ARUP

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Supporting Planning Statement

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This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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Executive Summary

This Supporting Planning Statement is submitted for Proposed Amendment to the Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan (HSK/HT OZP) No. S/HSK/2, in support of the rezoning from "Residential (Group B)3" ("R(B)3") to "Residential (Group A)6" ("R(A)6") and an area shown as "Road" at Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories (the Development Sites), to facilitate a Proposed Private Residential Development (Proposed Amendment).

The Development Sites, comprising Site 4B-1, Site 4B-2 and Site 4B-3, cover an area of about 33,767m^2, and the proposed area for road/footpath widening of about 2,282m^2 within Area 4B of the Approved HSK/HT OZP No. S/HSK/2. The Development Sites fall within an area zoned "R(B)3" on the extant HSK/HT OZP, currently occupied by low-rise buildings and temporary structures used for warehouses, workshops and open storage. In view of the strategic location, enhanced connectivity and positioning of the HSK/HT New Development Area (HSK/HT NDA), the Development Sites are identified with strong development potential for higher density development whilst phasing out the brownfield sites for wider benefits. The Proposed Amendment to upzone the Development Sites is in line with the Government's aspiration to accelerate the development of Northern Metropolis (NM) in order to further develop the economy and improve people's livelihood.

The Chief Executive has announced in the 2023 Policy Address to implement the Smart and Green Mass Transit System in the HSK/HT NDA (HSKSGMTS) and announced in 2025 Policy Address to invite tenders for the HSKSGMTS project in 2026, with a view to providing convenient and fast feeder services within the area. The HSKSGMTS will be implemented in phases to tie in with the traffic and transport demand of different stages of development of the HSK/HT and Yuen Long South NDAs. The Development Sites may be considered for granting their property development rights to provide funding support for the HSKSGMTS project. In view of the recent property market situation, it is essential to amplify the development potential of the Development Sites, and hence increase their land values, to enhance the funding support that can be provided. The development potential of these sites should be certain at the earliest possible, which is crucial to firm up the funding arrangement of HSKSGMTS project prior to the tender invitation in 2026 for phased implementation.

The Indicative Scheme will be subject to a maximum Plot Ratio (PR) of 5.2 and a maximum building height of 120mPD, ensuring a compatible development intensity in the planned medium- to high-density residential developments in the surrounding area. The Proposed Amendment from "R(B)3" to "R(A)6" is to provide about 3,070 private housing units in a well-connected location within HSK/HT NDA, capitalising on the development potential of the Development Sites and providing certainty on the development potential of the Development Sites for providing the funding support for the HSKSGMTS.

Planning justifications and planning merits for the Proposed Amendment are summarised as follows:

- Responding to Government's endeavours to maintain steady private housing development;
- Ensuring compatibility with the surroundings;
- Enhancing the pedestrian environment;
- Supporting community needs and improving quality of life;
- Improving the environmental quality through phasing out of brownfield uses;
- Providing certainty on the development potential of the sites possible for funding support for the HSKSGMTS project in response to the 2023 Policy Address, 2024 Policy Address and 2025 Policy Address on implementing the HSKSGMTS, contributing to the socio-economic development of the HSK/HT NDA; and
- Confirming no adverse technical impacts.

The Proposed Amendment includes an Indicative Scheme, which purpose is to demonstrate the overall development feasibility and possible design concepts of the scheme, while confirming that the Proposed Development is technically feasible with no adverse impacts on the surrounding to form the basis for the Proposed Amendment. In light of the planning merits and justifications put forward in the Supporting Planning Statement, we sincerely seek favourable consideration from the Town Planning Board on the Proposed Amendment.

行政摘要

（內容如與英文版本有任何差異，應以英文版本為準）

本規劃綱領就位於洪水橋丈量約份第 124 約多個地段及毗連政府土地（「發展地點」）作擬議私人住宅發展提交，以支持修訂洪水橋及厦村分區計劃大綱核准圖編號 S/HSK/2，將申請地點由「住宅(乙類)3」地帶改劃為「住宅(甲類)6」地帶及顯示為「道路」的地方（「擬議修訂」）。

發展地點位於洪水橋及厦村分區計劃大綱核准圖編號 S/HSK/2 內第 4B 區，由三個地塊第 4B-1 號、第 4B-2 號和第 4B-3 號組成，面積約為 33,767 平方米，以及擬議用於道路/行人道擴闊的面積約為 2,282 平方米。發展地點位於「住宅(乙類)3」地帶，現時為低層建築物和用作貨倉、工場及露天存放建築材料的臨時建築物等棕地作業。因此此擬議修訂能逐步取締棕地作業。除此之外，就洪水橋／厦村新發展區的策略性位置、優越的交通連接以及定位而言，發展地點具潛力作更高密度的發展，可來更廣泛的社會效益。擬議修訂符合政府在加速北部都會區發展的願景，進一步發展經濟並改善民生。

行政長官在《2023 年施政報告》提出在洪水橋／厦村新發展區建造智慧綠色集體運輸系統（「洪水橋／厦村智慧綠色集體運輸系統」），並在《2025 年施政報告》中宣布洪水橋／厦村智慧綠色集體運輸系統項目將於明年招標，為區內提供方便及快速的接駁交通服務。洪水橋／厦村智慧綠色集體運輸系統會分階段推展，配合洪水橋／厦村和元朗南新發展區不同階段發展的交通及運輸需求。發展地點的物業發展權可被考慮作為洪水橋／厦村智慧綠色集體運輸系統項目的財務資助。考慮到近期物業市場的情況，有必要提高發展地點的發展潛力，從而提高其土地價值，以提升其可提供的財務資助。由於洪水橋／厦村智慧綠色集體運輸系統項目於 2026 年招標作分階段推展前需要確定財務安排，因此盡早確定該地塊的發展潛力為至關重要。

擬議「住宅(甲類)6」地帶內的擬議方案將採用約 5.2 倍為最高地積比率，而最高建築物高度限制將定為主水平基準上 120 米，以確保發展密度與周邊已規劃的中至高密度住宅發展相容。擬議修訂能為交通便利的洪水橋／厦村新發展區提供約 3,070 個私營房屋單位，更有效運用發展地點的發展潛力，及確定其發展潛力為智慧綠色集體運輸系統提供財務資助。

擬議修訂的主要規劃理據和規劃增益概述如下：

- 回應政府維持穩定私人住宅發展的政策方向；
- 擬議修訂與鄰近環境兼容；
- 提升行人環境；
- 配合社區需求並改善生活質素；
- 透過逐步取締棕地，以改善環境質素；
- 為潛在可為洪水橋／厦村智慧綠色集體運輸系統項目提供財務資助的土地確定其發展潛力，以回應《2023 年施政報告》、《2024年施政報告》及《2025 年施政報告》中建造洪水橋／厦村智慧綠色集體運輸的建議，促進洪水橋／厦村新發展區的社會經濟發展；及
- 不會造成不良的技術影響。

本擬議修訂的擬議方案，目的為展示整體發展可行性和可能設計概念，並確保其技術可行性及不會對周邊環境造成不利影響。基於上述提出的規劃增益和理據，我們懇請城規會批准是次擬議修訂。

1 INTRODUCTION

1.1.1 This Supporting Planning Statement is submitted for Proposed Amendment to the Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan (HSK/HT OZP) No. S/HSK/2, in support of the rezoning from "Residential (Group B)3" ("R(B)3") to "Residential (Group A)6" ("R(A)6") and an area shown as "Road" at Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories (the Development Sites) to facilitate a Proposed Private Residential Development (Proposed Amendment).

1.1.2 The Development Sites with the proposed area for road/footpath widening fall within Area 4B of the HSK/HT OZP, namely Site 4B-1, Site 4B-2 and Site 4B-3. They are strategically located within the HSK/HT New Development Area (HSK/HT NDA) and the Northern Metropolis (NM). The Proposed Amendment to upzone the Development Sites is in line with the Government's aspiration at NM as to optimise development potential and fully utilise land resources. The Smart and Green Mass Transit System in HSK/HT NDA (HSKSGMTS) was announced by the Chief Executive in the 2023 Policy Address and further expressed the devotion of the Government to taking forward the project in the 2024 Policy Address. It was then announced in the 2025 Policy Address; the Government would invite tenders for the HSKSGMTS in the HSK/HT NDA in 2026. In view of the property market situation, the Civil Engineering and Development Department (CEDD) is exploring to designate the Development Sites as funding support for the HSKSGMTS. As such, it is crucial to confirm the development potential of the Development Sites to ascertain the funding viability of the HSKSGMTS prior to its tender invitation in 2026.

1.1.3 In addition to the support of HSKSGMTS, HSK/HT NDA is positioned as the Modern Logistic Hub since the formulation of the Northern Metropolis Development Strategy in 2021, and later reinforced in the Action Plan on Modern Logistics Development in 2025. With the phased implementation of the HSK/HT NDA and the promising establishment of the High-end Professional Service and Logistics Hub in the area, the Proposed Amendment optimising the development potential at the Development Sites would be compatible with forthcoming transformation at HSK/HT NDA. Various technical assessments conducted have confirmed that the Proposed Amendment is technically feasible and will not generate adverse impacts in terms of traffic, environment, visual, landscape, sewage, drainage, utilities and air ventilation to the surrounding areas.

1.1.4 This Supporting Planning Statement is set out as below:

- **Sections 2 and 3** outline the background and planning context of the Development Sites and its surrounding areas;
- **Sections 4 and 5** explain the Indicative Scheme for the Proposed Residential Development at the Development Sites and the corresponding Proposed Amendment on the OZP;
- **Section 6** presents the planning justifications in support of the Proposed Amendment; and
- **Section 7** concludes the Supporting Planning Statement.

2 SITE CONTEXT

2.1 Site Location

2.1.1 The Development Sites, namely Site 4B-1, Site 4B-2 and Site 4B-3, with an area of about 33,767m^2, are situated at the southern part of HSK/HT NDA abutting Tin Ha Road and Hung Shui Kiu Tin Sam Road. They are adjacent to the existing low-density residential developments and an existing drainage channel to the immediate east. Surrounded by low-rise villages such as Tin Sum Tsuen, San Lee Uk Tsuen, and Chung Uk Tsuen, the Development Sites are located in the vicinity of the planned areas reserved for public and private housing developments to the west (namely Planning Area 27C, 27B, 27A, 34D, 34A and 34B (partly)). The Development Sites are located about 600m to the west of the planned MTR Tuen Ma Line HSK Station. All in all, the Development Sites fall within a residential neighbourhood set out in the planning and land use framework of the HSK/HT NDA.

2.1.2 Please refer to **Figure 2.1** for the location of the Development Sites on the OZP and **Figure 2.2** for the Planning and Land Use Framework extracted from the latest HSK/HT Outline Development Plan (ODP).

2.2 Land Status

2.2.1 The Development Sites comprise a total of about 26,205m^2 of private land lots (73 nos.) and about 7,562 m^2 of adjoining Government Land, including GLA TYL No.1900 for a pavilion at the northeast corner of Area 4B-3. Please refer to **Figure 2.3** for the lot index plan of the Development Sites.

2.3 Existing Use and Condition

2.3.1 A large part of the Development Sites is currently occupied by existing low-rise buildings and temporary structures used for warehouses, workshops and open storage as well as road. Other developments include the pavilion to the northeast corner of Area 4B-3 and the Ha Tsuen Rural Committee to the southwest corner of Area 4B-1. Please refer to **Figures 2.4a-b** for the existing conditions of the Development Sites.

2.4 Surrounding Land Uses

2.4.1 The Development Sites are located next to an existing drainage channel to the east and surrounded by low-rise "Village Type Development" ("V") zones such as Tin Sum Tsuen, San Lee Uk Tsuen, and Chung Uk Tsuen.

2.4.2 To the **immediate south** of the Development Sites are the Church of Jesus Christ of Latter-day Saints in "G/IC" zone and the low-rise residential developments, namely Casa De Oro and Parkview Garden with HSK Temporary Market within the same "R(B)3" zone. To the **further south** across the Light Rail track and Castle Peak Road-Hung Shui Kiu is an area zoned "Other Specified Uses (Petrol Filling Station)" and low-density residential development mixed with temporary structures and temporary open storage, including Bauhinia Garden and Wo Ping San Tsuen in "R(B)2" zone, Chung Uk Tsuen in "V" zone, as well as The Verdancy, Jubilee Gardens and Arnold Gardens in "R(B)" sub-areas.

2.4.3 To the **immediate east** of the Development Sites is the Hung Shui Kiu Nullah where Hung Shui Kiu Egretry is observed[1]. To the **southeast** of the Development Sites include a "G/IC" zone and medium to high-density residential developments, consisting of the Treasure Court and Symphony Garden in "R(A)" zone, Symphony Garden in "R(B)" zone as well as Uptown Towers and Uptown Houses in "Comprehensive Development Area" ("CDA") zone.

2.4.4 To the **immediate west** of the Development Sites are areas designated as "R(A)" sub-zones currently occupied by brownfield uses, as well as a cluster of residential developments, including Tin Sam Tsuen in "V" zone. The "R(A)" sites (namely Planning Area 27C, 27B, 27A, 34D, 34A and 34B (partly)), reserved for public and private housing developments in HSK/HT NDA, are the subject of an approved Planning Application (No. A/HSK/452)[2] for Proposed Minor Relaxation of Plot Ratio and/or Building Height Restrictions for Proposed/Permitted Public and Private Housing Developments. The committed public housing development is anticipated for completion by phases between years 2031/32 and 2032/33[3]. To the **further west** are the planned MTR Tuen Ma Line HSK Station (under construction targeting for commissioning in 2030) and the future Regional Plaza with public open space outside the planned MTR Tuen Ma Line HSK Station, as well as Area 32A for the town centre with planned high-density developments.

2.4.5 To the **north** of the Development Sites are existing temporary open storage and low-density residential development of San Lee Uk Tsuen in "V" zone and Bellevue Court in "Residential (Group C)" zone. To the **further northeast** of the Development Sites are a cluster of residential developments, including LYOS in "Residential (Group B)3" zone, as well as High Park, Eminence Tower I, Casa Eminence, Hung Fuk Estate, in "R(A)" sub-areas.

2.4.6 Please refer to **Figures 2.5a-c** for the surrounding land uses of the Development Sites.

2.5 Accessibility

2.5.1 At present, vehicular access to the Development Sites is available via a local access connected to Tin Ha Road, Hung Shui Kiu Tin Sam Road and Hung Shui Kiu Main Street. Within the "R(B)3" zone, the three Development Sites are well-interconnected by Hung Leong Road, Hung Kei Road and Hung Yu Road. Besides the direct connection to the adjacent Castle Peak Road and further eastern connection to Hung Tin Road, the Development Sites will be served by the planned road network of the HSK/HT NDA, including the western connections to the planned district distributors and Road P1 which is a primary distributor running in north-south direction underneath Kong Sham Western Highway (KSWH).

2.5.2 The Development Sites are situated within 600m walking distance to the planned MTR Tuen Ma Line HSK Station, which is anticipated for commission by 2030 and located in proximity to the proposed Stations A3 and A4 of the HSKSGMTS.[4] According to the latest preliminary

[1] According to the information provided by AFCD, the Development Sites are in close proximity to the Hung Shui Kiu Egretry which has been used by breeding ardeids since 2021. Given that the flightlines from the egretry mainly follow the Castle Peak Road and the Hung Shui Kiu Nullah, it is anticipated that the potential impact on the Hung Shui Kiu Egretry's flightlines by the proposed development would be minor. Good site practices are suggested to be adopted and the details are included in **Figure 5.3d**.

[2] RNTPC Paper No. A/HSK/452 For Consideration by the Rural and New Town Planning Committee on 23.5.2023.

[3] Yuen Long District Council. (Jun 27, 2025). Document No. 10/2025 Public housing development at Hung Shui Kiu/Ha Tsuen New Development Area. Retrieved from https://www.districtcouncils.gov.hk/yl/doc/2024_2027/en/committee_meetings_doc/HC/29374/HC_2025_3rd_Meeting_paper_no_10.pdf

[4] Source: HSKSGMTS website https://www.hskhtsgmts.hk/en/project-overview/#alignment

alignment, the HSKSGMTS Phase 1 will connect Nai Wai to the planned Logistics, Enterprise and Technology Quarter and Residential Area in HSK/HT NDA, and will connect to the Tuen Ma Line Hung Shui Kiu Station (under construction), Light Rail Nai Wai Stop, the Hong Kong-Shenzhen Western Rail Link (Hung Shui Kiu-Qianhai) (under planning) and transport interchanges within the area, serving the residential area where the Development Sites are located.

2.5.3 Additionally, the Development Sites are connected by the existing cycle track within the local road network. In conjunction with the proposed cycle track network and the HSKSGMTS within HSK/HT NDA, connectivity will be further enhanced between the Development Sites and MTR Tuen Ma Line HSK Station, integrating with the broader cycling network of New Territories. The Development Sites are proposed with area for road/footpath widening of about 2,282m^2 within Area 4B to enhance the pedestrian environment.

2.5.4 Please refer to **Figures 2.6a-c** for more details.

3 PLANNING CONTEXT

3.1 Statutory Planning Context

3.1.1 The Development Sites fall within an area zoned "R(B)3" on the Approved HSK/HT OZP No. S/HSK/2. According to the Notes of the OZP, the planning intention of the "R(B)3" is *"primarily for medium-density residential developments where commercial uses serving the residential neighbourhood may be permitted with or without application to the Town Planning Board"*. As stated in the Covering Notes of the OZP, *"area shown as 'Road', all uses or developments except those specified in paragraphs (7)(a) to (7)(d) and (7)(g) above and those specified below require permission from the Town Planning Board: road, toll plaza, on-street vehicle park, railway station and railway track"*.

3.1.2 For details, please refer to **Figures 3.1a-b and 3.2** for the extracted Schedule of Use and Explanatory Statement of "R(B)3" of the OZP.

