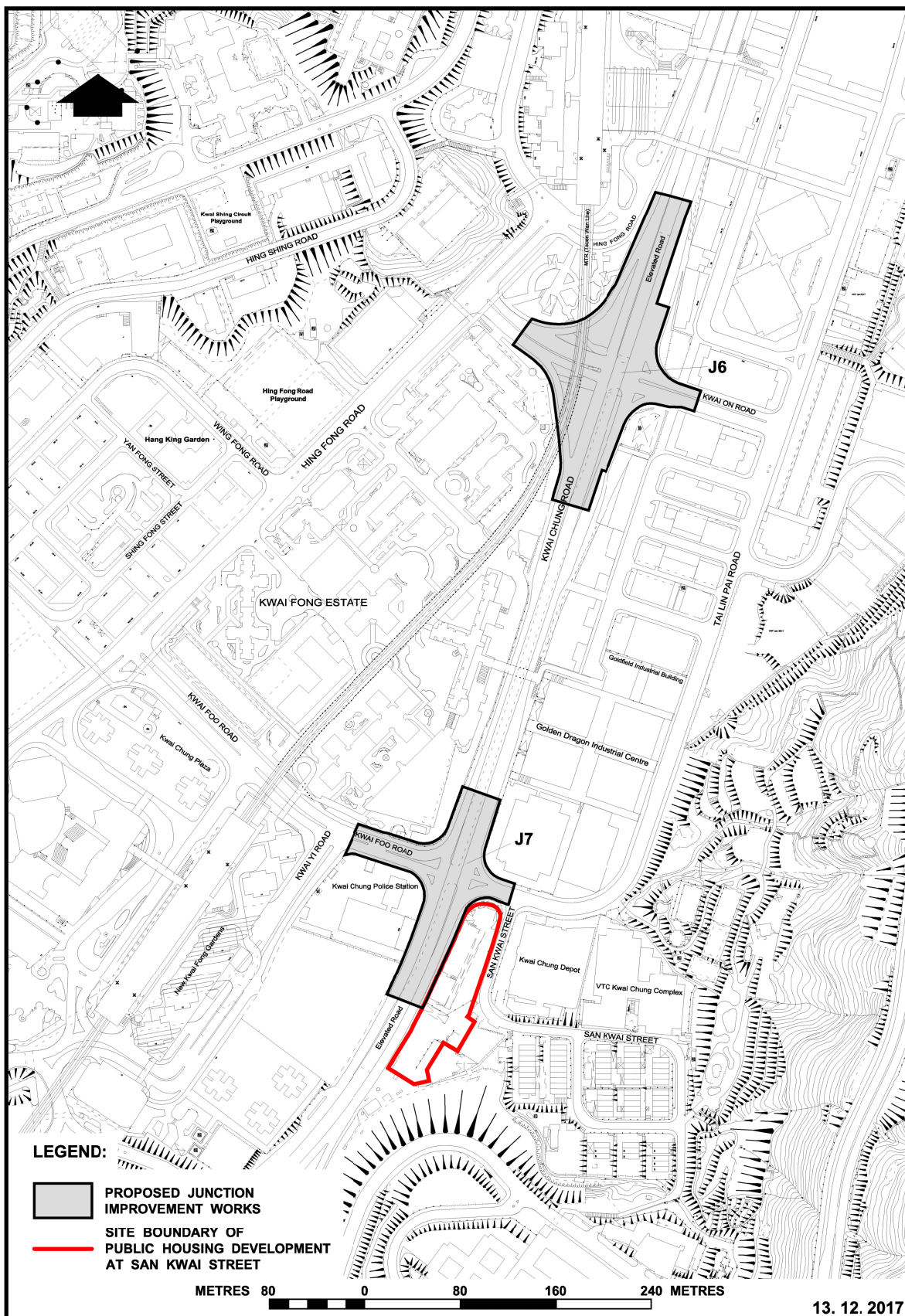
規劃署  
PLANNING  
DEPARTMENT



參考編號  
REFERENCE No.  
M/KC/17/33

圖 PLAN  
3g





來源：房屋署  
SOURCE: HOUSING DEPARTMENT

本摘要圖於2017年12月15日擬備  
PLAN PREPARED ON 15.12.2017

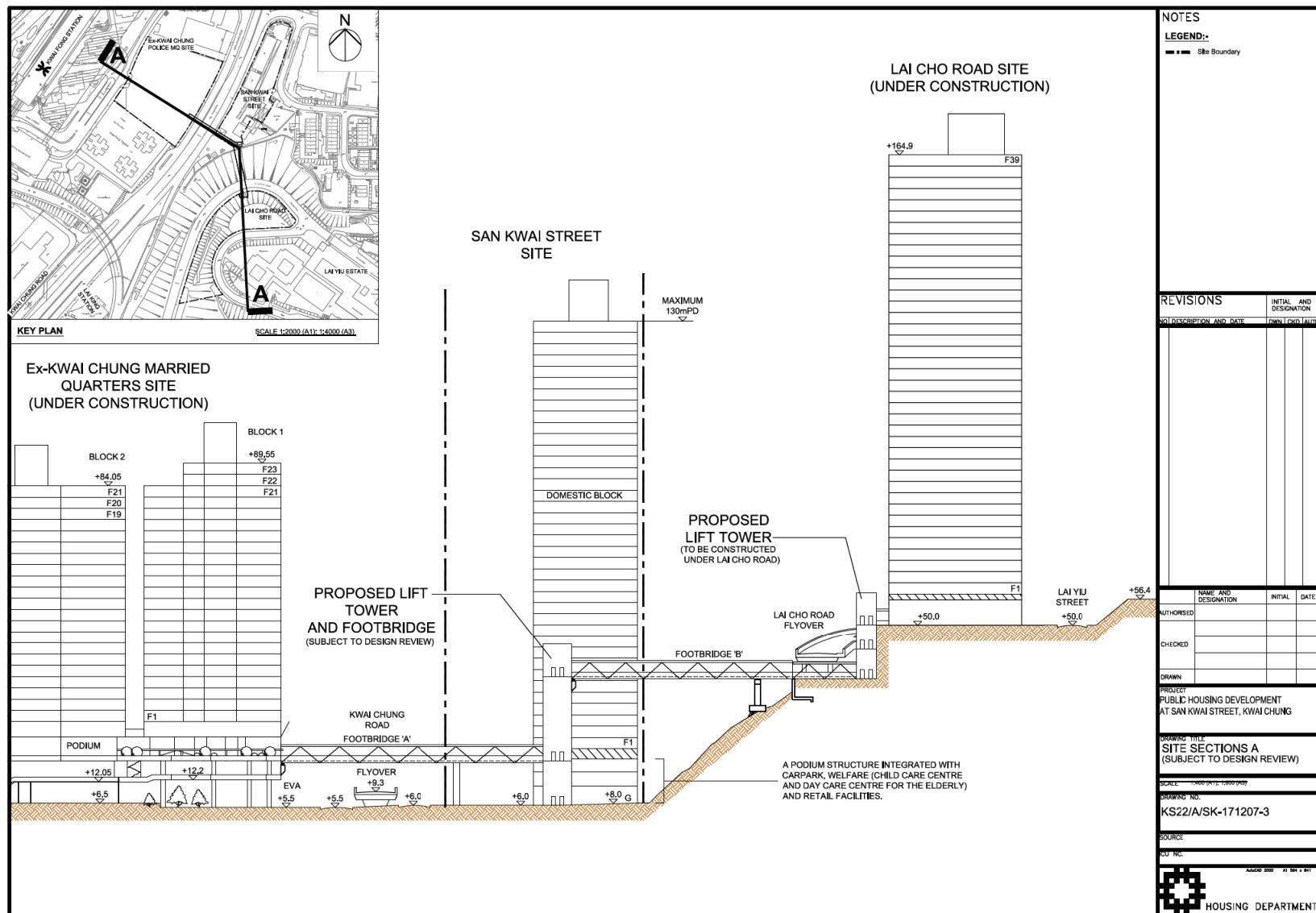
# CONCERNED JUNCTIONS IN THE VICINITY OF THE SAN KWAI STREET SITE

規劃署  
PLANNING  
DEPARTMENT



參考編號  
REFERENCE No.  
M/KC/17/33