3.2 Planning History of the Development Sites

3.2.1 The Development Sites are subject to the following approved planning applications:

Table 3.1 Planning History of the Development Sites

Application No.	Applied Use	Approved Date
A/HSK/128 A/HSK/128-1 to A/HSK/128-7	Proposed Temporary Warehouse (Furniture Storage) for a Period of 3 Years	22/02/2019
A/HSK/336	Temporary Warehouse for a Period of 3 Years	10/12/2021

3.3 Building the Smart and Green Mass Transit System in HSK/HT NDA

3.3.1 As mentioned in Section 1.1.2, the Chief Executive announced in the 2023 Policy Address to implement the HSKSGMTS. The Chief Executive further expressed in the 2024 Policy Address the devotion of the Government to taking forward the HSKSGMTS and announced in 2025 Policy Address to invite tenders for HSKSGMTS in 2026. The HSKSGMTS is about 16 kilometres in length, most of which are dedicated roads. At the major and busy road junctions, grade separation arrangements will be adopted to segregate the HSKSGMTS from the other road-based traffic. Coupled with the real-time adaptive traffic signal system to be implemented in the area, overall smooth traffic flow can be achieved. The HSKSGMTS will adopt a green road-based mode without the need for physical rail tracks. Plying through the HSK/HT and YLS NDAs, the HSKSGMTS will serve some 300 000 residents and a working population of about 160,000 in the areas. The HSKSGMTS will connect to Hung Shui Kiu and Tin Shui Wai Stations of the Tuen Ma Line, Chung Fu and Nai Wai Stops of the Light Rail, as well as the existing and to-be-built public transport interchanges in the HSK/HT and YLS NDAs, providing the public with convenient feeder services to travel to various districts of Hong Kong.

3.3.2 The HSKSGMTS will be implemented in phases to meet the transport and traffic demand at different development phases of the Hung Shui Kiu/Ha Tsuen and Yuen Long South New Development Areas. The entire system will be approximately 16 km long and will comprise three lines, including Line 1 connecting Nai Wai and Chung Fu, Line 2 connecting Lau Fau

Shan and Tuen Ma Line Tin Shui Wai Station, and Line 3 connecting Yuen Long South New Development Area and Tuen Ma Line Tin Shui Wai Station. The system will traverse the two new development areas, connecting to Tuen Ma Line and Light Rail network, as well as transport interchange hubs, providing convenient feeder services for about 300,000 residents and 160,000 employments in the areas for traveling to different districts of Hong Kong.

3.3.3 The HSKSGMTS is expected to bring significant economic benefits to the HSK/HT NDA and nearby regions e.g. Tin Shui Wai, LFS Areas and Yuen Long South NDA, including job creation, increased property values, and enhanced infrastructure. Furthermore, the HSKSGMTS system will contribute to sustainable urban development and overall quality of life for residents.

3.4 Government's Staunch Commitment to the Development of Northern Metropolis

3.4.1 Since the first launch in 2021, the NM has been considered as an important development node in Hong Kong. The recent 2025 Policy Address further reinforces NM's role as a new engine for Hong Kong's economic growth, highlighting its substantial potential. The Government has also set goals to accelerate NM development to increase the local competitiveness of scientific and technological innovation. The key initiatives include the development of the NM University Town, expansion of the I&T Zone, and integration with I&T ecosystem in Shenzhen. These efforts aim to attract talent, foster cross-boundary collaboration, and promote sustainable urban development.

3.4.2 Situated within the "High-end Professional Services and Logistics Hub" of the NM, the HSK/HT NDA is strategically positioned to become a premier centre for high-end professional services and cross-boundary modern logistics (**Figure 3.3** refers). Its connectivity will be significantly improved by the Hong Kong–Shenzhen Western Rail Link (Hung Shui Kiu-Qianhai) (HSWRL), facilitating access to the Nanshan District and the Qianhai Shenzhen–Hong Kong Modern Service Industry Cooperation Zone within the Greater Bay Area. Additionally, it will benefit from its proximity to the planned LFS Areas, which will feature eco-tourism developments and a Digital Technology Hub.

3.4.3 Given the prosperous outlook of the HSK/HT NDA with the resources and possibilities recognised by the NM, the Development Sites with its strategic location are well-positioned to leverage the development potential associated with the planned HSK Station and HSWRL. This initiative will benefit from cross-boundary synergies, fostering a talent-friendly environment for professionals who regularly travel between Hong Kong and the Mainland. Therefore, the Proposed Amendment will enhance the growth of NM by offering a high-quality living environment that caters to professionals and emerging talents in innovation, technology, and professional services within NM.

3.5 Active Progress in the Phased Development of HSK/HT NDA

3.5.1 The HSK/HT NDA is being implemented in three phases. Works for the First Phase Development commenced in 2020, with the first batch of public housing development completed (namely Hong Kong Housing Society's dedicated rehousing estate – Casa Eminence) and initial population intake began in 2024. Currently, the HSK/HT NDA has entered into the land resumption and construction stage of the Second Phase Development, with population intake targeting to start from 2030. The Development Sites are located within the Remaining Phase Development (**Figure 3.4** refers), where developments are expected to

commence together with the LFS Areas and government-initiated works are scheduled to commence around 2030.

3.5.2 As set out in the ODP, the positioning of the HSK/HT NDA is to become a next generation new town of Hong Kong creating a desirable community, with a focus on modern logistic hub as its industrial positioning. The NDA will also be home to new population by providing a large number of public and private residential units to meet the housing demand. Located along the major green spine and within the designated residential area, the Development Sites would emerge in harmony upon the Proposed Amendment completed in offering high-quality residential units thus contributing to housing supply in HSK/HT NDA.

3.6 Unleashing Development Potential Through Phasing Out Brownfield Sites

3.6.1 Following the aspirations of the HSK/HT NDA and NM, the Proposed Amendment could utilise the land resources by phasing out brownfield operations atop for better development potential and rationalise land uses.

3.6.2 According to the Study on Existing Profile and Operations of Brownfield Sties in the New Territories conducted in 2019, there are about 246.3 ha of brownfield sites. These sites, often underutilised and occupied by temporary structures, warehouses, and open storage, present a significant opportunity for redevelopment. In view of the strategic location, transport considerations and size of brownfield clusters, the brownfield operations identified within the Development Sites were considered of high and medium development potential. It is evident that the Development Sites should warrant higher density development to unleash the development potential for wider benefits. The Proposed Amendment would induce increased housing supply, job creation, and improved infrastructure, all of which are essential for the sustainable growth of the HSK/HT NDA and NM.

3.7 Responding to Government's Initiative to Steady Housing Supply

3.7.1 As per the projection from the Long-Term Housing Strategy (LTHS) Annual Progress Report 2025 (for the 10-year period from 2026-27 to 2035-36), the projected total private housing supply target is 126,000 units [5]. It has been highlighted that the Government will work towards the private housing supply target in a multi-pronged approach under the possible changes of household formation and different economic and property market situations.

3.7.2 This has been reaffirmed in the 2025 Policy Address that the Government will stabilise the supply of spade-ready sites for private housing and is determined to sustain endeavours in land production. The Development Sites, for the following reasons, are qualified as a site conducive to ensure timely land supply for residential development: (1) the Development Sites are initially zoned "Residential" under the HSK/HT OZP; (2) the Development Sites are largely formed given the presence of brownfield operations and temporary structures; (3) Proximity to planned residential development, infrastructure, community facilities and open space provision in HSK/HT NDA; (4) Well-served by comprehensive road network and public transport services, including the Proposed HSK Station.

[5] Long Term Housing Strategy Annual Progress Report 2025 (for the 10-year period from 2026-27 to 2035-36). https://www.hb.gov.hk/eng/policy/housing/policy/lths/LTHS_Annual_Progress_Report_2025.pdf

3.7.3 Therefore, the Proposed Amendment would align with the Government's initiative to create developable land to build more housing, to optimise a spade-ready piece of land adjacent to a cluster of planned and committed residential development well-served by public transport facilities, for contributing to steady private housing supply.

4 INDICATIVE SCHEME FOR RESIDENTIAL DEVELOPMENT AT THE DEVELOPMENT SITES

4.1 Unleashing Development Potential in a Prime Location

4.1.1 To support the economic development and job creation of the HSK/HT NDA as positioned as a high-end professional services and modern logistics hub, the NDA will accommodate approximately 184,000 new population and provide around 66,700 new housing units [6]. In addition, the Development Sites are in close proximity to the planned MTR Tuen Ma Line HSK Station within 600m walking distance and the planned high-density residential developments in the surroundings, which the adjacent permitted public and private housing sites are with PR of 6.8 and 6.5 as well as building height ranging from 135mPD to 180mPD. Therefore, this Proposed Amendment is suitable in this well-connected location within HSK/HT NDA to take forward the intensification for private housing with higher development density. This will unleash its full development potential of the Development Sites and align with the Government's efforts to speed up the development of NM, including HSK/HT NDA, and contribute to a steady housing supply.

4.1.2 To allow optimum use of the Development Sites and design flexibility, the Indicative Scheme to upzone the Development Sites from "R(B)3" to "R(A)6" will be subject to a maximum total PR of 5.2 accommodating a domestic PR of 5 and a maximum building height of 120mPD, compared to the current development restrictions for maximum total PR of 1.26 and maximum building height of 6 storeys. The proposed new PR and building height restriction will induce increase in development intensity of the Development Sites for high-density residential development. General planning and design principles formulated to determine the development scale and design of the Proposed Development are presented in **Section 4.2** below.

4.2 General Planning and Design Principles

4.2.1 **Ensuring a Compatible Development Intensity with the Surroundings and the Future HSK Town Centre** – The Development Sites are located at the southern part of the HSK/HT NDA in-between the existing high-density residential developments to the southeast and the planned high-density residential neighbourhood in the Second Phase development to the southwest. The Proposed Development adopts a development scale compatible with the adjacent permitted public and private housing sites in the HSK Town Centre. With maximum total PR of 5.2 and maximum building height of 120mPD, the Proposed Development will blend in with the adjacent development.

4.2.2 **Creating Visual Relief and Enhancing Air Ventilation with Appropriate Building Disposition** – The Development Sites are proposed with 3 low-rise building zones with maximum height of 25mPD and minimum width of 30m to create visual relief. These zones are located in-between the Sites at the northern parts of Site 4B-1 and Site 4B-2, and the eastern part of Site 4B-3. In addition, the recessed podiums are proposed in the central locations of each site adjacent to the existing "R(B)" developments, creating visual buffer between the high-rise blocks within the same site. Moreover, the green features including

[6] Hung Shui Kiu/ Ha Tsuen New Development Area – Project Overview. https://www.hskhtnda.hk/en/planning-overview/#positioning

podium garden will be incorporated in all three Development Sites to enhance air ventilation at micro-climate level, thus reducing the development bulk by encouraging the use of breathing spaces. A range of wind enhancement features is also proposed to mitigate the air ventilation impact, including building and tower setbacks, as well as introduction of air paths aligning with the prevailing wind directions. The design allows for better air ventilation between the proposed residential blocks and contributes positively to the overall urban design of the neighbourhood.

4.2.3 **Adopting Sensitive Design in Response to the Site Context** – The Indicative Scheme is incorporated with the design measures such as road /footpath widening and covered walkway, podium recesses, building setback and separation. The footpaths along Tin Ha Road, Hung Leong Road, Hung Kei Road and Hung Yu Road are widened to provide adequate space for street furniture, greenery planting and enhance walking experience. Along the Tin Ha Road and Hung Shui Kiu Tin Sam Road and Hung Shui Kiu Main Street, provision of all-weather covered walkways is proposed to improve pedestrian comfort and enhance walking experience. Moreover, an additional 3m building setback is provided next to the existing bus station at Tin Ha Road to improve passenger waiting experience. Besides, the provision of minimum 2m setback with greenery planting is proposed along the site boundary facing the existing "R(B)" developments, particularly along Hung Leong Road, Hung Kei Road and Hung Yu Road, to improve the visual compatibility. These setbacks are intended to comply with the Building Setback requirement under PNAP APP-152. To enhance visual permeability, the shared podiums of the residential blocks are proposed to be recessed by allowing sufficient building separation facing Hung Kei Road and Hung Yu Road, which is intended to fulfil the design requirements under PNAP APP-152 while minimising the podium height which is two storeys. In addition, the incorporation of podium garden in all residential blocks is proposed to provide visual relief and in view of the high-density residential development. The Proposed Development will be developed in a self-contained manner, with its own vehicular and pedestrian access as well as internal transport facilities for residents in accordance with the Hong Kong Planning Standards and Guidelines (HKPSG).

4.2.4 **Synergising with the Surrounding in the NDA** – The proposed residential neighbourhood is intended to be developed in a self-sufficient manner with vehicular and pedestrian access and car parking facilities serving the future residents. In addition, minimum 5m building setback is proposed at Site 4B-3 facing the riverside promenade for providing alfresco dining area. It aims to synergise with the proposed retail floorspaces to create a vibrant riverfront public realm.

4.3 Key Development Parameters

4.3.1 Based on a maximum total PR of 5.2 with maximum domestic PR of 5 and a maximum building height of 120mPD, the Indicative Scheme has been formulated to demonstrate the technical feasibility. The Indicative Scheme consists of 14 residential blocks on top of 2-storey retail and car park cum podium garden, providing a total of about 3,070 private housing units on the Development Sites. Two retail blocks are also proposed in Site 4B-2.

4.3.2 Key development parameters of the Indicative Scheme are summarised below in **Table 1**. Please also refer to the **Annex A** for the indicative layout plans for the Development Sites for demonstration of technical feasibility in support of this proposed Amendment.

Table 1 Development Parameters of the Indicative Scheme

Development Parameters		Indicative Scheme			
		Site 4B-1	**Site 4B-2**	**Site 4B-3**	**Total**
Site Area (About)(m^2)		9,062	16,089	8,616	33,767
Plot Ratio (PR)	Total	5.2	5.2	5.2	5.2
	Domestic PR	5.0	5.0	5.0	5.0
	Non-domestic PR [1]	0.2	0.2	0.2	0.2
GFA(About) (m^2) [2]	Total	47,121	83,665	44,801	175,587
	Domestic GFA	45,308	80,447	43,078	168,833
	Non-domestic GFA	1,812	3,218	1,723	6,753
Building Height (Main Roof) (About)		+115.1mPD	+104.6-117.2mPD for towers; +16mPD for Retail Blocks I & II	+98.3-117.2mPD	Not more than 120mPD
No. of Blocks		4	8 (including 2 nos. of retail blocks)	4	16 (2 nos. of retail blocks in Site 4B-2)
No of Storeys		30 (including 2-storey podium)	27-31 (including 2-storey podium); 1 storey for Retail Blocks I & II	25-31 (including 2-storey podium)	25-31 (including 2-storey podium)
Site Coverage (Not more than) [3]		33.33%	33.33%	33.33%	33.33%
No. of Flat (About) [4]		824	1,463	783	3,070
Private Open Space		Not less than 1 sq.m / person			
Anticipated Population (About) [5]		2,225	3,950	2,114	8,289
Anticipated Population Intake Year		2035			
Internal Transport Facilities [6]					
Private Car Parking	Residential	186	330	177	693
	Retail	13	22	12	47

Development Parameters		Indicative Scheme			
		Site 4B-1	Site 4B-2	Site 4B-3	Total
Motorcycle Parking	Residential	9	15	8	32
	Retail	2	3	2	7
Parking Spaces for Light Goods Vehicle (LGV)	Residential	-	-	-	-
	Retail	2	3	2	7
Parking Spaces for Light Goods Vehicle (HGV)	Residential	-	-	-	-
	Retail	1	2	1	4
Loading/ Unloading Bays	Residential	4	6	4	14
	Retail	3	5	3	11
Visitor Parking	Residential	20	30	20	70
Bicycle Parking	Residential	184	326	174	684
	Retail	10	17	9	36

Remarks:

[1] With consideration of the surrounding land uses, a non-domestic plot ratio (NDPR) of 0.2 is proposed to provide sufficient retail GFA for future residents of the Proposed Development and the neighbourhood. The NDPR 0.2 limits the building bulk and mass to ensure the podium design to be minimal and sensitive to the surrounding environment, in particular the nearby lower-rise developments and structures. In addition, maintaining the NDPR 0.2 for the 2-storey podium would allow GFA exemption for the proposed parking spaces.

[2] The numbers may not add up due to rounding.

[3] This is the maximum permissible percentage site coverage under the Building (Planning) Regulations.

[4] The flat size is assumed to be about $55m^2$.

[5] A person per flat (PPF) ratio of 2.7 is assumed, with reference to the PPF adopted for Permitted Public and Private Housing Developments in the approved Application No. A/HSK/452.

[6] The area of two-storey aboveground carpark is proposed to be exempted from the GFA calculation, according to PNAP APP-2.

4.4 Building Design Merits of The Indicative Scheme

Varying Building Height Profile

4.4.1 The Indicative Scheme is proposed with varying building height among the 3 Development Sites. The design of low-rise building zones of the podium of 16mPD to 21mPD and residential towers ranging from 98.3mPD to 117.2mPD offers a tapered appearance to the building blocks which minimise visual bulkiness. In addition, the undulating building profile demonstrates responsiveness to the surrounding context, enhances visual permeability and offers a more interesting skyline of the Proposed Development. The adjacent permitted public and private housing sites are with building height ranging from 3 storeys to 180mPD, where developments within the nearest area zoned as "Commercial" are permitted for maximum 200mPD building height. The building height profile of the surrounding is diverse and undulating. By adopting maximum total PR of 5.2 and maximum building height of 120mPD, the Proposed Amendment ensures a compatible development intensity in the planned medium- to high-density residential developments.