圖 PLAN  
3h



來源：房屋署  
SOURCE: HOUSING DEPARTMENT

本摘要圖於2017年12月11日擬備  
PLAN PREPARED ON 11.12.2017

切面圖 - 項目 A1 及 A2  
SECTION PLAN - ITEMS A1 AND A2  
葵涌分區計劃大綱草圖編號S/KC/28的擬議修訂  
PROPOSED AMENDMENTS TO  
DRAFT KWAI CHUNG OUTLINE ZONING PLAN No. S/KC/28

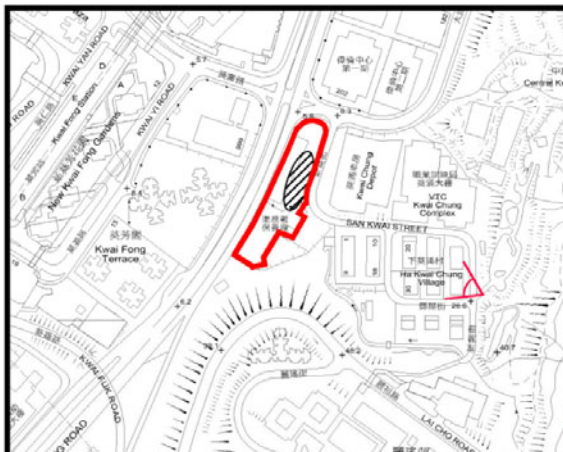
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PLANNING  
DEPARTMENT



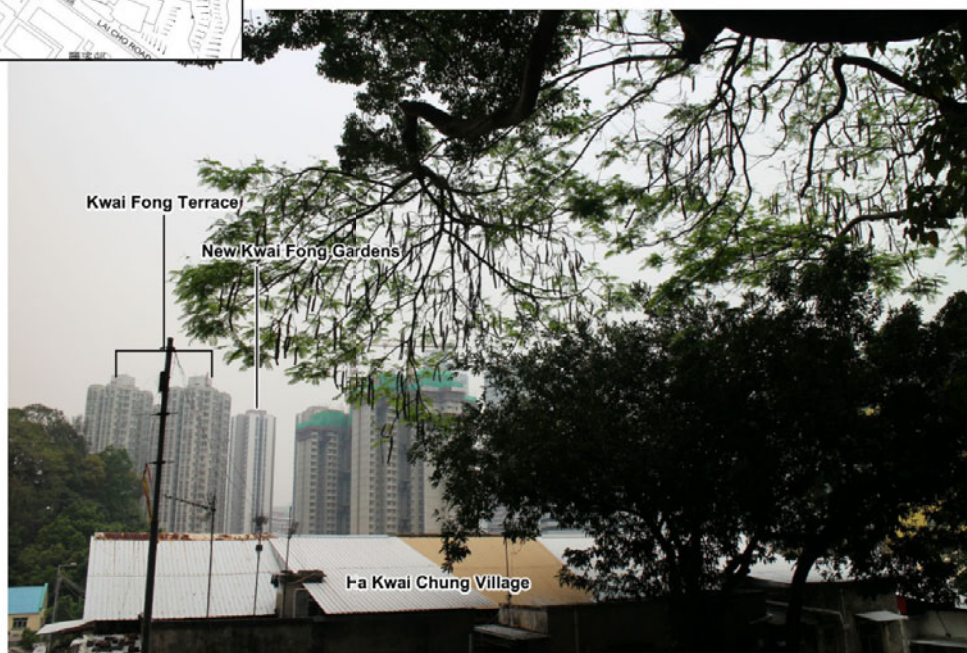
參考編號  
REFERENCE No.  
M/KC/17/33

圖 PLAN  
3i





Existing View



With Proposed Development



來源：房屋署  
SOURCE: HOUSING DEPARTMENT

本摘要圖於2017年12月1日擬備  
PLAN PREPARED ON 1.12.2017

### 合成照片 - 項目 A1 及 A2 PHOTOMONTAGE - ITEMS A1 AND A2

葵涌分區計劃大綱草圖編號S/KC/28的擬議修訂  
PROPOSED AMENDMENTS TO  
DRAFT KWAI CHUNG OUTLINE ZONING PLAN  
No. S/KC/28

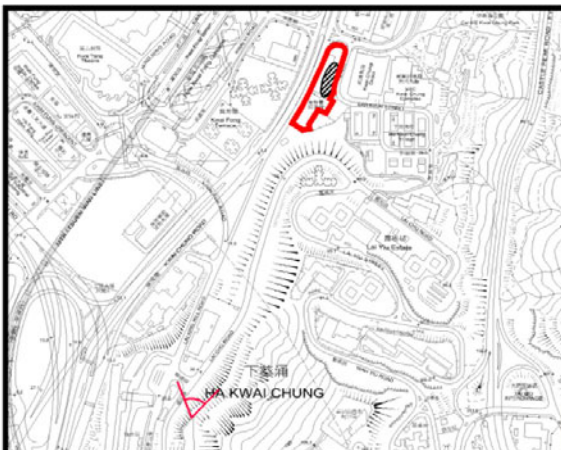
規劃署  
PLANNING  
DEPARTMENT



參考編號  
REFERENCE No.  
M/KC/17/33

圖 PLAN  
3j





Existing View



With Proposed Development



來源：房屋署  
SOURCE: HOUSING DEPARTMENT

本摘要圖於2017年12月1日擬備  
PLAN PREPARED ON 1.12.2017

合成照片 - 項目 A1 及 A2  
PHOTOMONTAGE - ITEMS A1 AND A2

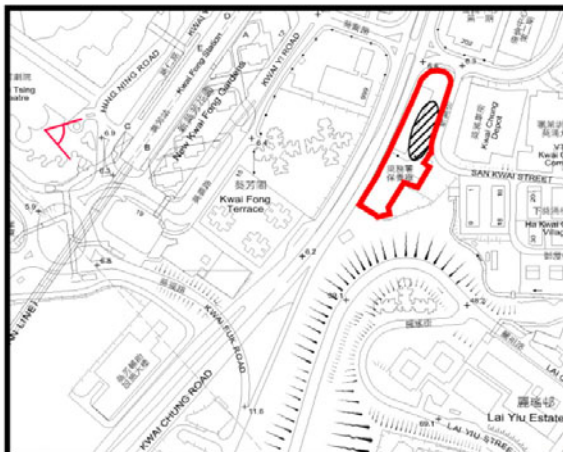
葵涌分區計劃大綱草圖編號S/KC/28的擬議修訂  
PROPOSED AMENDMENTS TO  
DRAFT KWAI CHUNG OUTLINE ZONING PLAN  
No. S/KC/28

規劃署  
PLANNING  
DEPARTMENT



參考編號  
REFERENCE No.  
M/KC/17/33

圖 PLAN  
3k



Existing View



With Proposed Development

來源：房屋署  
SOURCE: HOUSING DEPARTMENT

本摘要圖於2017年12月1日擬備  
PLAN PREPARED ON 1.12.2017

### 合成照片 - 項目 A1 及 A2 PHOTOMONTAGE - ITEMS A1 AND A2

葵涌分區計劃大綱草圖編號S/KC/28的擬議修訂  
PROPOSED AMENDMENTS TO  
DRAFT KWAI CHUNG OUTLINE ZONING PLAN  
No. S/KC/28