Low-rise Building Zones

4.4.2 The Indicative Scheme is incorporated with the design of low-rise building zones to create visual relief and enhance visual permeability in the surroundings. In particular, the Development Sites (Site 4B-1, Site 4B-2, and Site 4B-3) are proposed with 3 low-rise building zones with maximum height of 25mPD and minimum width of 30m, to create visual relief between the proposed residential blocks. These zones are located in-between the Sites at the northern parts of Site 4B-1 and Site 4B-2, and the eastern part of Site 4B-3. The building bulk of the towers with these low-rise building zones and overall building footprint is sensitively designed with appropriate building separation to allow visual permeability.

Road / Footpath Widening and Covered Walkway

4.4.3 Under the Indicative Scheme, the area surrounding the Development Sites shown as 'Road' is proposed with road/footpath widening. The footpaths along Tin Ha Road, Hung Leong Road, Hung Kei Road and Hung Yu Road are widened to minimum 3.25m wide following the HKPSG standard for R2 zone on the side of the three Development Sites. Additionally, it is proposed to lengthen the existing bus stop facing Tin Ha Road, which is situated next to Site 4B-2. It is also proposed with provision of a general layby adjacent to Site 4B-3 facing Hung Yu Road with the footpath to be adjusted accordingly. This aims to create adequate space for street furniture, promote greenery planting and enhance the overall walking experience. Besides, it is proposed with the provision of covered walkways along Tin Ha Road, Hung Shui Kiu Tin Sam Road, and Hung Shui Kiu Main Street to improve pedestrian connectivity.

4.4.4 To support the traffic generated from the Development Sites, it is proposed to upgrade Junction J10 to a signalised junction with additional traffic lanes on Tin Ha Road and Road L16. Following the proposed road widening along Tin Ha Road and Hung Leong Road adjacent Sites 4B-1 and 4B-2, Tin Ha Road carriageway will be widened to around 12m, with two lanes approaching the junction and one lane departing the junctions. Road L16 carriageway will be widened to around 13.5m, providing two lanes in each direction. Signalised pedestrian crossings are added to each arm to improve the pedestrian connectivity to nearby PTI and HSK Station. The Hung Leong Road section in connection with J10 will

also be widened to 7.3m, maintaining a single-2 lane arrangement. The details on the junction improvement measures are included in **Annex B** for the Traffic Impact Assessment.

Building Setback

4.4.5 In addition to extending the existing bus stop abutting Site 4B-2 at Tin Ha Road, an additional 3m building setback is provided for bus station waiting area to enhance the passenger waiting experience. Besides, the provision of minimum 2m setback with greenery planting is proposed along the site boundary facing the existing "R(B)" developments, particularly along along Hung Leong Road, Hung Kei Road and Hung Yu Road, to improve the visual compatibility. In addition, these setbacks are intended to fulfill the Building Setback requirement under PNAP APP-152 in that no parts of the buildings are within 7.5m from the centrelines of the above mentioned streets.

4.4.6 It is further proposed to incorporate minimum 5m-wide setback area at Site 4B-3 facing Hung Shui Kiu Main Street. Within the setback area at Site 4B-3, which faces the riverside promenade along Hung Shui Kiu Main Street, alfresco dining will be proposed to synergise with the proposed retail floor spaces, thereby creating a vibrant riverfront public realm.

Building Separation

4.4.7 The shared podiums of the residential blocks are proposed to be recessed by allowing sufficient separation distances from Hung Kei Road and Hung Yu Road. The podium recesses are strategically located at the central locations of each site. In addition, there will be minimum 7.5m setback at the podium level along the common lot boundaries of Sites 4B-1 and 4B-3. These separation and setback are intended to fulfil the design requirements under PNAP APP-152 while minimising the podium height which is two storeys. Therefore, the podium design is intended to reduce the building bulk and enhance integration with the surrounding environment, thereby improving visual permeability.

Landscape Features

4.4.8 Aiming to deliver a high-quality and sustainable environment with adequate landscape area for enjoyment of the residents, the Development Sites are incorporated with landscape spaces to complement the buildings' form and function, ensuring a seamless transition between interior and exterior environments. Also, sufficient landscape treatment is proposed along the boundary to minimise the potential visual impact of the built form.

4.4.9 In particular, the G/F landscape design has created a welcoming plaza for residents. A feature planter is proposed at the main entrance to enhance the sense of arrival and to provide a clear separation between the driveway and pedestrian walkway. Additionally, ornamental trees and shrubs are proposed along the development to soften the built environment and enhance greenery. At the podium level, the landscape design comprises a seating garden that serves as a passive open space for building occupants/ users to relax and enjoy. The exterior areas of the clubhouse on the podium are designed to preserve ample activity spaces, including a swimming pool, kid's pool, open lawn and adventure pocket park for the building occupants/ users to engage in leisure activities.

Site Coverage of Greenery

4.4.10 The Indicative Scheme is proposed with not less than 30% greenery coverage in compliance with the requirements set out in PNAP APP-152. In addition, the incorporation of green

features, including podium garden, in all three Development Sites aims to enhance air ventilation at micro-climate level. Therefore, the building design reduces the development bulk by encouraging the use of breathing spaces. This also contributes positively to the overall visual and air ventilation performance of the Development Sites as well as the surrounding residential area.

4.4.11 Please refer to the **Annex C** for the Landscape Master Plan of the Development Sites for the proposed landscape design in support of this proposed Amendment.

5 AMENDMENT PROPOSAL

5.1 Considerations for an Appropriate Zoning

5.1.1 In light of the aspirations of the HSK/HT NDA and NM development, as well as the significance to the implementation of HSKSGMTS and after taking into account various technical and infrastructural aspects, the Development Sites are identified suitable and appropriate for private residential development. With consideration to respond to market needs, an appropriate zoning is considered necessary for the Development Sites to put forward the Indicative Scheme as such to provide a total of 3,070 residential units in less than a decade, serving an estimated population of 8,289. The Proposed Amendment is complementary to the well-established infrastructure within HSK/HT NDA, and is useful in serving the existing and future community of the NDA.

5.2 Appropriate Zoning Control

5.2.1 The proposed zoning should have appropriate zoning control over the proposed use, scale and intensity by designating restriction on the PR and BH. Appropriate zoning control would ensure that the Indicative Scheme will be compatible with the surroundings while at the same time committing public planning gains as illustrated in the Indicative Scheme.

5.3 Appropriate Zoning Flexibility

5.3.1 The proposed zoning should allow flexibility in order to response to changing market needs, evolving socio-economic aspirations as well as the detailed planning of the HSK/HT NDA. Given the location within the residential neighbourhood, considerations should be given in setting appropriate control to avoid nuisances and interface issues at the neighbourhood. Providing flexibility would also encourage creative and innovative building design at this prominent location near to the planned HSK Station.

5.4 The Proposed Amendment

5.4.1 In light of the discussions in the above paragraphs, the Proposed Amendment proposes to amend the Plan and Notes to the Approved HSK/HT OZP No. S/HSK/2 by rezoning the Development Sites from "R(B)3" to "R(A)6" to reflect the intention for high-density residential development.

5.4.2 To facilitate the development of the Indicative Scheme discussed in Section 4, the "R(A)6" zone is proposed to cover the entire Development Sites where 'Flat' is always permitted (i.e. under Column 1 of the Notes of the OZP) and can support the construction and operation of the Indicative Scheme. As illustrated in the Indicative Scheme, the proposed "R(A)6" zone will be subject to a maximum PR of 5.2 and a maximum building height of 120mPD. This development scale is proposed with reference to adjacent residential sites zoned "R(A)2", "R(A)3" and "R(A)4" within BH ranged from 140mPD to 160mPD, to ensure a compatible development scale with the surrounding area. The Indicative Scheme is also aligned with the scale of the permitted public and private housing developments within "R(A)" sites to the southwest with a total PR of 6.8 and 6.5 respectively, as approved under Planning Application No. A/HSK/452. As these adjacent "R(A)" sites are proposed with building height ranging

from 160mPD to 175mPD, the Proposed Amendment with maximum building height of 120mPD will contribute to maintain the stepped building height profile of the HSK/HT NDA.

5.4.3 The Proposed Amendment is intended to providing certainty on development potential of the sites possible for providing funding support for the HSKSGMTS and expedite the provision of housing supply by private sector in Hong Kong at a suitable location. The Proposed Amendment on the Plan is shown in **Figure 5.1**. The proposed Schedule of Uses and Explanatory Statement of the "R(A)6" zone are provided in **Figures 5.2a-c and 5.3a-d**.

6 PLANNING JUSTIFICATIONS

6.1 Providing Certainty to Development Potential of the Sites Possible for Providing Funding Support for the HSKSGMTS Project – Contributing to the Socio-economic Development

6.1.1 As deliberated in Section 1.1.2, the Government may consider granting property development rights at the Development Sites to provide funding support for the HSKSGMTS project. It will contribute to create socio-economic benefits to the HSK/HT NDA and nearby communities in Tin Shui Wai, LFS Areas and Yuen Long South NDA. Being strategically located and adjacent to the planned HSK Town Centre with close proximity to the planned HSK Station and HSKSGMTS, these Sites are highly accessible and connected. The Proposed Amendment introducing intensification of the private residential development will further enhance the development potential of the sites as well as their land values. It is crucial to firm up the funding arrangement of HSKSGMTS project prior to the tender invitation in 2026 for phased implementation. Furthermore, the HSKSGMTS is expected to bring significant economic benefits to the HSK/HT NDA and nearby regions e.g. Tin Shui Wai, LFS Areas and Yuen Long South NDA, including job creation, increased property values, and enhanced infrastructure. As a result, the residential developments and the HSKSGMTS will contribute to sustainable urban development and improve the overall quality of life for residents.

6.2 Improving the Environmental Quality through Phasing Out of Brownfield Uses

6.2.1 As the Development Sites are largely occupied by low-rise buildings and temporary structures used for warehouses, workshops and open storage in an unorganised manner, the Proposed Amendment will contribute to phase out the existing brownfield uses and adopt the building design considerations to enhance the environmental quality. To create visual relief zones and enhance air ventilation, the Development Sites are proposed with 3 low-rise building zones with maximum height of 25mPD and minimum width of 30m. It helps create visual relief between the proposed residential blocks. Moreover, the green features including podium garden will be incorporated in all three Development Sites to reduce development bulk and enhance air ventilation at micro-climate level. The design allows for better air ventilation between the proposed residential blocks and contributes positively to the overall urban design of the neighbourhood.

6.2.2 The incorporation of landscape features such as ornamental tree and shrub plantings along the site boundary not only will enhance the greenery but also soften the building form. This will help mitigate the visual impacts of built structures and create a harmonious interface with the surrounding environment. For instance, the landscape design at G/F has created a welcoming plaza for the residents, a feature planter proposed at the main entrance is to create a sense of arrival and provide a separation between the driveway and pedestrian walkway. By ensuring a seamless transition between interior and exterior environments, the architectural design is proposed to be integrated with the landscape area, for example, the seating garden at podium level is proposed for the building occupant/ users to use as a passive open space for sitting out and relax. This will improve the environmental sustainability and enhance quality of living environment for the residents.

6.3 Responding to Government's Endeavours to Maintain Steady Private Housing Development

6.3.1 The Proposed Amendment has responded to the Government's commitment to maintain a steady supply of land for private housing and accelerate the development of Northern Metropolis, which is reaffirmed in 2025 Policy Address. Optimising the utilisation of Development Sites, where the Development Sites will be rezoned from "R(B)3" to "R(A)6" within HSK/HT NDA, for private housing development to support this policy direction, in the context that: (1) the Development Sites are initially zoned "Residential" under the HSK/HT OZP; (2) the Development Sites are largely formed given the presence of brownfield operations and temporary structures; (3) proximity to planned residential development, infrastructure, community facilities and open space provision in HSK/HT NDA; (4) well-served by comprehensive road network and public transport services, including the Proposed HSK Station. The Proposed Amendment is anticipated to provide a total of about 3,070 private housing units in a well-connected location within HSK/HT NDA, contributing to meet the Government's housing supply targets, fulfilling the housing ladder.

6.4 Supporting Community Needs and Improving Quality of Life

6.4.1 Retail floorspaces are proposed within the podiums to create a vibrant commercial corridor connecting Hung Fuk Estate to HSK Town Centre, while creating a positive building façade treatment facing Tin Sum Tsuen. In addition, the Proposed Amendment will be developed in a self-contained manner, with its own vehicular and pedestrian access as well as internal transport facilities for residents in accordance with the HKPSG. In addition, minimum 5m building setback is proposed at Site 4B-3 facing the riverside promenade for providing alfresco dining area. It aims to synergise with the proposed retail floorspaces to create a vibrant riverfront public realm.

6.4.2 Provision of setback and building separations are incorporated into the indicative scheme of Proposed Amendment aiming to improve the pedestrian environment. Along the site boundary facing the existing "R(B)" residential developments, design measures such as minimum 2m-wide building setback with greenery planting are proposed. Additionally, the footpath is widened with setback along the northern and western site boundary facing the Tin Ha Road and Hung Shui Kiu Tin Sam Road. This aims to provide adequate space for street furniture and greenery planting as well as to enhance pedestrian walking experience. In addition to the setback along Tin Ha Road abutting Site 4B-2, an additional 3m building setback is provided next to the existing bus station to improve passenger waiting experience.

6.5 Ensuring Compatibility with the Surrounding Environment

6.5.1 The Proposed Amendment has been ensured with compatible development intensity with the surroundings, which will be characterised by a planned medium- to high-density residential cluster. The Development Sites are adjacent to land uses that complement residents' daily lives, including planned community facilities, playground and local open spaces. These elements collectively contribute to the vibrancy and liveability of the local community.

6.5.2 The adjacent permitted public and private housing sites are with building height ranging from 3 storeys to 180mPD, where developments within the nearest area zoned as "Commercial" are permitted for maximum 200mPD building height. The building height profile of the surrounding is diverse and undulating. By adopting maximum total PR of 5.2 and maximum building height of 120mPD, the Proposed Amendment ensures a compatible development

intensity in the planned medium- to high-density residential developments and maintain the stepped building height profile of the HSK/HT NDA. By respecting the overall development intensity and stepped building height profiles for the HSK/HT NDA, the Proposed Amendment will integrate seamlessly with the surrounding developments and be compatible with the townscape of HSK/HT NDA.

6.6 Confirming no Adverse Technical Impacts to Surrounding Environment

6.6.1 In accordance with the Indicative Scheme developed for technical assessment purposes, a range of evaluations has been carried out to determine the acceptability of the Proposed Amendment. These assessments include the Traffic Impact Assessment (**Annex B**), Environmental Assessment (**Annex C**), Drainage Impact Assessment (**Annex D**), Sewerage Impact Assessment (**Annex E**), Water Supply Impact Assessment (**Annex F**), Utilities Impact Assessment (**Annex G**), Landscape and Tree Preservation Proposals (**Annex H**), Visual Impact Assessment (**Annex I**) and Air Ventilation Assessment – Expert Evaluation (**Annex J**). The results of all technical assessments indicate that the Proposed Amendment will not have any adverse impact on the surrounding environment, nor will it be susceptible to unacceptable environmental qualities.

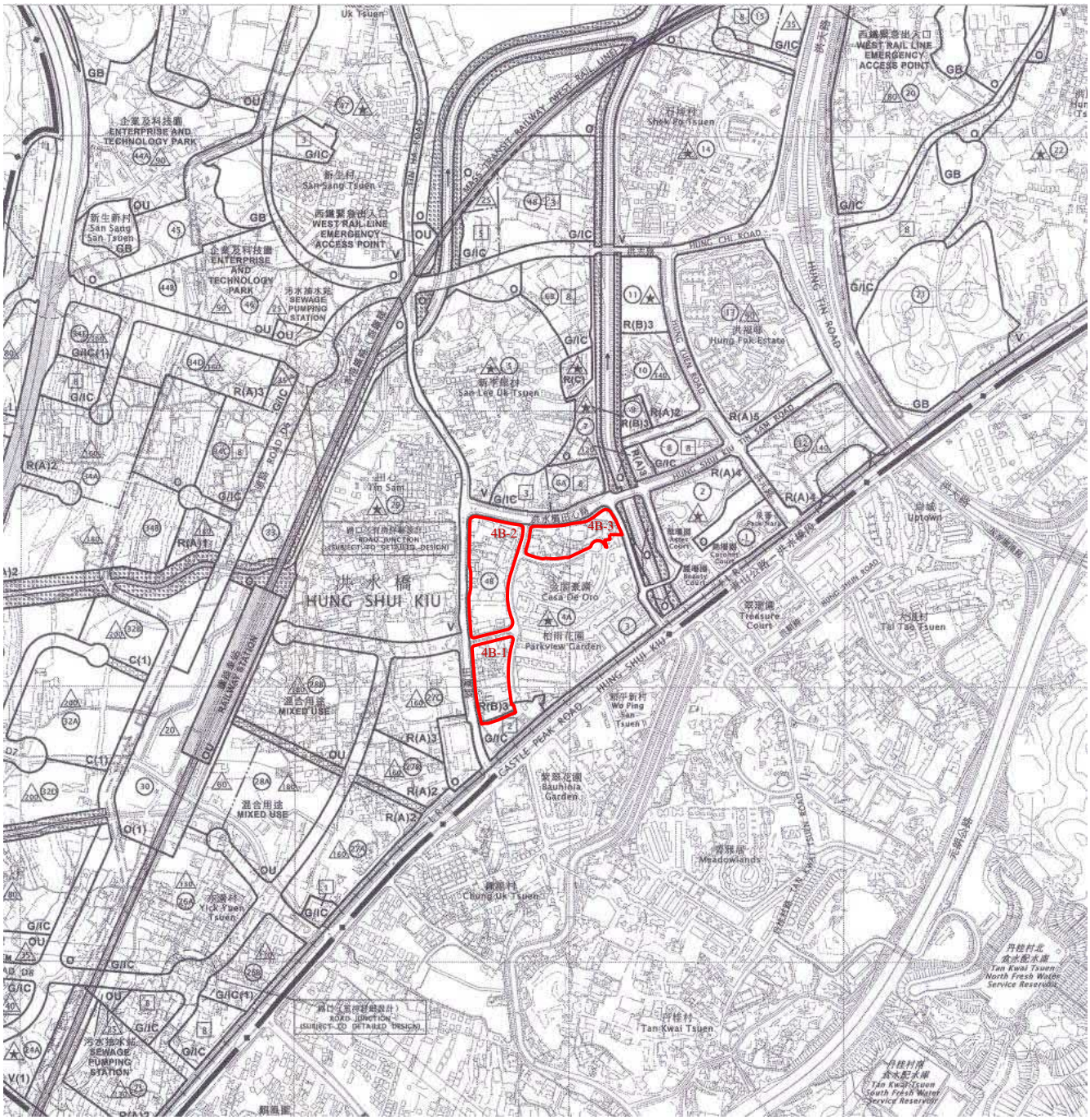
7 CONCLUSION

7.1.1 This Proposed Amendment to the Approved HSK/HT OZP No. S/HSK/2 is submitted for rezoning the Development Sites from "R(B)3" to "R(A)6" and an area shown as "Road" to facilitate a proposed private residential development at Planning Area 4B in HSK/HT NDA. The Proposed Amendment to upzone the Development Sites would align with Government's target to provide steady housing supply while responding to changing planning circumstances in the surrounding areas for maximising development potential of HSK/HT NDA and the Northern Metropolis. Meanwhile, it would be providing certainty on development potential of the sites possible for providing funding support for the HSKSGMTS, contributing to the socio-economic development.