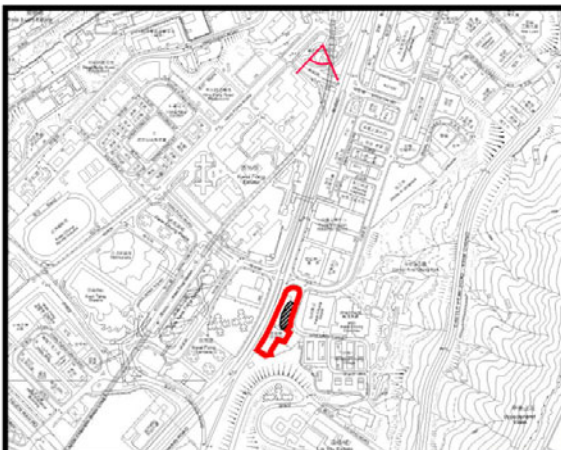
規劃署  
PLANNING  
DEPARTMENT



參考編號  
REFERENCE No.  
M/KC/17/33

圖 PLAN  
31





Existing View



With Proposed Development



來源：房屋署  
SOURCE: HOUSING DEPARTMENT

本摘要圖於2017年12月1日擬備  
PLAN PREPARED ON 1.12.2017

# 合成照片 - 項目 A1 及 A2 PHOTOMONTAGE - ITEMS A1 AND A2

葵涌分區計劃大綱草圖編號S/KC/28的擬議修訂  
PROPOSED AMENDMENTS TO  
DRAFT KWAI CHUNG OUTLINE ZONING PLAN  
No. S/KC/28

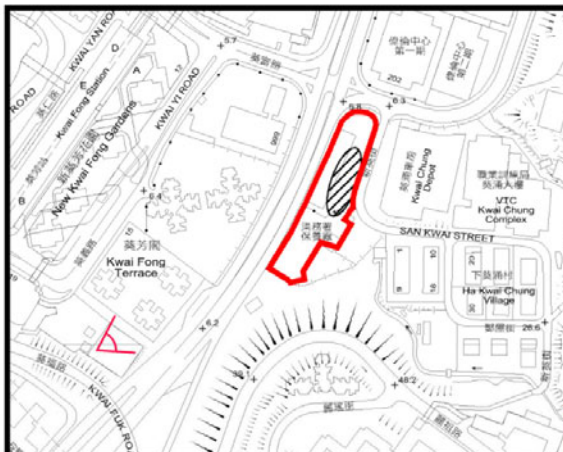
規劃署  
PLANNING  
DEPARTMENT



參考編號  
REFERENCE No.  
M/KC/17/33

圖 PLAN  
3m

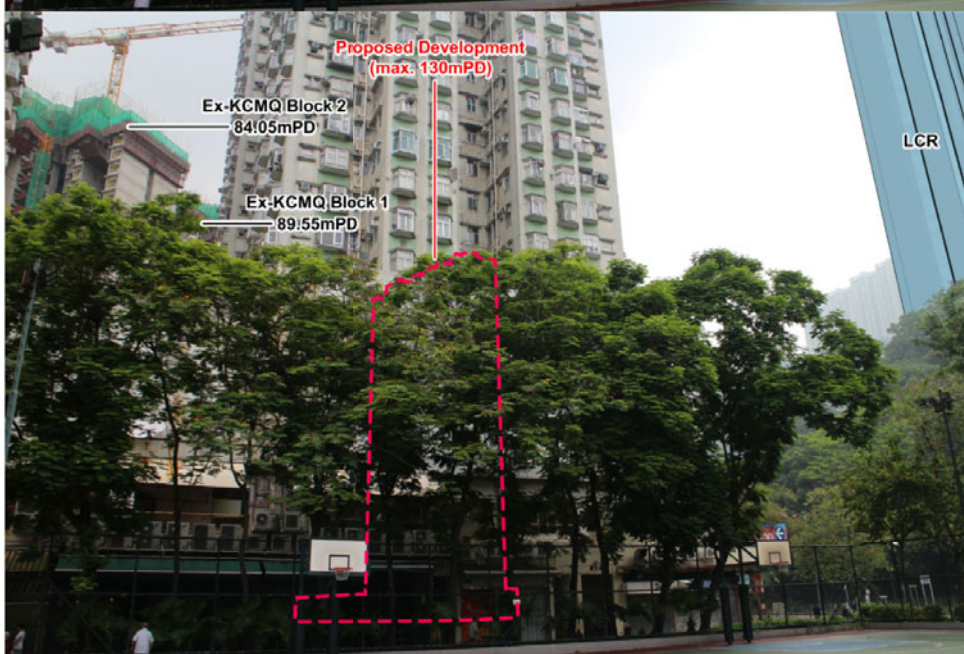




Existing View



With Proposed Development



來源：房屋署  
SOURCE: HOUSING DEPARTMENT

本摘要圖於2017年12月1日擬備  
PLAN PREPARED ON 1.12.2017

# 合成照片 - 項目 A1 及 A2 PHOTOMONTAGE - ITEMS A1 AND A2

葵涌分區計劃大綱草圖編號S/KC/28的擬議修訂  
PROPOSED AMENDMENTS TO  
DRAFT KWAI CHUNG OUTLINE ZONING PLAN  
No. S/KC/28