7.1.2 This Supporting Planning Statement has demonstrated the genuine intention to review the land use of the spade-ready piece of land with development potential to be unleashed at the Development Sites, which would be compatible with the adjacent cluster of planned and committed residential development well-served by public transport facilities. Therefore, the Indicative Scheme subject to a maximum PR of 5.2 and a maximum building height of 120mPD under the proposed "R(A)6" zone has been formulated, to provide a total of 3,070 private housing units. The Proposed Amendment would align with the Government's initiative to create developable land to build more housing for contributing to steady private housing supply. The development scale and intensity of the Indicative Scheme have been designed with careful consideration of the surrounding developments and local planning context. It has been shown to be fully compatible with the scale, height profile, and natural environments of the adjacent areas. Apart from phasing out the brownfield operations, the Proposed Amendment would also utilise valuable land resource without compromising the quality of landscape and environment through careful consideration of planning and design merits. Additionally, the technical assessments attached to this Supporting Planning Statement have confirmed that no adverse impact in terms of traffic, landscape, noise, air quality, drainage and sewerage, water supply and utilities is anticipated.

7.1.3 Taking into account the merits and justifications presented in this Supporting Planning Statement, we sincerely seek favourable consideration from the TPB to support this Proposed Amendment.

Figures



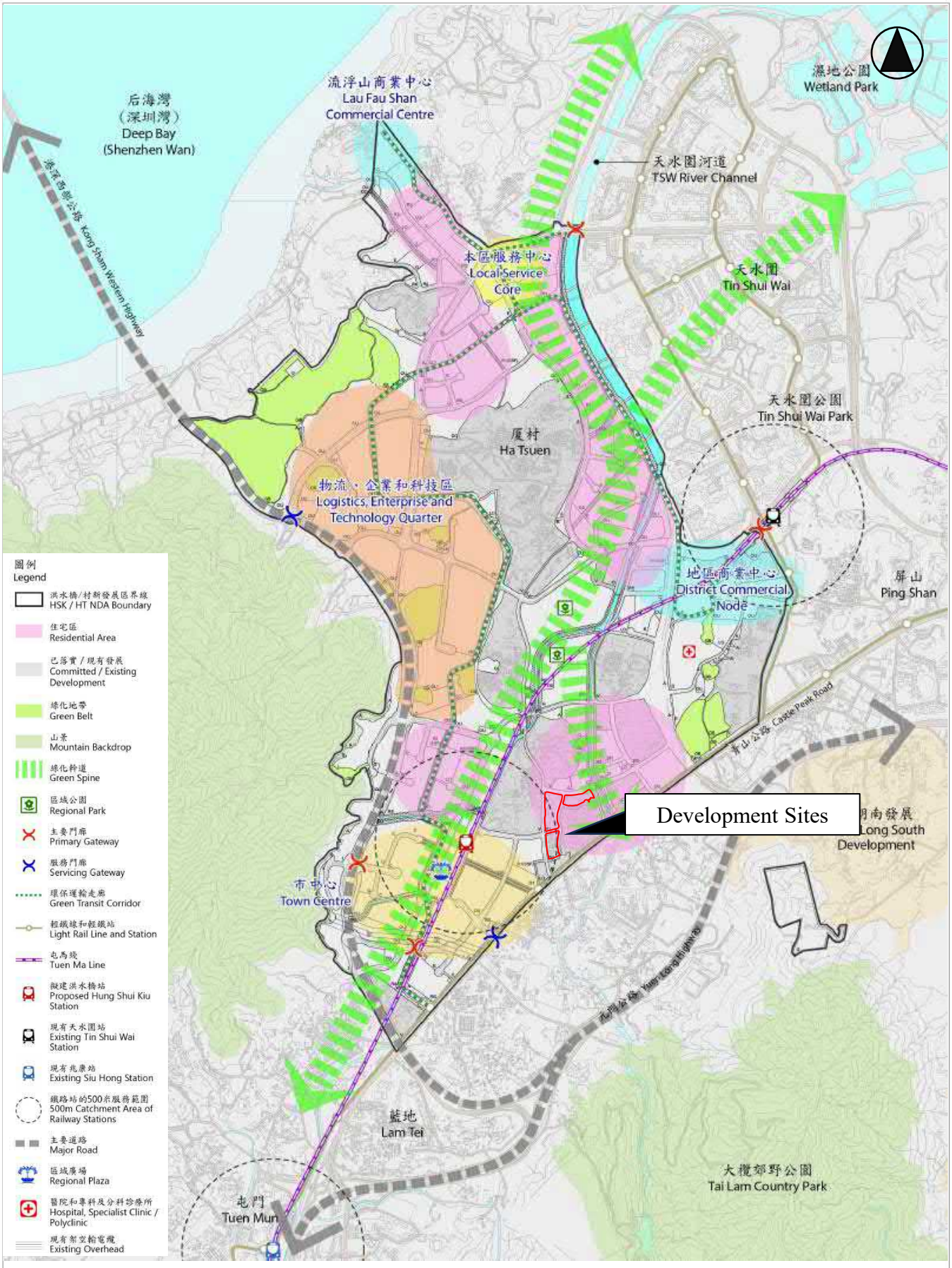
LEGEND

Development Sites

ZONING

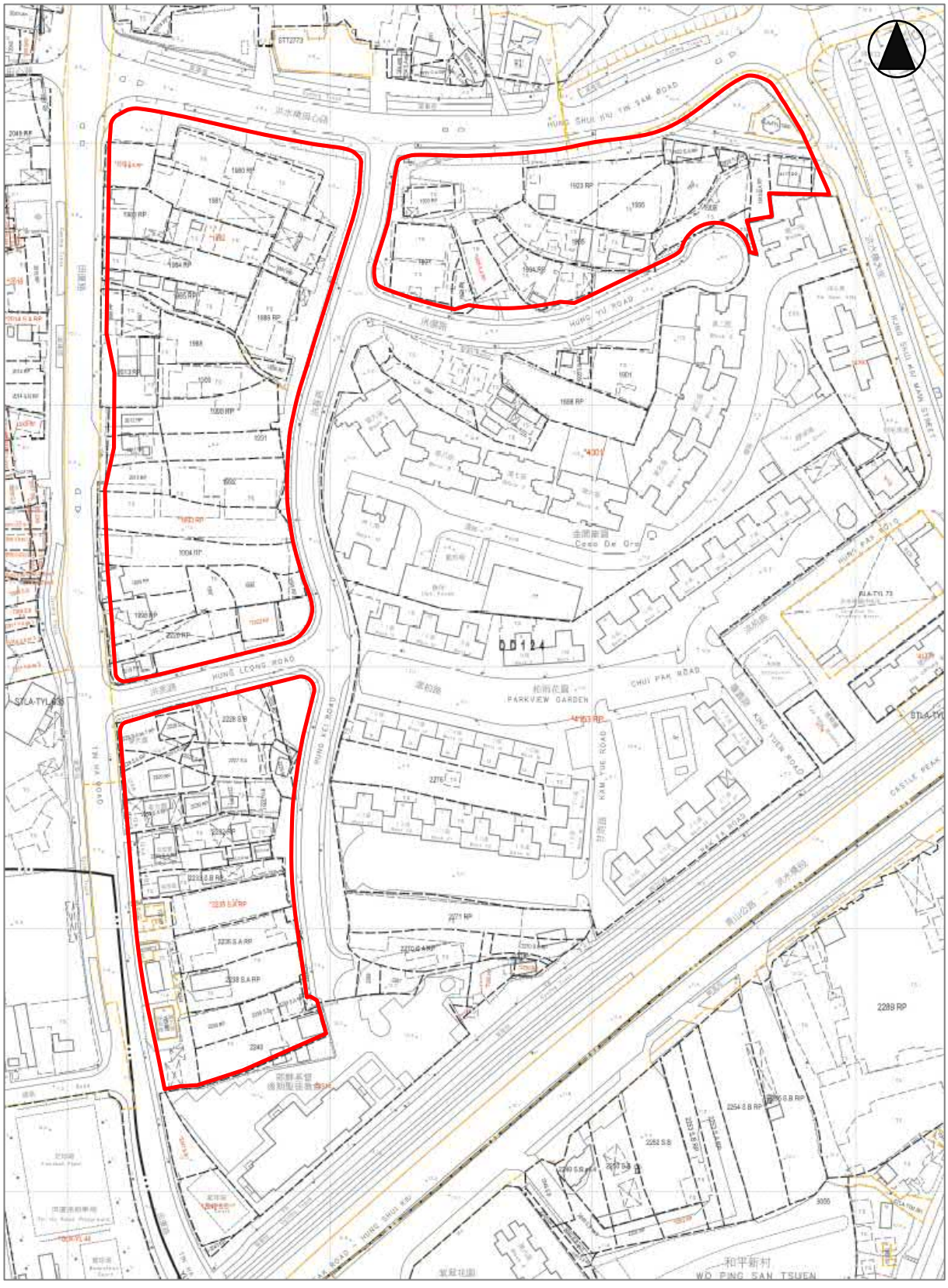
C(1)	Commercial (1)	**R(A)5**	Residential (Group A)5
G/IC	Government, Institution or Community	**R(B)3**	Residential (Group B)3
G/IC(1)	Government, Institution or Community(1)	**R(C)**	Residential (Group C)
GB	Green Belt	**O**	Open Space
R(A)1	Residential (Group A)1	**O(1)**	Open Space (1)
R(A)2	Residential (Group A)2	**V**	Village Type Development
R(A)3	Residential (Group A)3	**V(1)**	Village Type Development(1)
R(A)4	Residential (Group A)4	**OU**	Other Specified Uses

Figure No.	*Scale*	*Figure Title*	**Location Plan**
2.1	-		
ARUP	*Date* February 2026	*Source*	Extracted from Approved Hung Shui Kiu And Ha Tsuen Outline Zoning Plan No. S/HSK/2 gazetted on 26 October 2018



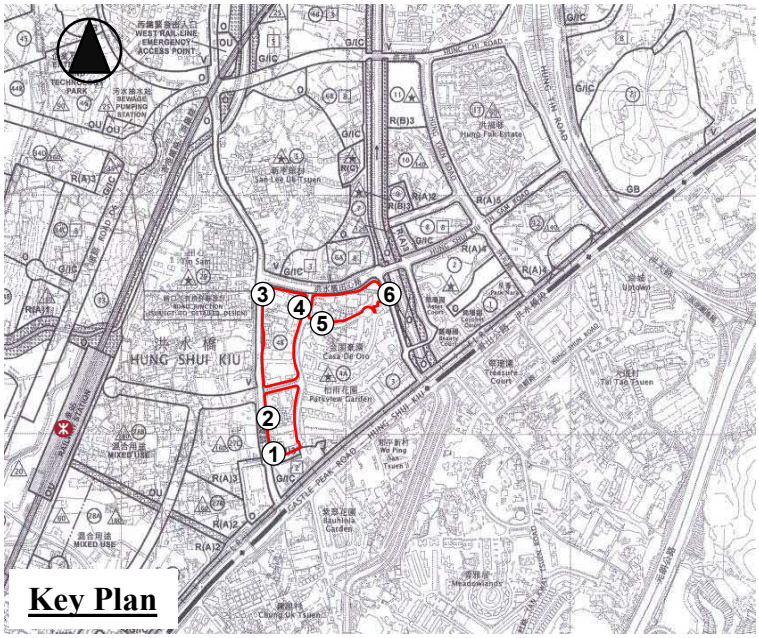
LEGEND Development Sites

Figure No.	*Scale*	*Figure Title*	**Planning and Land Use Framework of Hung Shui Kiu/ Ha Tsuen NDA**
2.2	-		
ARUP	*Date* February 2026	*Source*	Extracted from Approved Hung Shui Kiu And Ha Tsuen Outline Development Plan No. D/HSK/2 adopted on 20 August 2024



LEGEND Development Sites

Figure No.	*Scale*	*Figure Title*
2.3	As shown	**Lot Index Plan**
ARUP	*Date* February 2026	*Source* -



Key Plan

LEGEND

Development Sites

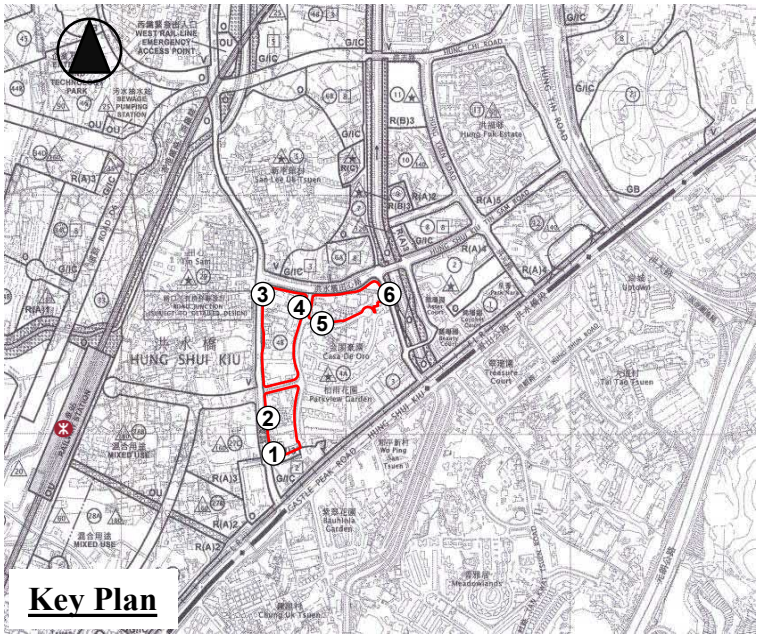
(1) Office of Ha Tsuen Rural Committee

(2) Existing Building along Tin Ha Road (No.125, Tin Ha Rd)

(3) Existing Temporary Structure at the intersection of Tin Ha Road and Hung Shui Kiu Tin Sam Road

(4) Existing Temporary Structure along Hung Kei Road

Figure No.	*Scale*	*Figure Title*	**Existing Condition of the Development Sites (Sheet 1 of 2)**
2.4a	As shown		
ARUP	*Date* February 2026	*Source*	Photos taken in September 2025



Key Plan

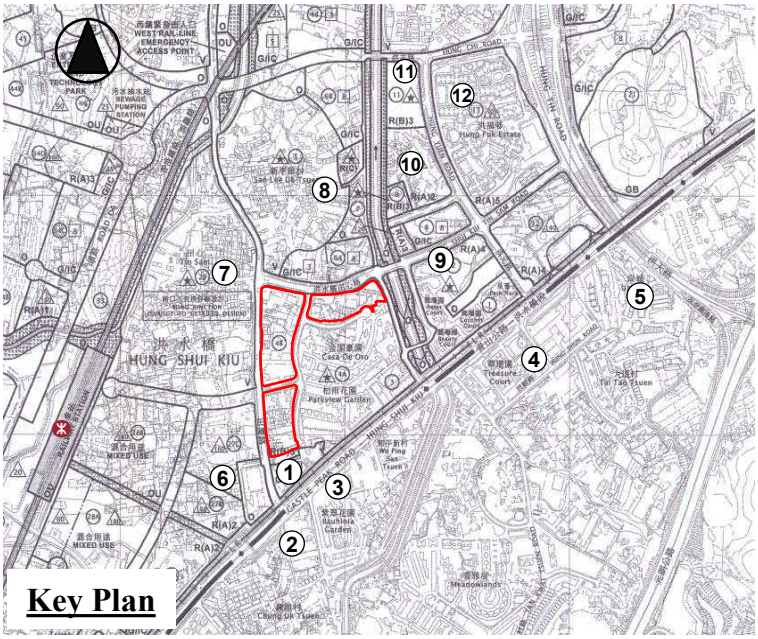
LEGEND

Development Sites

(5) Existing Temporary Structure along Hung Yu Road

(6) Existing Pavilion

Figure No.	*Scale*	*Figure Title*	**Existing Condition of the Development Sites (Sheet 1 of 2)**
2.4b	As shown		
ARUP	*Date* February 2026	*Source*	Photos taken in September 2025



Key Plan

LEGEND

Development Sites

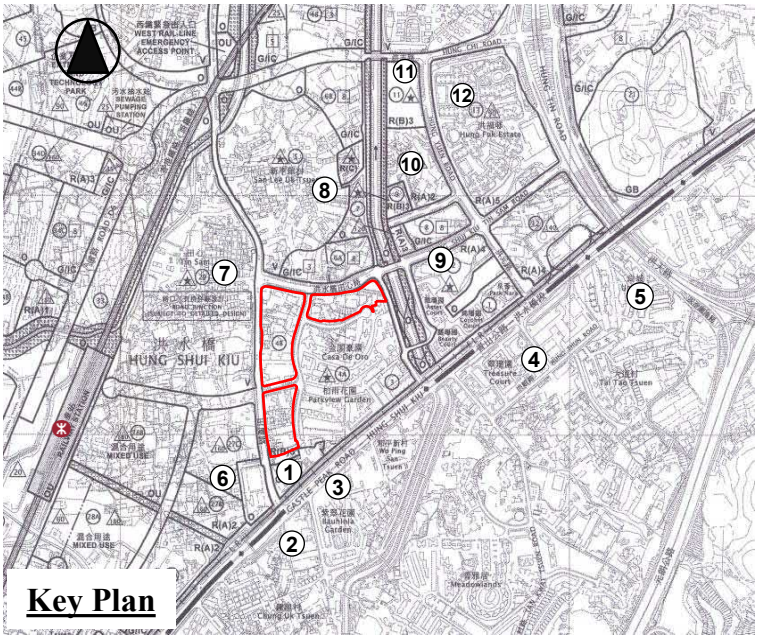
(1) The Church of Jesus Christ of Latter-day Saints in "GIC" zone

(2) Chung Uk Tsuen in "V" zone

(3) Bauhinia Garden in "R(B)2" zone

(4) Symphony Garden in "R(A)" zone

Figure No.	*Scale*	*Figure Title*	**Surrounding Context of the Development Sites (Sheet 1 of 3)**
2.5a	–		
ARUP	*Date* February 2026	*Source*	Photos taken in September 2025



Key Plan

LEGEND

Development Sites

(5) Uptown Tower in "R(A)" zone

(6) Existing temporary warehouse in "R(A)3" zone*

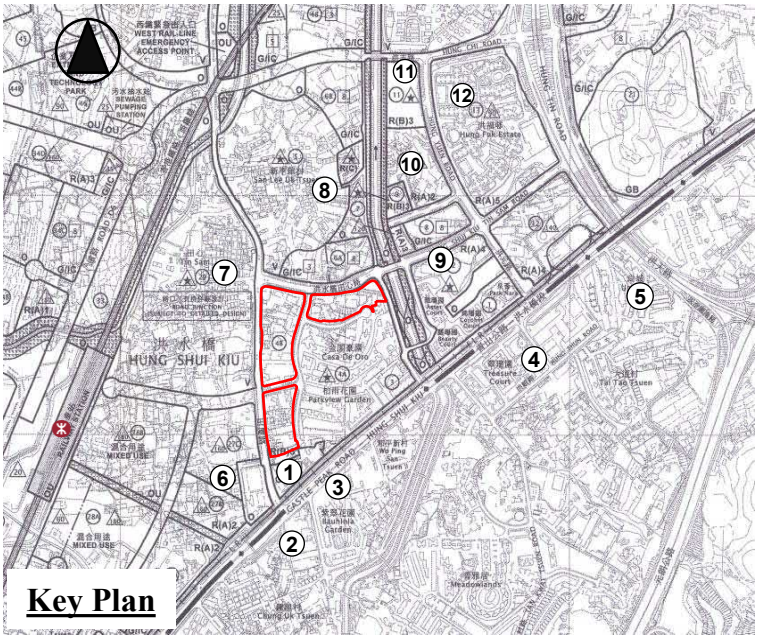
(7) Tin Sam Tsuen (village office) in "V" zone

(8) Bellevue Court in "R(C)" zone

Notes:

* Planned public housing site (about 2.1ha) with total PR of 6.8 as approved under Planning Application No. A/HSK/452 on 23 June 2023.

Figure No.	*Scale*	*Figure Title*	**Surrounding Context of the Development Sites (Sheet 2 of 3)**
2.5b	–		
ARUP	*Date* February 2026	*Source*	Photos taken in September 2025



Key Plan

LEGEND

Development Sites

(9) High Park in "R(A)4" zone

(10) Eminence Tower I in "R(A)2" zone

(11) LYOS in "R(B)3" zone

(12) Hung Fuk Estate in "R(A)5" zone

Figure No.	*Scale*	*Figure Title*
2.5c	–	**Surrounding Context of the Development Sites (Sheet 3 of 3)**
ARUP	*Date* February 2026	*Source* Photos taken in September 2025

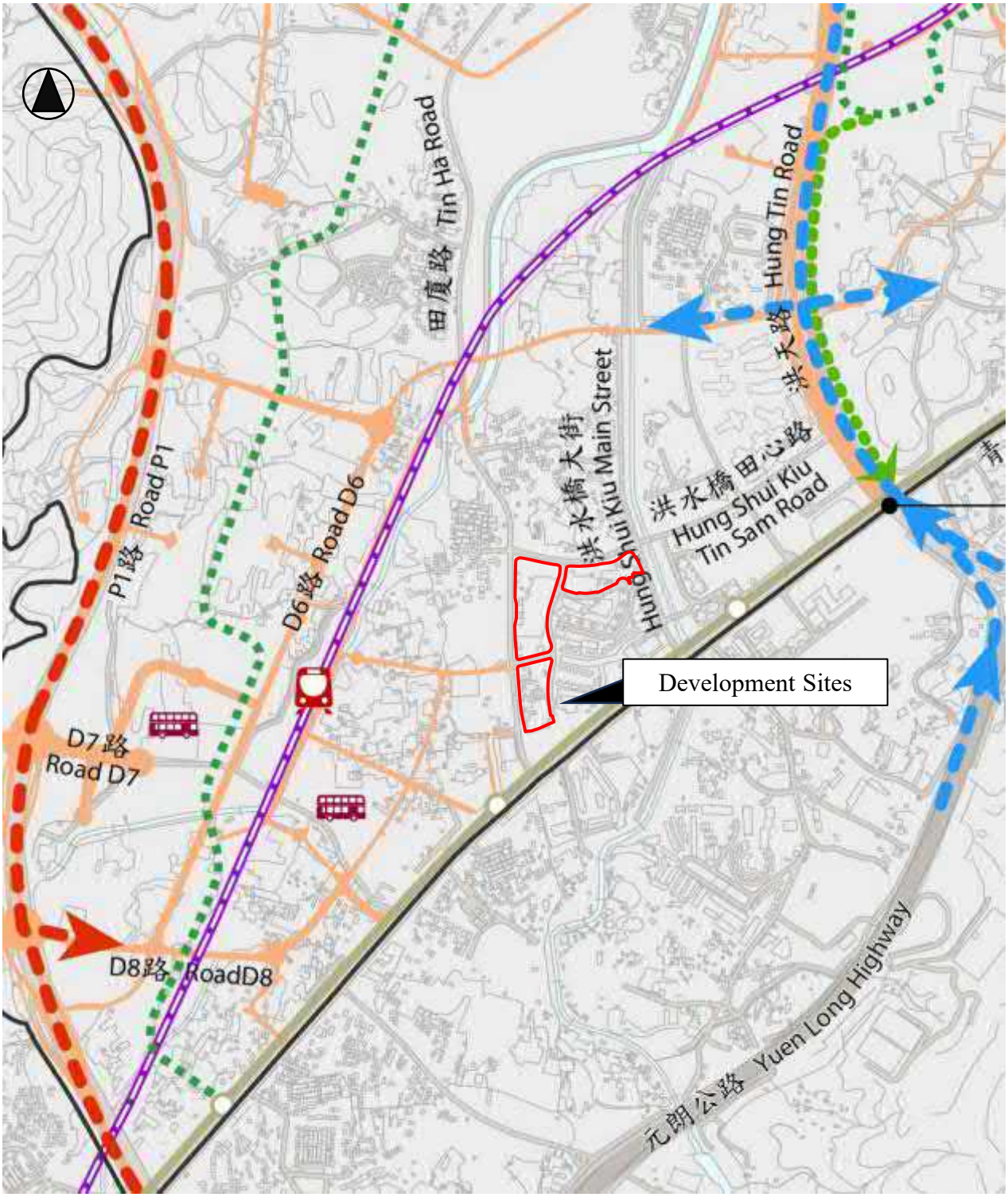
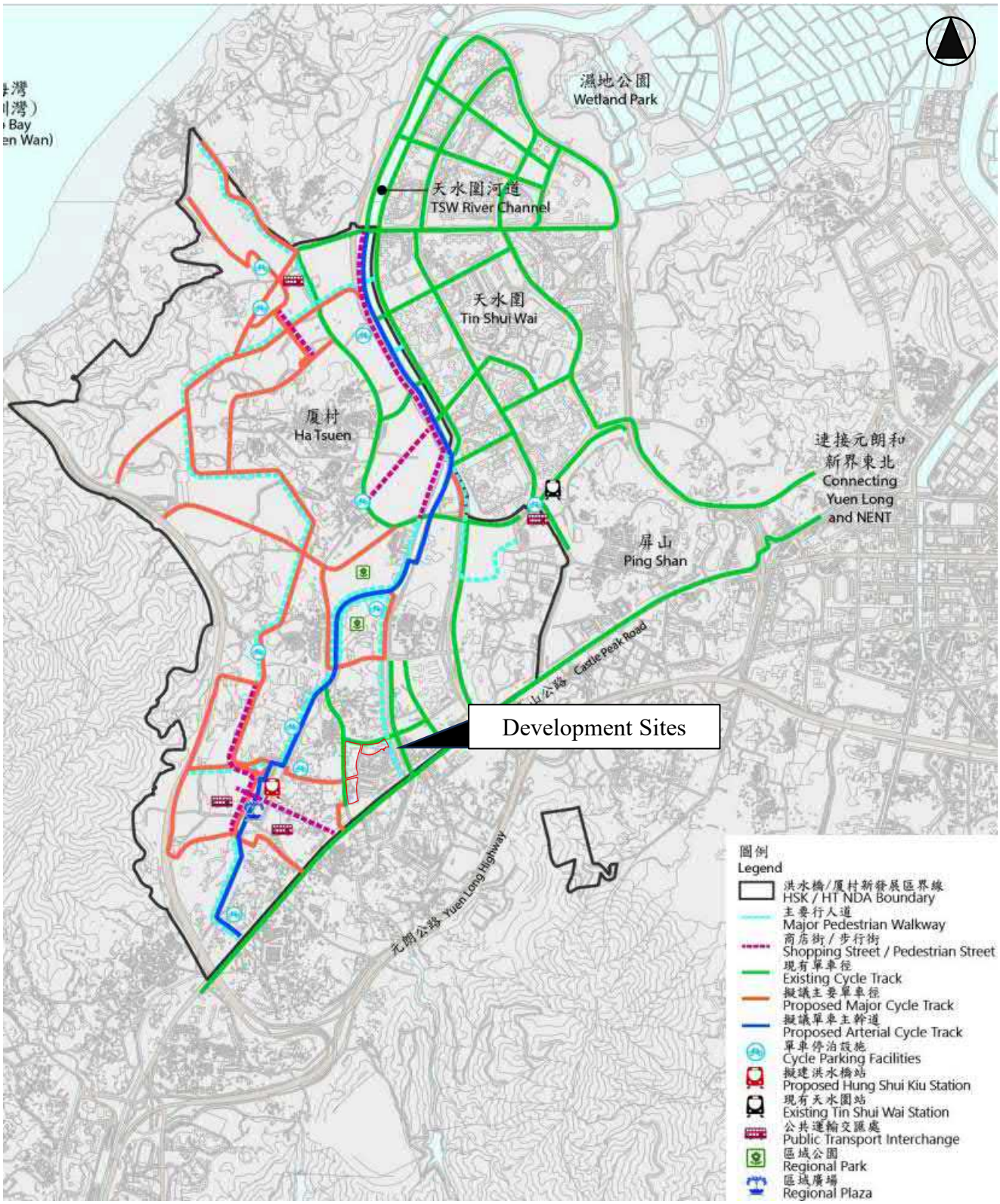
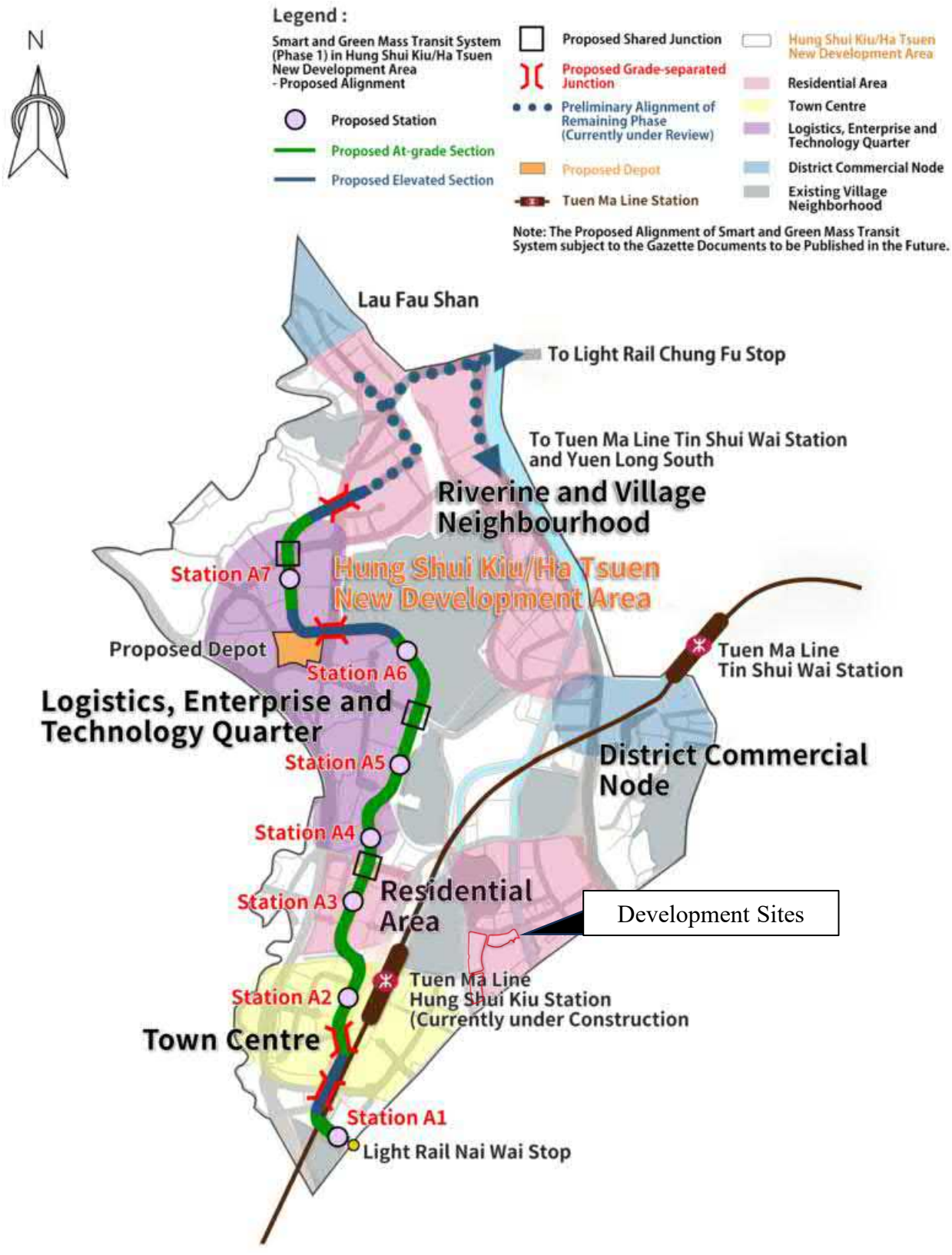


Figure No.	*Scale*	*Figure Title*	**Accessibility of the Development Sites (Sheet 1 of 3)**
2.6a	-		
ARUP	*Date*	*Source*	Extracted from the Hung Shui Kiu/ Ha Tsuen Outline Development Plan (No. D/HSK/2) adopted on 20 August 2024
	February 2026		



LEGEND Development Sites

Figure No.	*Scale*	*Figure Title*	**Accessibility of the Development Sites (Sheet 2 of 3)**
2.6b	-		
ARUP	*Date* February 2026	*Source*	Extracted from the Hung Shui Kiu/ Ha Tsuen Outline Development Plan (No. D/HSK/2) adopted on 20 August 2024



LEGEND Development Sites

Figure No.	*Scale*	*Figure Title*	**Accessibility of the Development Sites (Sheet 3 of 3)**
2.6c	-		
ARUP	*Date* February 2026	*Source*	Extracted from SGMTS website https://www.hskhtsgmts.hk/en/home/ on 18 August 2025

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 Government Use (Police Reporting Centre, Post Office only) House Library Residential Institution School (in free-standing purpose-designed building only) Utility Installation for Private Project	Ambulance Depot Eating Place Educational Institution Government Refuse Collection Point Government Use (not elsewhere specified) Hospital Hotel 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
On land designated "R(B)1", the following uses are always permitted (a) on the lowest two floors of a building excluding basements, or (b) in a free-standing purpose-designed non-domestic building up to five storeys :	
Eating Place School (Kindergarten only) Shop and Services	

Planning Intention

This zone is intended primarily for medium-density residential developments where commercial uses serving the residential neighbourhood may be permitted with or without application to the Town Planning Board.