規劃署  
PLANNING  
DEPARTMENT



參考編號  
REFERENCE No.  
M/KC/17/33

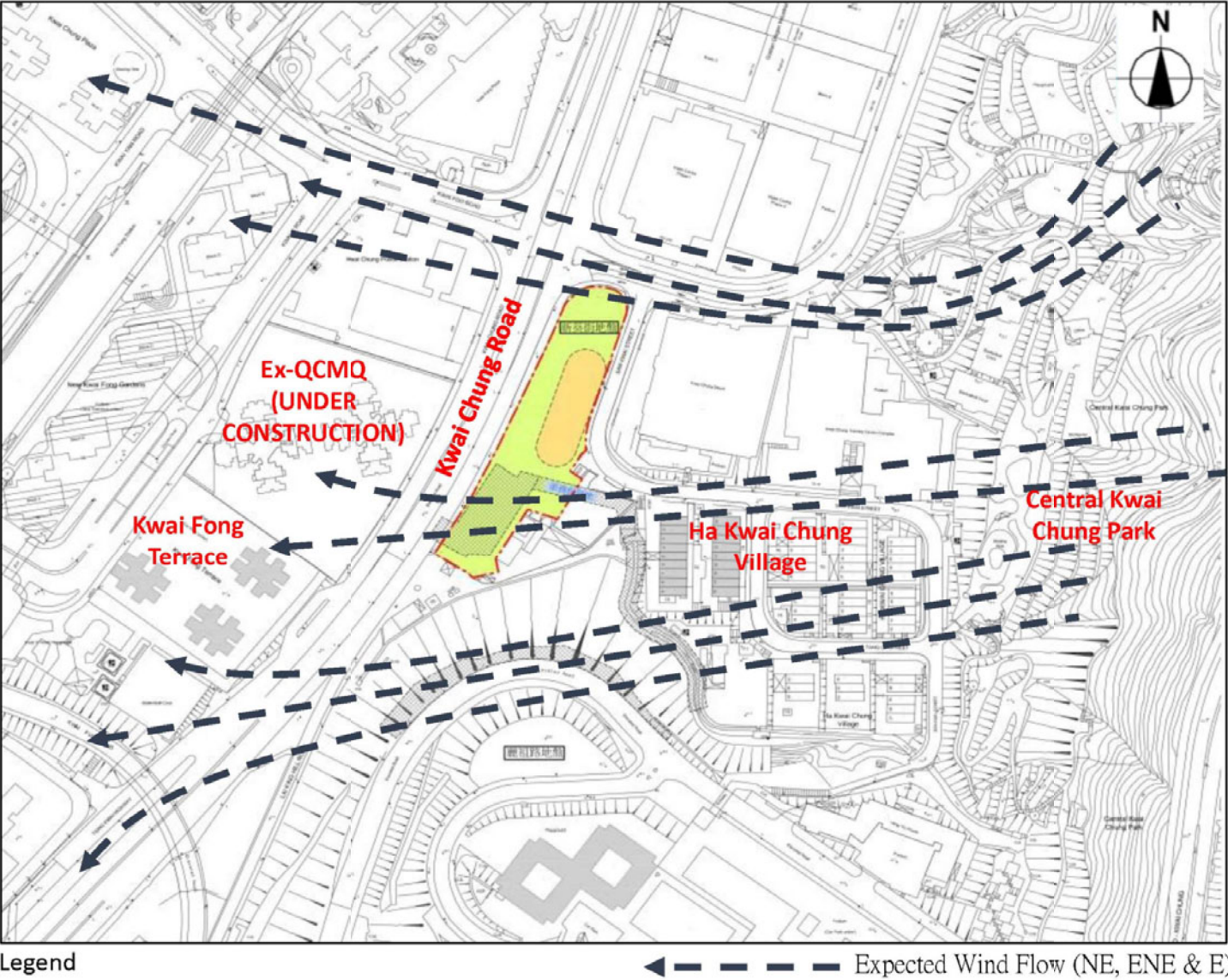
圖 PLAN  
3n



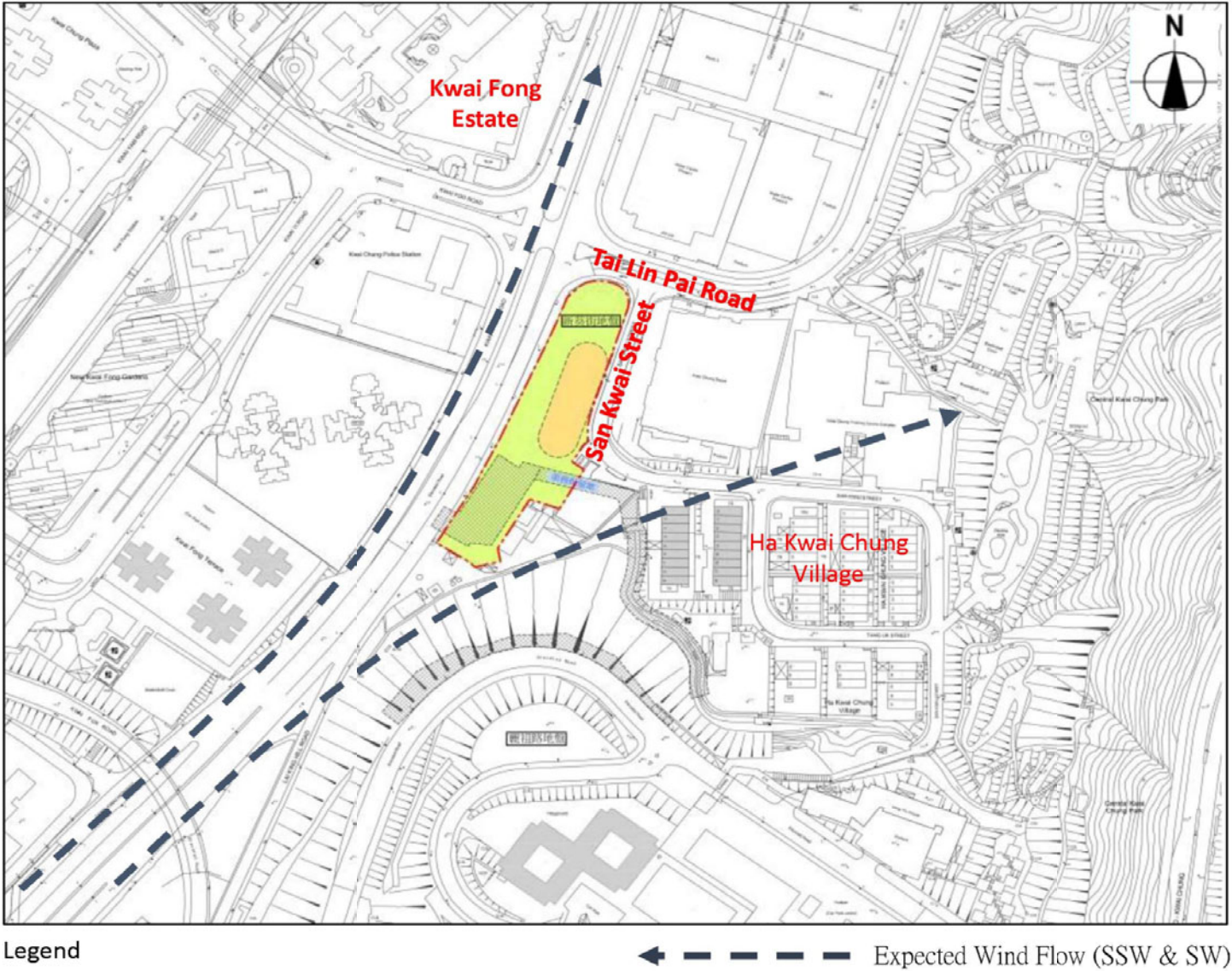




Annual Wind Flow



Summer Wind Flow



來源：房屋署  
SOURCE: HOUSING DEPARTMENT

本摘要圖於2017年11月24日擬備  
PLAN PREPARED ON 24.11.2017

新葵街地盤的空氣流通評估  
AIR VENTILATION FOR SAN KWAI STREET SITE

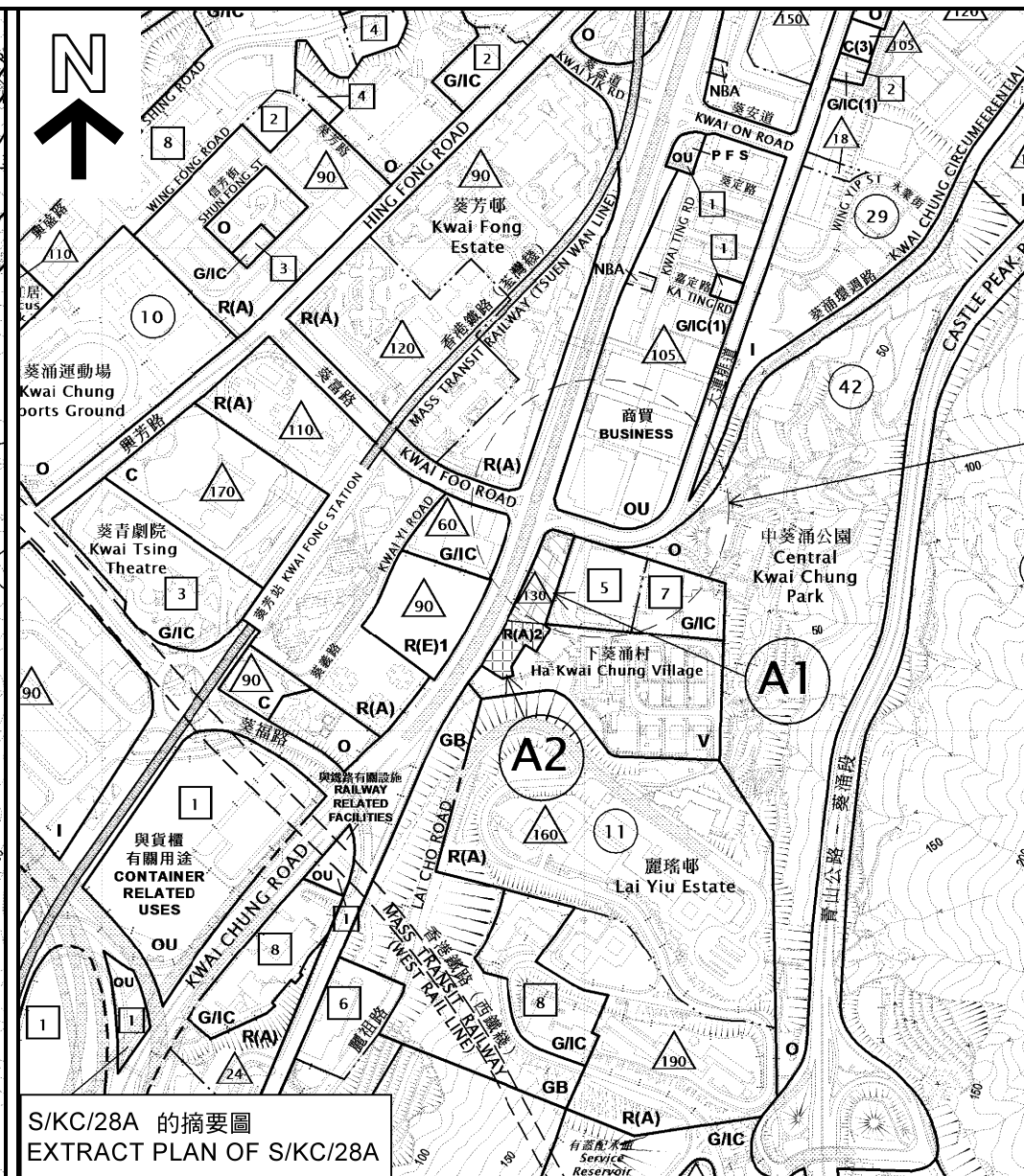
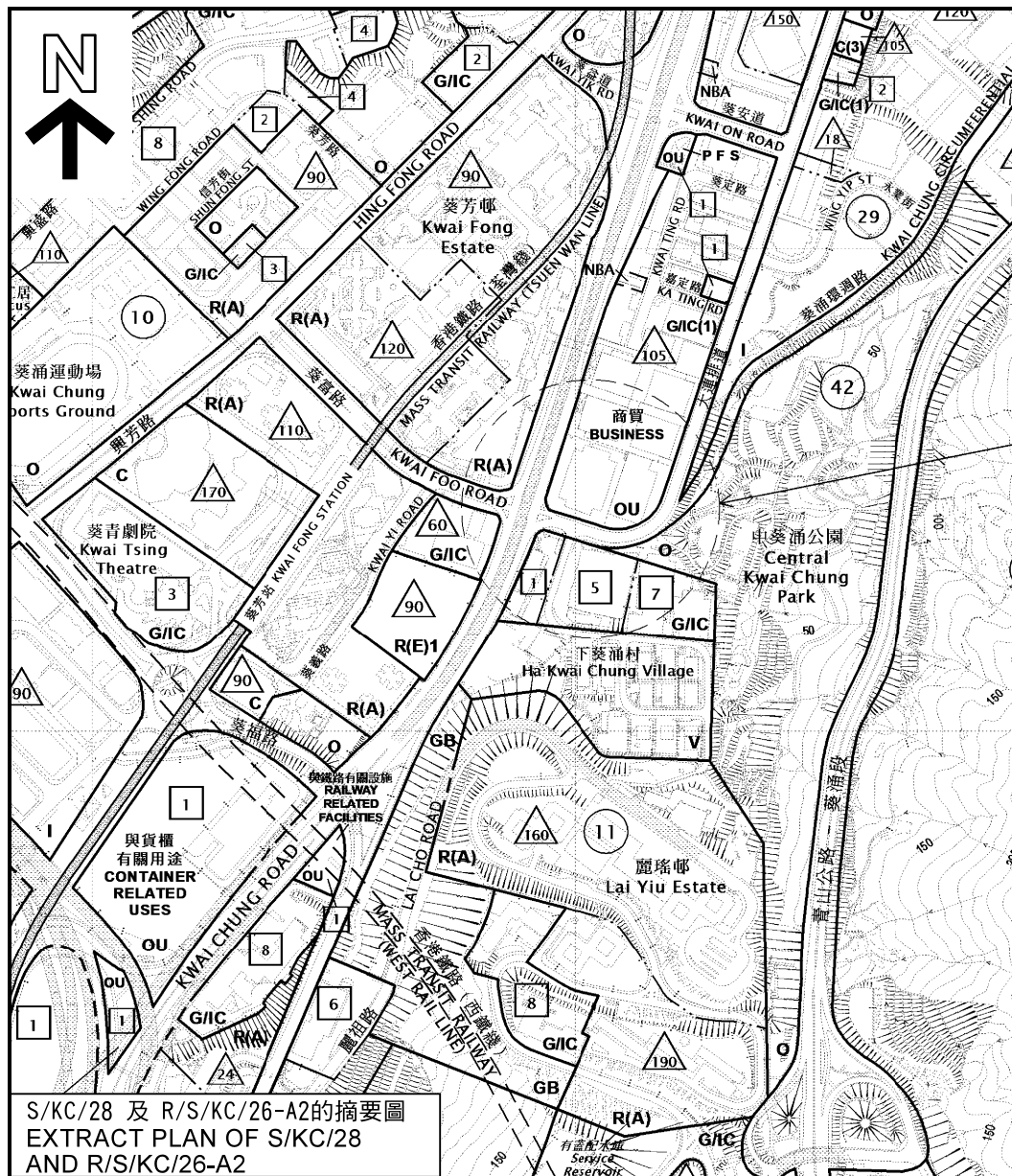
規劃署  
PLANNING  
DEPARTMENT



參考編號  
REFERENCE No.  
M/KC/17/33

圖 PLAN  
4b

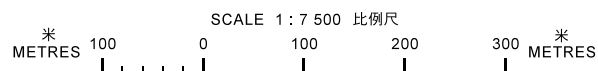




本摘要圖於2017年12月8日擬備，所根據的資料為  
於2014年6月13日展示的分區計劃大綱圖編號S/KC/28  
及於2015年9月25日公布的修訂和S/KC/28A

EXTRACT PLAN PREPARED ON 8.12.2017  
BASED ON OUTLINE ZONING PLAN No. S/KC/28  
EXHIBITED ON 13.6.2014 AND AMENDMENTS  
PUBLISHED ON 25.9.2015 AND S/KC/28A

項目A1及A2項葵涌分區計劃大綱圖上的現有與擬議用途地帶的比較  
COMPARISON OF EXISTING AND PROPOSED ZONINGS ON  
THE KWAI CHUNG OUTLINE ZONING PLAN FOR AMENDMENT ITEMS A1 AND A2