(Please see next page)

Figure No.	*Scale*	*Figure Title*	**Extracted Schedule of Uses of the Approved Hung Shui Kiu and Ha Tsuen OZP No. S/HSK/2 – "R(B)3" Zone (Sheet 1 of 2)**
3.1a	-		
ARUP	*Date* February 2026	*Source*	Extracted from Approved Hung Shui Kiu and Ha Tsuen OZP No. S/HSK/2

RESIDENTIAL (GROUP B) (Cont'd)

Remarks

(a) On land designated "Residential (Group B)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 plot ratio of 3.5 and the maximum building height in terms of metres above Principal Datum as stipulated on the Plan, or the plot ratio and height of the existing building, whichever is the greater.

(b) On land designated "Residential (Group B)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 plot ratio of 2.5 and the maximum building height in terms of metres above Principal Datum as stipulated on the Plan, or the plot ratio and height of the existing building, whichever is the greater.

(c) On land designated "Residential (Group B)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 plot ratio of 1.26, a maximum site coverage of 40% and a maximum building height of 6 storeys over single-storey car park, or the plot ratio, site coverage and height of the existing building, whichever is the greater.

(d) In determining the maximum plot ratio and site coverage for the purposes of paragraphs (a) to (c) 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.

(e) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio, site coverage and/or building height restrictions stated in paragraphs (a) to (c) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

Figure No.	*Scale*	*Figure Title*	**Extracted Schedule of Uses of the Approved Hung Shui Kiu and Ha Tsuen OZP No. S/HSK/2 – "R(B)3" Zone (Sheet 2 of 2)**
3.1b	-		
ARUP	*Date* February 2026	*Source*	Extracted from Approved Hung Shui Kiu and Ha Tsuen OZP No. S/HSK/2

as cafe, restaurants and retail shops contribute to the vibrancy and character of the area.

11.3.4 Various education, community and social welfare facilities may be included in the development of "R(A)" zone. These include two 6-classroom kindergartens of about 866m^2 in each of the site in Planning Areas 16B, 25, 27A and 52B, three 6-classroom kindergartens of about 866m^2 in Planning Area 34A, a 100-place RCHE in Planning Area 27A and a market of GFA of about 800m^2 each in Planning Areas 16B and 52B.

11.3.5 Minor relaxation of the PR and/or BH restrictions for the "R(A)" zones may be considered by the Board on application under section 16 of the Ordinance. Each application for minor relaxation of PR and/or BH restrictions will be considered on its own merits.

11.3.6 Planning briefs setting out the planning parameters and the design requirements of individual PRH / SSF sites will be prepared to guide the future development of the sites.

11.4 "Residential (Group B)" ("R(B)") : Total Area 18.10 ha

11.4.1 This zone is intended primarily for medium-density residential developments where commercial uses serving the residential neighbourhood may be permitted with or without application to the Board.

11.4.2 This zoning includes three sub-zones which are subject to the following development restrictions:

"Residential (Group B)1" ("R(B)1")

(a) The site in Planning Area 66A is subject to a maximum PR of 3.5 and a maximum BH of 90mPD. A 6-classroom kindergarten of about 866m^2 will be provided in the future development.

"Residential (Group B)2" ("R(B)2")

(b) The sites in Planning Areas 66B and 68 are zoned "R(B)2". Development within this zone is subject to a maximum PR of 2.5 and maximum BH of 60mPD and 90mPD. Future development of the site should take account of the planned riverside promenade for integrated design.

Figure No.	*Scale*	*Figure Title*	**Extracted Explanatory Statement of the Approved Hung Shui Kiu and Ha Tsuen OZP No. S/HSK/2 – "R(B)3" Zone (Sheet 1 of 2)**
3.2a	-		
ARUP	*Date* February 2026	*Source*	Extracted from Approved Hung Shui Kiu and Ha Tsuen OZP No. S/HSK/2

"Residential (Group B)3" ("R(B)3")

(c) Three sites in Planning Areas 3, 4A, 4B, 9 and 11 are zoned "R(B)3" to reflect the existing / committed developments which are subject to a maximum PR 1.26, a maximum site coverage of 40% and a maximum BH of 6 storeys over single-storey car park, or the PR, site coverage and height of the existing building, whichever is the greater. These "R(B)3" sites include existing developments of Tak Cheung Building and Tak Hing Building in Planning Area 3; Casa De Oro, Tin Sam Villa and Parkview Garden in Planning Area 4A; existing development in Planning Area 4B; Sheffield Villas in Planning Area 9; and a committed residential development in Planning Area 11 to reflect the existing / committed developments.

11.4.3 Minor relaxation of the PR / site coverage / BH restrictions stated above may be considered by the Board through the planning permission system. Each proposal will be considered on its individual planning merits.

11.5 "Residential (Group C)" ("R(C)") : Total Area 0.40 ha

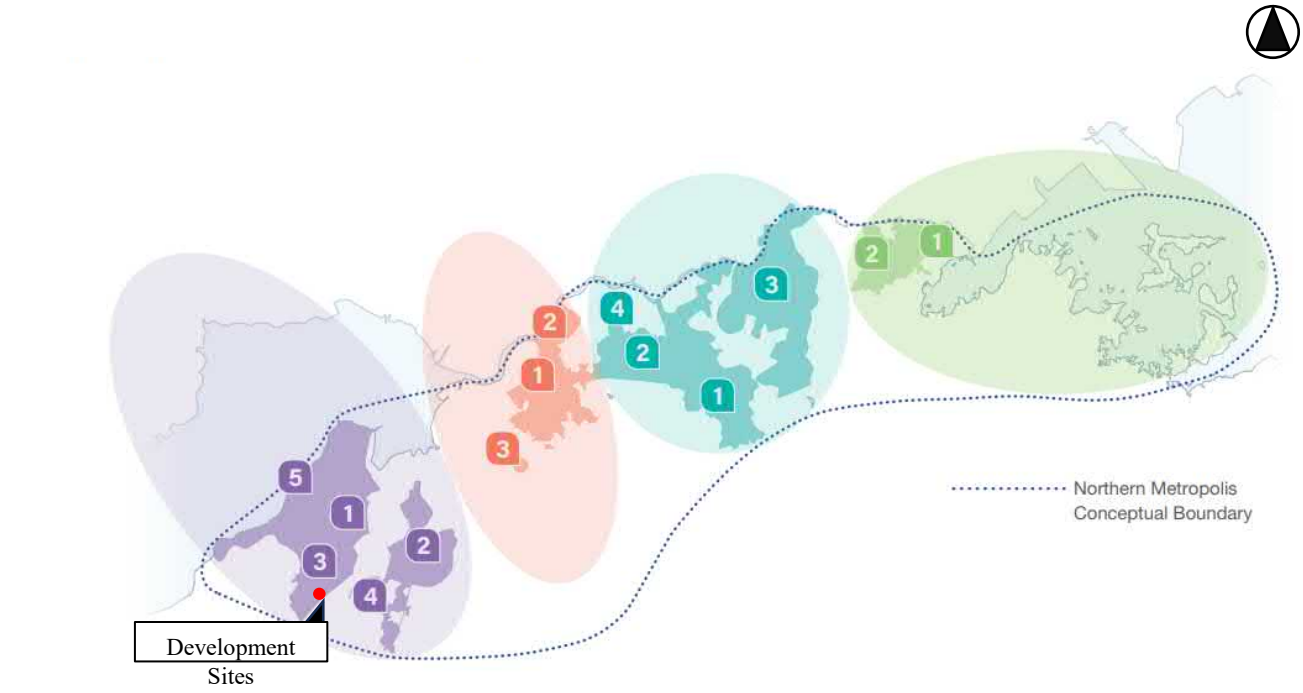
11.5.1 This zone is intended primarily for low-rise, low-density residential developments where commercial uses serving the residential neighbourhood may be permitted on application to the Board. The residential development, Bellevue Court, in Planning Area 6B is zoned "R(C)" to reflect its existing low density development. Development or redevelopment within this site is subject to a maximum PR of 0.4 and a maximum BH of 3 storeys including car park, or the PR, site coverage and height of the existing building, whichever is the greater.

11.5.2 Minor relaxation of the PR and/or BH restrictions may be considered by the Board through the planning permission system. Each proposal will be considered on its individual planning merits.

11.6 "Village Type Development" ("V") : Total Area 118.08 ha

11.6.1 The planning intention of "V" zone is to designate both existing recognised villages and areas of land considered suitable for village expansion. Land within this zone is primarily intended for development of Small Houses by indigenous villagers. It is also intended to concentrate village type development within this zone for a more orderly development pattern, efficient use of land and provision of infrastructures and services. Selected commercial and community uses serving the needs of the villagers and in support of

Figure No.	*Scale*	*Figure Title*	**Extracted Explanatory Statement of the Approved Hung Shui Kiu and Ha Tsuen OZP No. S/HSK/2 – "R(B)3" Zone (Sheet 2 of 2)**
3.2b	-		
ARUP	*Date* February 2026	*Source*	Extracted from Approved Hung Shui Kiu and Ha Tsuen OZP No. S/HSK/2



High-end Professional Services and Logistics Hub

1. Tin Shui Wai
2. Yuen Long
3. Hung Shui Kiu / Ha Tsuen New Development Area
4. Yuen Long South New Development Area
5. Lau Fau Shan / Tsim Bei Tsui / Pak Nai

Innovation and Technology Zone

1. San Tin Technopole
2. Hong Kong-Shenzhen Innovation and Technology Park in the Loop
3. Ngau Tam Mei

Boundary Commerce and Industry Zone

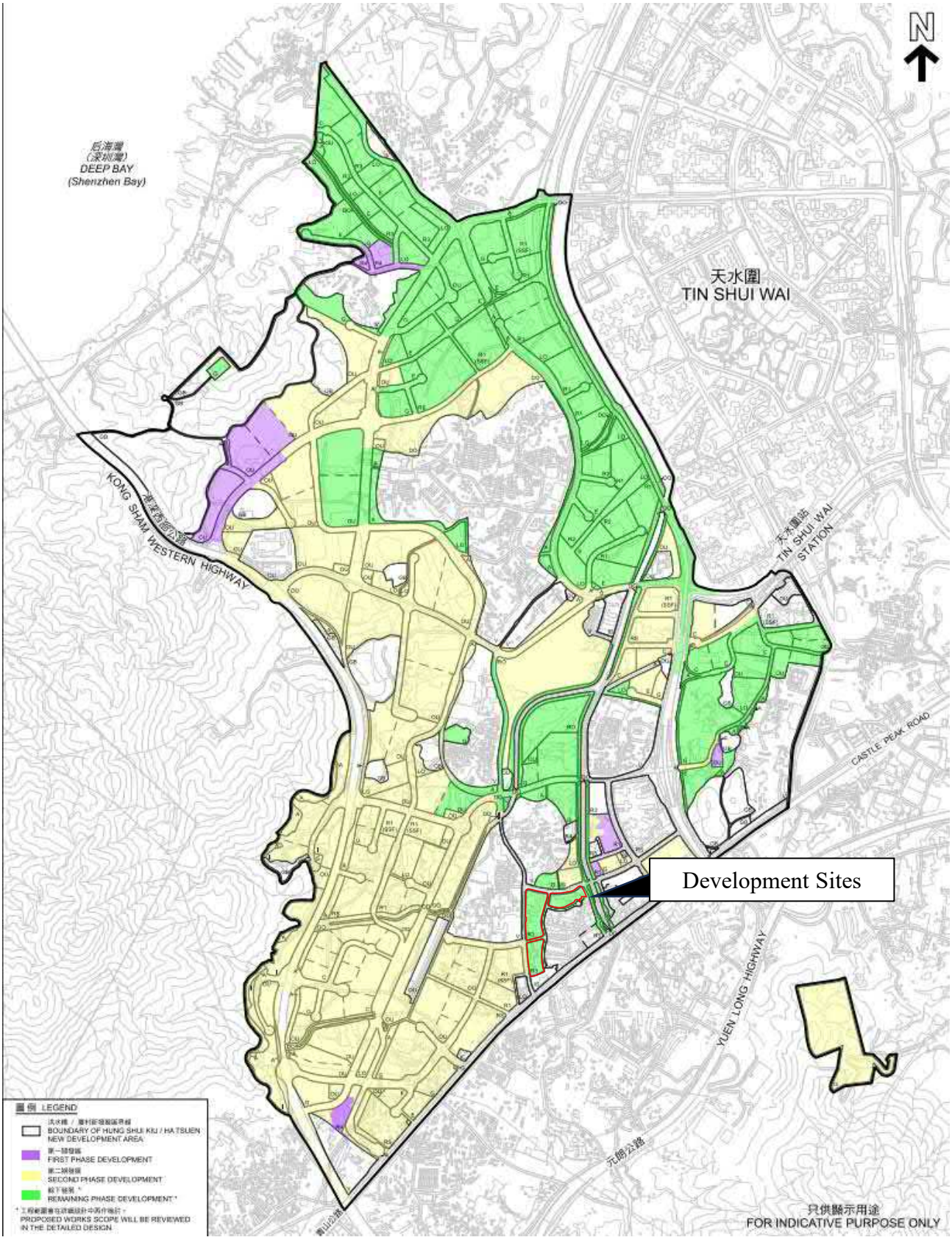
1. Fanling / Sheung Shui
2. Kwu Tung North / Fanling North New Development Area
3. New Territories North New Town and Lo Wu / Man Kam To
4. Ma Tso Lung

Blue and Green Recreation, Tourism and Conservation Circle

1. Sha Tau Kok
2. Robin's Nest

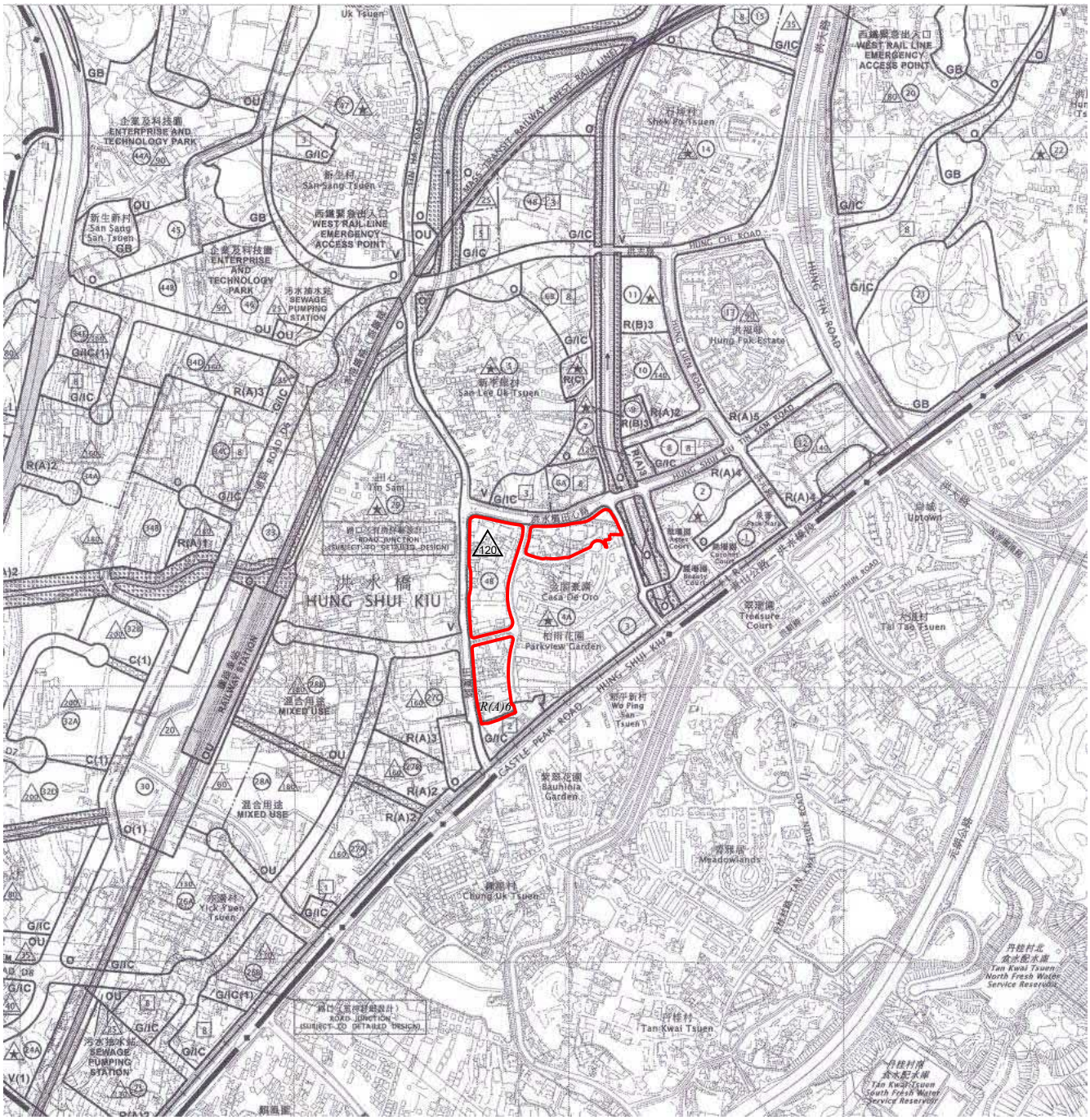
LEGEND ● Development Sites (Indicative)

Figure No.	*Scale*	*Figure Title* **Four Major Zones of the Northern Metropolis**
3.3	-	
ARUP	*Date* February 2026	*Source* Extracted from Northern Metropolis Action Agenda



LEGEND Development Sites

Figure No.	*Scale*	*Figure Title*	**Phasing Plan of Hung Shui Kiu/ Ha Tsuen NDA**
3.4	-		
ARUP	*Date*	*Source*	Extracted from the Hung Shui Kiu/ Ha Tsuen Outline Development Plan (No. D/HSK/2) adopted on 20 August 2024
	February 2026		