規劃署  
PLANNING  
DEPARTMENT

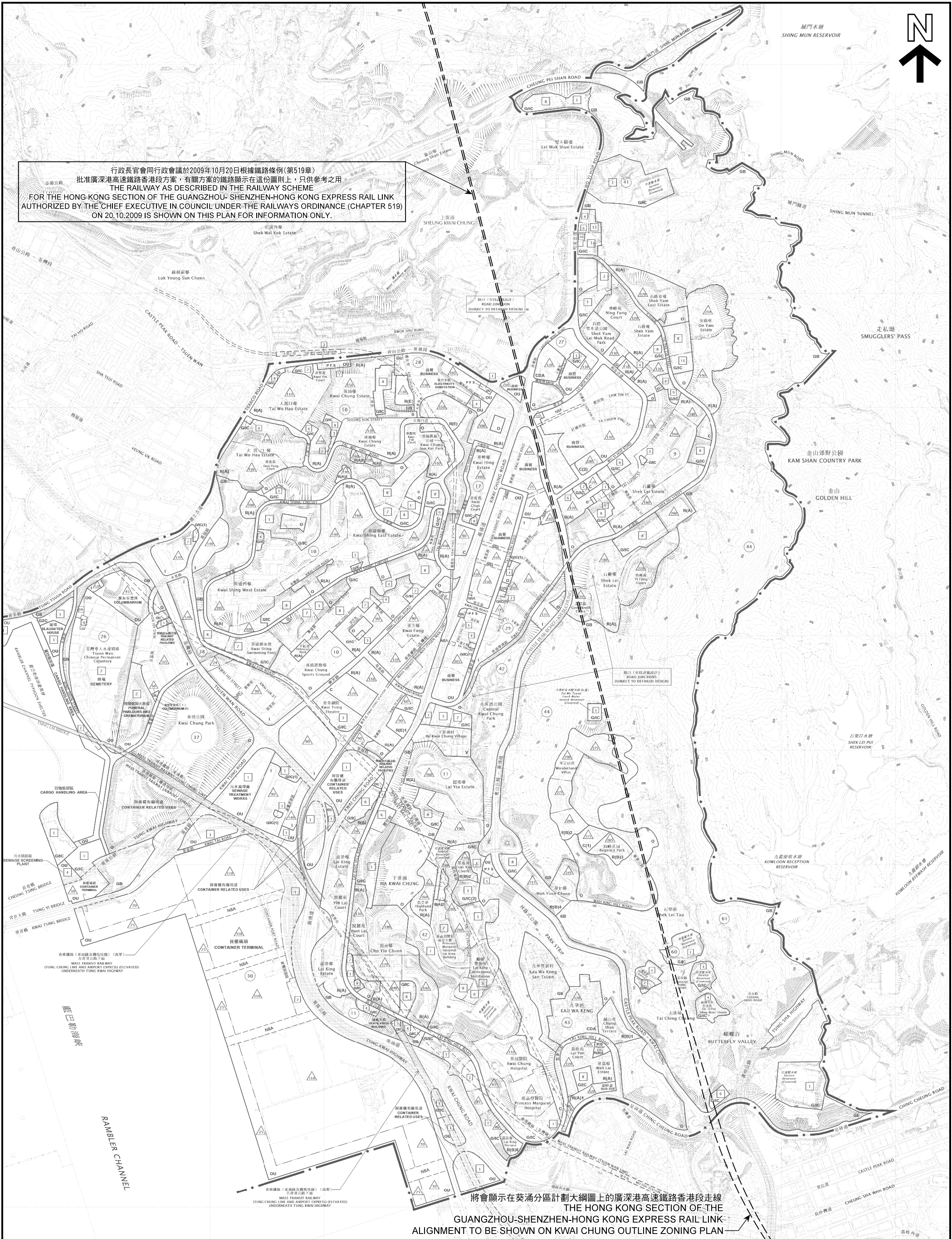


參考編號  
REFERENCE No.

M/KC/17/33

圖 PLAN

5



行政長官會同行政會議於2009年10月20日根據鐵路條例(第519章)批准廣深港高速鐵路香港段方案,有關方案的鐵路顯示在這份圖則上,只供參考之用。  
THE RAILWAY AS DESCRIBED IN THE RAILWAY SCHEME AUTHORIZED BY THE CHIEF EXECUTIVE IN COUNCIL UNDER THE RAILWAYS ORDINANCE (CHAPTER 519) ON 20.10.2009 IS SHOWN ON THIS PLAN FOR INFORMATION ONLY.

將會顯示在葵涌分區計劃大綱圖上的廣深港高速鐵路香港段走線  
THE HONG KONG SECTION OF THE GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK ALIGNMENT TO BE SHOWN ON KWAI CHUNG OUTLINE ZONING PLAN

平面圖 - 廣深港高速鐵路香港段  
SITE PLAN - THE HONG KONG SECTION OF THE GUANGZHOU-SHENZHEN-HONG KONG EXPRESS RAIL LINK

葵涌分區計劃大綱草圖編號S/KC/28的擬議修訂  
PROPOSED AMENDMENTS TO DRAFT KWAI CHUNG OUTLINE ZONING PLAN No. S/KC/28

本摘要圖於2017年11月24日擬備,所根據的資料為於2014年6月13日展示的分區計劃大綱圖編號S/KC/28及於2015年9月25日公布的修訂  
EXTRACT PLAN PREPARED ON 24.11.2017 BASED ON OUTLINE ZONING PLAN No. S/KC/28 EXHIBITED ON 13.6.2014 AND AMENDMENTS PUBLISHED ON 25.9.2015

SCALE 1: 15 000 比例尺  
METRES 200 0 200 400 600 800 1 000 1 200 1 400 METRES

規劃署  
PLANNING DEPARTMENT



參考編號  
REFERENCE No.  
M/KC/17/33

圖 PLAN  
6