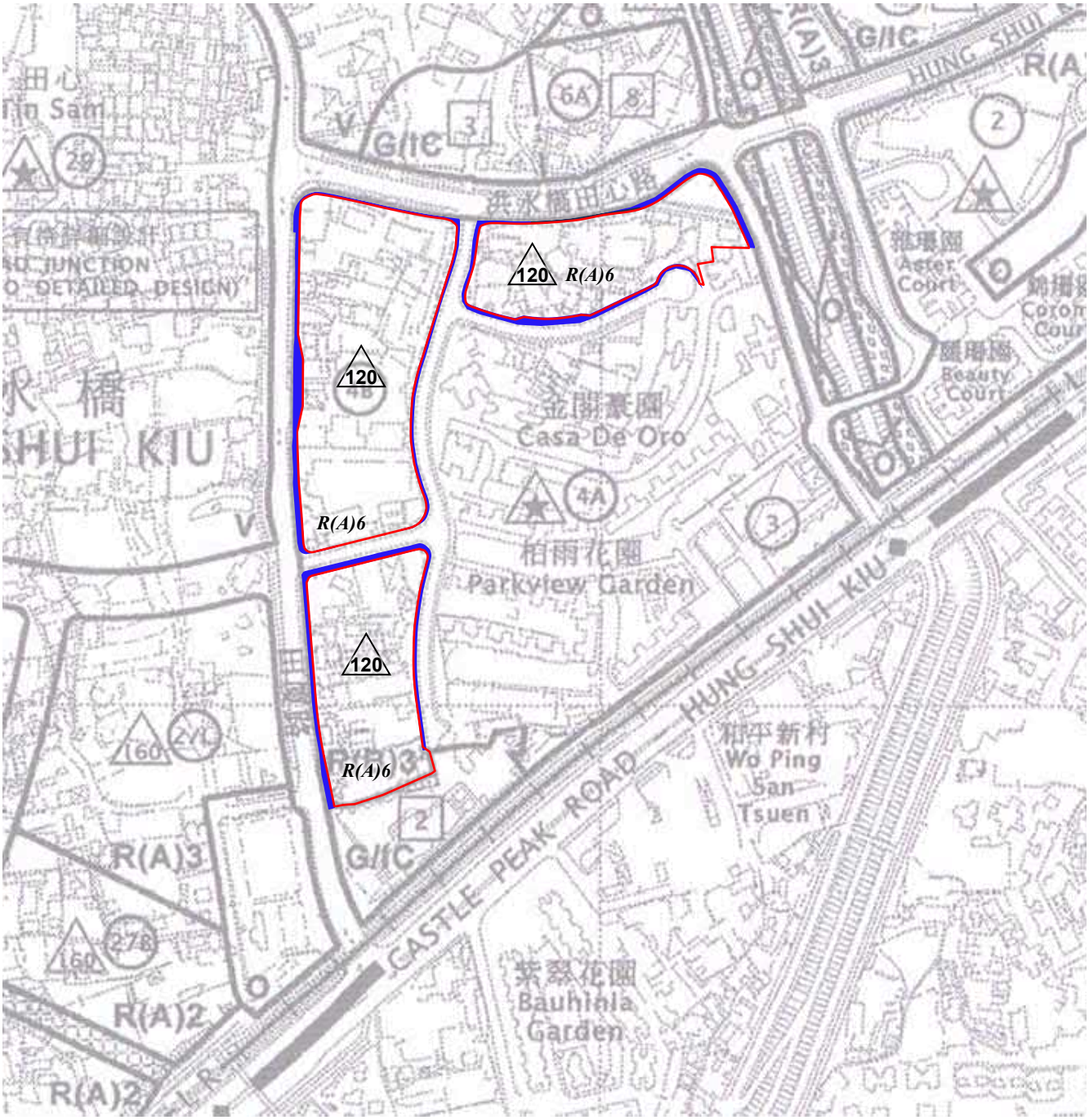


LEGEND

Development Sites

120 Maximum Building Height (metres above Principal Datum (mPD))

Figure No.	*Scale*	*Figure Title*	**Proposed Amendments to the Approved Hung Shui Kiu And Ha Tsuen Outline Zoning Plan No. S/HSK/2**
5.1a	-		
ARUP	*Date* February 2026	*Source*	Extracted from Approved Hung Shui Kiu And Ha Tsuen Outline Zoning Plan No. S/HSK/2 gazetted on 26 October 2018



LEGEND

- Development Sites
- Area to be zoned as 'Road'
- 130 Maximum Building Height (metres above Principal Datum (mPD)

Figure No.	*Scale*	*Figure Title*	**Proposed Amendments to the Approved Hung Shui Kiu And Ha Tsuen Outline Zoning Plan No. S/HSK/2**
5.1b	-		
ARUP	*Date* February 2026	*Source*	Extracted from Approved Hung Shui Kiu And Ha Tsuen Outline Zoning Plan No. S/HSK/2 gazetted on 26 October 2018

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 Flat Government Use (not elsewhere specified) House Library Market Place of Recreation, Sports or Culture Public Clinic Public Transport Terminus or Station (excluding open-air terminus or station) Residential Institution School (in free-standing purpose-designed building only) Social Welfare Facility Utility Installation for Private Project	Commercial Bathhouse/ Massage Establishment Eating Place Educational Institution Exhibition or Convention Hall Government Refuse Collection Point Hospital Hotel Institutional Use (not elsewhere specified) Mass Transit Railway Vent Shaft and/or Other Structure above Ground Level other than Entrances Office Petrol Filling Station Place of Entertainment Private Club 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 two floors of a building excluding basements, or (b) in a free-standing purpose-designed non-domestic building up to five storeys : 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)

Figure No.	*Scale*	*Figure Title*	**Proposed Amendments to the Approved Hung Shui Kiu And Ha Tsuen OZP No. S/HSK/2 – Schedule of Uses of "R(A)6" Zone (Sheet 1 of 3)**
5.2a	-		
ARUP	*Date* February 2026	*Source*	Extracted from Approved Hung Shui Kiu and Ha Tsuen OZP No. S/HSK/2

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 two floors of a building excluding basements, or in a free-standing purpose-designed non-domestic building up to five storeys.

Remarks

(a) Except otherwise specified, on land designated "Residential (Group A)1" to "Residential (Group A)5", 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 plot ratio specified below, or the plot ratio of the existing building, whichever is the greater:

Sub-area	Maximum Plot Ratio
R(A)1	6.5
R(A)2	6
R(A)3	5.5
R(A)4	5
R(A)5	3.8
R(A)6	***5.2***

(b) Except otherwise specified, on land designated "Residential (Group A)1" to "Residential (Group A)*6*", 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.

(c) On land designated "Residential (Group A)4" in Planning Areas 1 and 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 plot ratio of 5, a maximum site coverage of 42%, and a maximum building height of 12 storeys including car park, or the plot ratio, site coverage and height of the existing building, whichever is the greater. The lowest two floors could be used for commercial and car parking purposes which could have maximum site coverage of 100%.

(d) In determining the maximum plot ratio and site coverage for the purposes of paragraphs (a) and (c) 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 Government, institution or community facilities as required by the Government may also be disregarded.

Figure No.	*Scale*	*Figure Title*	**Proposed Amendments to the Approved Hung Shui Kiu And Ha Tsuen OZP No. S/HSK/2 – Schedule of Uses of "R(A)6" Zone (Sheet 2 of 3)**
5.2b	-		
ARUP	*Date* February 2026	*Source*	Extracted from Approved Hung Shui Kiu and Ha Tsuen OZP No. S/HSK/2

RESIDENTIAL (GROUP A) (Cont'd)

Remarks (Con'd)

(e) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio, site coverage and/or building height restrictions stated in paragraphs (a) to (c) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.

Figure No.	*Scale*	*Figure Title*	**Proposed Amendments to the Approved Hung Shui Kiu And Ha Tsuen OZP No. S/HSK/2 – Schedule of Uses of "R(A)6" Zone (Sheet 3 of 3)**
5.2c	-		
ARUP	*Date* February 2026	*Source*	Extracted from Approved Hung Shui Kiu and Ha Tsuen OZP No. S/HSK/2

zoning requires planning permission under section 16 of the Ordinance. Pursuant to section 4A(2) of the Ordinance, and except as otherwise expressly provided that it is not required by the Board, the applicant should prepare a MLP together with information specified in the Notes. The approved MLP shall be made available for public inspection in the Land Registry pursuant to section 4A(3) of the Ordinance.

11.2.2 The site in Planning Area 18 near WR TSW Station is zoned "CDA". It is for a proposed subsidised housing development with planning approval, which is under construction and is subject to a maximum domestic PR of 5 or a maximum non-domestic PR of 9.5. This site also falls within a view corridor ('fung shui lane') extended from Ping Shan. Future development of the site should maintain and incorporate the view corridor in its design. The north-eastern part of the site is reserved for a PTI.

11.2.3 To provide flexibility for innovative design adapted to the characteristics of the site, minor relaxation of the PR restriction may be considered by the Board through the planning permission system. Each proposal will be considered on its individual planning merits.

11.3 "Residential (Group A)" ("R(A)") : ***Total Area 72.93 ha***

11.3.1 This zone is intended primarily for high-density residential developments. Commercial uses are always permitted on the lowest two floors of a building excluding basements, or in a free-standing purpose-designed non-domestic building up to five storeys. This may allow flexibility for provision of greater floorspace for commercial and GIC facilities to cater for special needs while at the same time avoid bulky podium structures to minimise any possible adverse air ventilation and visual impacts. These high density developments aim to maximise the utilisation of the high capacity public transport system and to create a vibrant activity node. The "R(A)" zone includes sites for PRH, SSF and private residential development.

11.3.2 This zone includes five sub-zones which are subject to the following development restrictions:

"Residential (Group A)1" ("R(A)1")

(a) A site in the eastern part of Planning Area 34B, which is within a distance of 500m to the northwest of proposed HSK Station, is zoned "R(A)1". Development of this site is subject to a maximum

Figure No.	*Scale*	*Figure Title*	**Proposed Amendments to the Approved Hung Shui Kiu And Ha Tsuen OZP No. S/HSK/2 – Explanatory Statement of "R(A)6" Zone (Sheet 1 of 4)**
5.3a	-		
ARUP	*Date* February 2026	*Source*	Extracted from Approved Hung Shui Kiu and Ha Tsuen OZP No. S/HSK/2

PR of 6.5 (of which the domestic PR should not exceed 6) and a maximum BH of 180mPD.

"Residential (Group A)2" ("R(A)2")

(b) There are eight sites in Planning Areas 10, 16B, 25, 27A, 27B, 34A, 34B and 52B which are zoned "R(A)2" and subject to a maximum PR of 6 and a maximum BH ranging from 120mPD to 180mPD. Among these, the domestic PR of the sites should not exceed 5.5. The sites in Planning Areas 16B, 25, 27A, 34A and 52B are for PRH/SSF development while the site in Planning Area 10 near Hung Fuk Estate is reserved for local rehousing purpose. Being in close proximity to the proposed TMWB, future development in Planning Area 34A should take into account the possible constraints posed by the proposed TMWB and its slip roads connecting to KSWH. The sites in Area 27B and 34B are for private housing development.

"Residential (Group A)3" ("R(A)3")

(c) Sites in Planning Areas 8, 16A, 27C, 34D, 52A, 58A, 59A, 60, 61, 62A and 62B are zoned "R(A)3". Development within this zone is subject to a maximum PR of 5.5 (of which the domestic PR should not exceed 5, except the site in Planning Area 8) and a maximum BH ranged from 120mPD to 160mPD. Five sites in Planning Areas 16A, 27C, 34D, 52A and 62A are for SSF. The site in Planning Area 8 is reserved for local rehousing project, and is subject to a maximum domestic PR of 5.5 and a maximum BH of 120mPD.

(d) For the site in Planning Area 60, a setback of 5m wide is required from the site boundary abutting Road D2 (**Figure 6**) in order to maintain a spacious corridor between the proposed development and existing villages.

"Residential (Group A)4" ("R(A)4")

(e) Four sites in Planning Areas 12, 58B, 59B and 59D are designated as "R(A)4". Development within this zone is subject to a maximum PR of 5.

(i) Sites in Planning Areas 58B, 59B and 59D are purely for residential development and are subject to a maximum BH of 100mPD or 120mPD. For the sites in Planning Areas 59B and 59D, a setback of 5m wide is required from the site boundary abutting Road D2 (**Figure 6**) in order to maintain a

Figure No.	*Scale*	*Figure Title*	**Proposed Amendments to the Approved Hung Shui Kiu And Ha Tsuen OZP No. S/HSK/2 – Explanatory Statement of "R(A)6" Zone (Sheet 2 of 4)**
5.3b	-		
ARUP	*Date* February 2026	*Source*	Extracted from Approved Hung Shui Kiu and Ha Tsuen OZP No. S/HSK/2

spacious corridor between the proposed development and existing villages.

(ii) The site in Planning Area 12 incorporates some LR facilities on the ground floor in a comprehensive manner. Development within this zone is subject to a maximum PR of 5 (of which the domestic PR should not exceed 4.5) and a maximum BH of 140mPD. Future development of the site should be governed by MLP submission, as an administrative measure under the lease, by the project proponent to ensure proper design of the development before the development proceeds.

(f) Apart from the above, there are some existing / committed developments in Planning Areas 1 and 2 which fall within the "R(A)4" sub-zone. The existing development or redevelopment in Planning Areas 1 and 2 are currently subject to a maximum PR of 5, a maximum site coverage of 42%, and a maximum BH of 12 storeys including car park, or the PR, site coverage and height of the existing building, whichever is the greater. The lowest two floors could be used for commercial and car parking purposes which could have maximum site coverage of 100%. These sites include the existing developments of Aster Court, Beauty Court, Coronet Court and Park Nara in Planning Area 1 and a committed residential-cum-commercial development in Planning Area 2.

"Residential (Group A)5" ("R(A)5")

(g) The only "R(A)5" site in the Area is the Hung Fuk Estate in Planning Area 13 which is an existing medium density public rental housing with a maximum PR of 3.8 (of which the domestic PR should not exceed 3.5) and a maximum BH of 90mPD.

"Residential (Group A)6" ("R(A)6")

(h) ***Development within this zone is subject to a maximum PR of 5.2 (of which the domestic PR should not exceed 5) and a maximum BH of 120mPD. The PR control under "R(A)6" subzone is regarded as being stipulated in a 'new or amended statutory plan' according to the Joint Practice Note (JPN) No. 4 on 'Development Control Parameters PR/GFA' and shall be subject to the streamlining arrangements stated therein.***

(i) ***The "R(A)6" sites are located at the periphery of the town centre with "OU(MU)" and a mix of "R(A)2" and "R(A)3" zones at its southwest, while the existing Tin Sam and San Lee Uk Tsuen are located at its northwest and north, and existing residential***

Figure No.	*Scale*	*Figure Title*	**Proposed Amendments to the Approved Hung Shui Kiu And Ha Tsuen OZP No. S/HSK/2 – Explanatory Statement of "R(A)6" Zone (Sheet 3 of 4)**
5.3c	-		
ARUP	*Date* February 2026	*Source*	Extracted from Approved Hung Shui Kiu and Ha Tsuen OZP No. S/HSK/2

developments including Parkview Garden, Casa De Oro, Tak Hing Building and Tak Cheung Building are at its immediate southeast and east. To create height variation and to enhance air ventilation and visual permeability in the surrounding areas, the project proponent or developer shall be encouraged to explore design and mitigation measures for each of the three sites at the detailed design stage.

(j) ***The "R(A)6" sites are also located in close proximity to the Hung Shui Kiu Egretry with the flight path of ardeids mainly follows Castle Peak Road and the Hung Shui Kiu Nullah. To avoid potential disturbance to the Hung Shui Kiu Egretry, site formation and construction work within 100m from the boundary of the Hung Shui Kiu Egretry should be avoided during the ardeid breeding seasons as recommended in the relevant Environmental Monitoring & Audit Manual.***

11.3.3 In order to enhance vibrancy and vitality, shopping streets are designated along the riverside promenade, pedestrian street and the specified sections of GTC. Along the shopping street, terrace frontage of two-storey podium would be provided to accommodate 'Shop and Services' and 'Eating Place' uses. The terrace frontage at residential sites, namely "R(A)2" and "R(A)3" are subject to a maximum BH of 5m and 10m in width (**Figure 5**). Besides, future development of the sites adjoining riverside promenade is also encouraged to take account of the planned promenade for integrated design. 'Terrace frontage' in "R(A)2" and "R(A)3" are subject to a maximum BH of 5m and 10m-wide set back at first floor level (**Figure 8**). The provision of commercial and leisure facilities such as cafe, restaurants and retail shops contribute to the vibrancy and character of the area.

11.3.4 Various education, community and social welfare facilities may be included in the development of "R(A)" zone. These include two 6-classroom kindergartens of about 866m^2 in each of the site in Planning Areas 16B, 25, 27A and 52B, three 6-classroom kindergartens of about 866m^2 in Planning Area 34A, a 100-place RCHE in Planning Area 27A and a market of GFA of about 800m^2 each in Planning Areas 16B and 52B.

11.3.5 Minor relaxation of the PR and/or BH restrictions for the "R(A)" zones may be considered by the Board on application under section 16 of the Ordinance. Each application for minor relaxation of PR and/or BH restrictions will be considered on its own merits.

11.3.6 Planning briefs setting out the planning parameters and the design requirements of individual PRH / SSF sites will be prepared to guide the future development of the sites.

Figure No.	*Scale*	*Figure Title*	**Proposed Amendments to the Approved Hung Shui Kiu And Ha Tsuen OZP No. S/HSK/2 – Explanatory Statement of "R(A)6" Zone (Sheet 4 of 4)**
5.3d	-		
ARUP	*Date* February 2026	*Source*	Extracted from Approved Hung Shui Kiu and Ha Tsuen OZP No. S/HSK/2

Annex A Indicative Scheme

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4B-2
BLOCK A
+104.6
27
BLOCK B
+104.6
27
BLOCK C
+117.2
31
BLOCK D
+117.2
31
BLOCK E
+117.2
31
BLOCK F
+117.2
31
+16.0
1
+10.0
+20.0
2
EVA
DRIVEWAY / EVA
4B-3
BLOCK A
+98.3
25
BLOCK B
+98.3
25
BLOCK C
+117.2
31
BLOCK D
+117.2
31
4B-1
BLOCK A
+115.05
30
BLOCK B
30
+115.05
BLOCK C
30
+115.05
BLOCK D
+115.05
30
+21.0
2
+11.0
5
V
6A
G
DO
2
1
R2
R3
3
4A
29
27C
V
R1(SSF)
LO
洪水橋田心路
HUNG SHUI KIU TIN SAM ROAD
HUNG YU ROAD
HUNG LEONG ROAD
Road L16
TIN HA ROAD
HUNG KEI ROAD
CHUI PAK ROAD
KING YUEN ROAD
KAM YUE ROAD
PAK TA ROAD
HUNG SHUI KIU MAIN STREET
HUNG PAK ROAD
CASTLE PEAK ROAD – HUNG SHUI KIU
WU PING SAN TSUEN LANE
HUNG ON LANE
HUNG TA ROAD
洪福路
洪橋路
洪屋路
洪柏路
洪水橋大街
洪光路
翠柏路
甘屯路
青山公路 – 洪水橋段
Cycling Track
Cycling Track
Cycling Track

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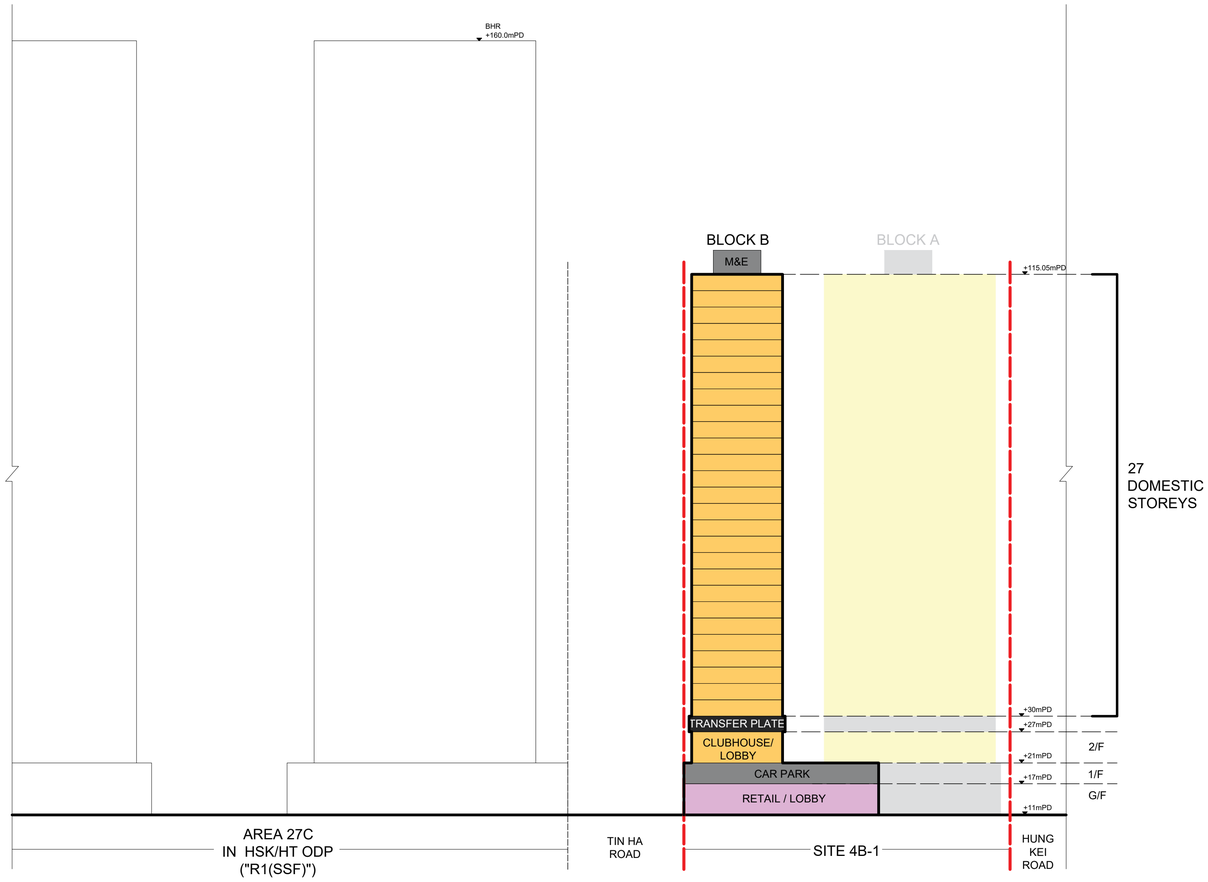

* *The building blocks in Area 27C of the HSK/HT OZP are indicative only, with a planned Building Height Restriction of +160mPD.*

0 10 20 40 60 80 Meters

KEY PLAN

NOTATIONS

- Development Site Boundary
- Domestic Use
- Transfer Plate
- Car Park / L/UL Space
- Retail / Lobby

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Application Site from “Residential (Group B)3” to “Residential (Group A)6”, Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

SECTION A-A

Drawing no.			Rev.
02			
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Scale		Status	

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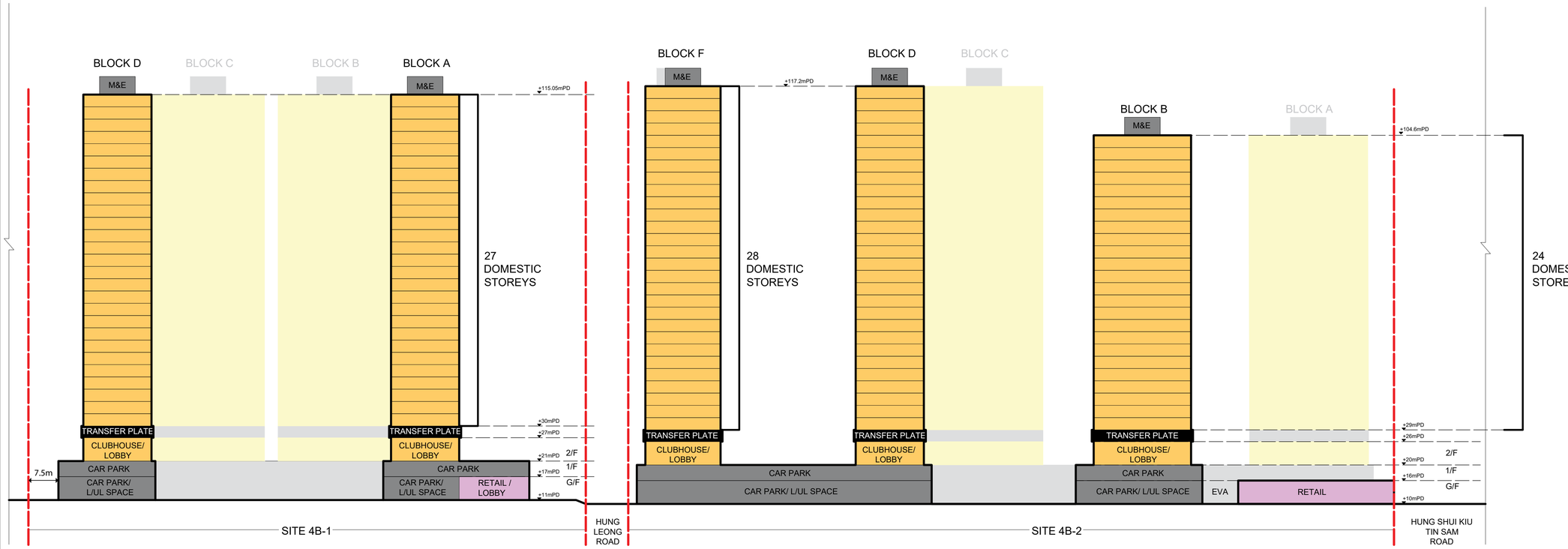

0 10 20 40 60 80 Meters

KEY PLAN

NOTATIONS

- Development Site Boundary
- Domestic Use
- Transfer Plate
- Car Park / L/UL Space
- Retail / Lobby

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Application Site from “Residential (Group B)3” to “Residential (Group A)6”, Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

SECTION B-B

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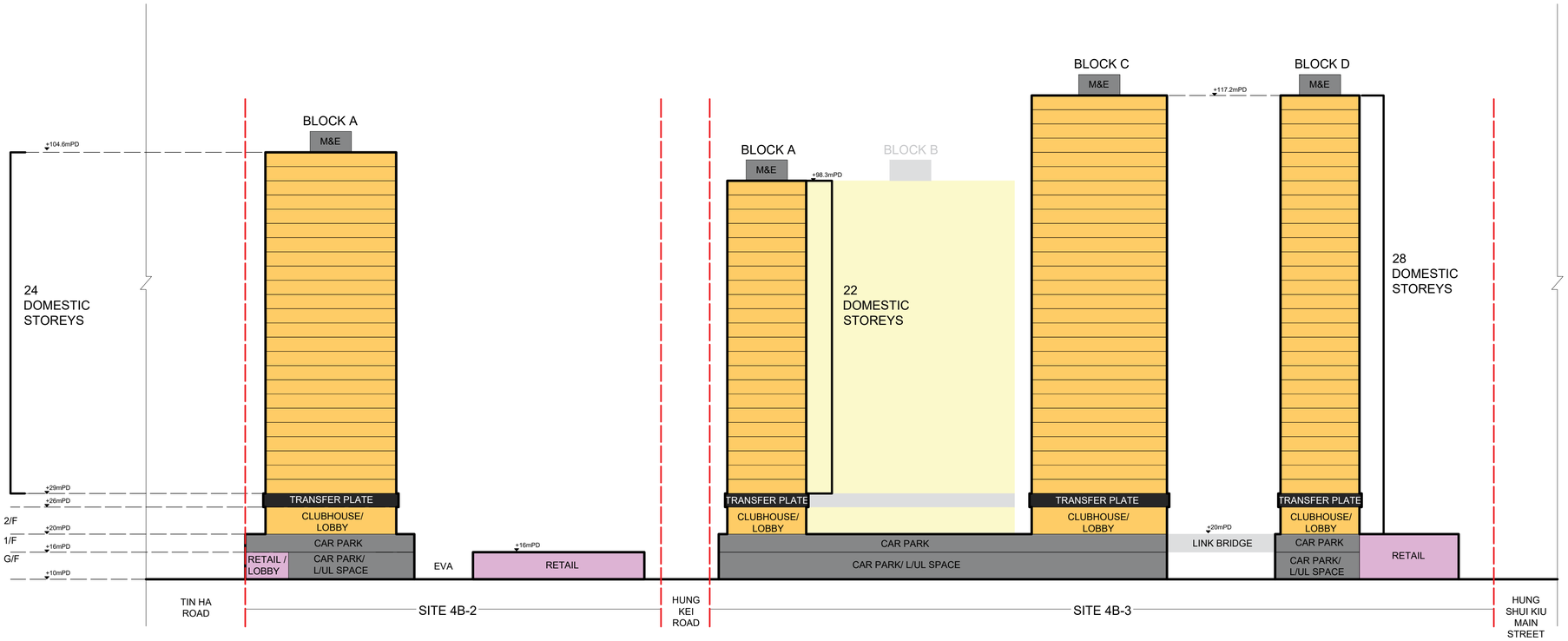

0 10 20 40 60 80 Meters

KEY PLAN

NOTATIONS

- Development Site Boundary
- Domestic Use
- Transfer Plate
- Car Park / L/UL Space
- Retail / Lobby

Consultant

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Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Application Site from “Residential (Group B)3” to “Residential (Group A)6”, Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

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SECTION C-C

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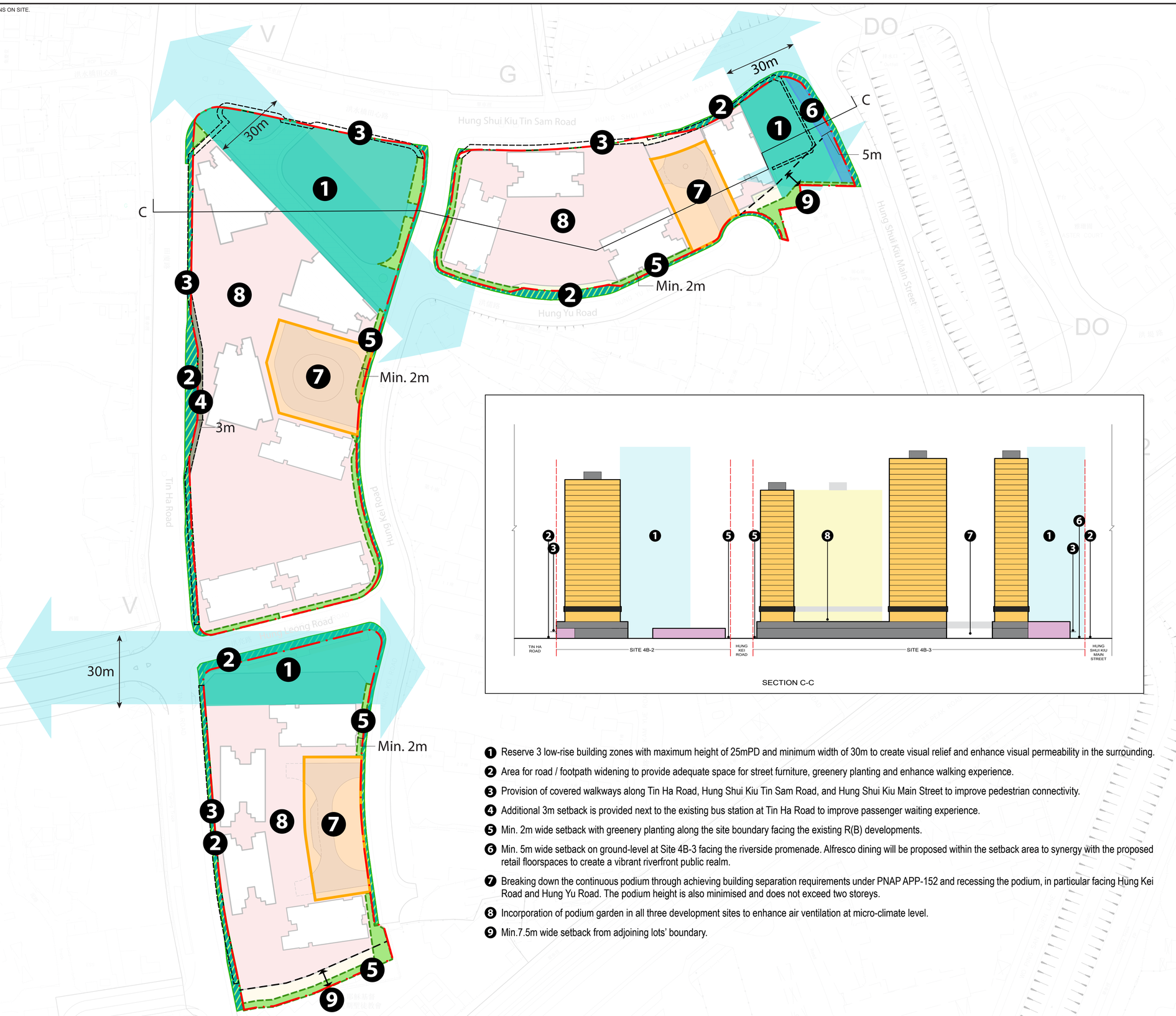

SECTION C-C

1. Reserve 3 low-rise building zones with maximum height of 25mPD and minimum width of 30m to create visual relief and enhance visual permeability in the surrounding.
2. Area for road / footpath widening to provide adequate space for street furniture, greenery planting and enhance walking experience.
3. Provision of covered walkways along Tin Ha Road, Hung Shui Kiu Tin Sam Road, and Hung Shui Kiu Main Street to improve pedestrian connectivity.
4. Additional 3m setback is provided next to the existing bus station at Tin Ha Road to improve passenger waiting experience.
5. Min. 2m wide setback with greenery planting along the site boundary facing the existing R(B) developments.
6. Min. 5m wide setback on ground-level at Site 4B-3 facing the riverside promenade. Alfresco dining will be proposed within the setback area to synergy with the proposed retail floorspaces to create a vibrant riverfront public realm.
7. Breaking down the continuous podium through achieving building separation requirements under PNAP APP-152 and recessing the podium, in particular facing Hung Kei Road and Hung Yu Road. The podium height is also minimised and does not exceed two storeys.
8. Incorporation of podium garden in all three development sites to enhance air ventilation at micro-climate level.
9. Min.7.5m wide setback from adjoining lots' boundary.

N

0 20 40 60 80 100 Meters

NOTATIONS

- Development Site Boundary
- Low-Rise Building Zone
- Area for Road / Footpath Widening
- Aboveground Setback for Bus Station Waiting Area
- Aboveground Setback for At-Grade Greenery Planting
- Podium Recesses
- Setback on Ground-Level for Riverside Promenade and Alfresco Dining Area
- Covered Walkway

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Application Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

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Annex B Traffic Impact Assessment

ARUP

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B) 3" to "Residential (Group A) 6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Traffic Impact Assessment

February 2026

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number Enter Job number

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Kowloon
Hong Kong
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Appendix A Future Junction layouts
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1. Introduction

1.1 Background

1.1.1 Ove Arup & Partners Hong Kong Limited was commissioned to conduct technical assessments in support of the Proposed Amendment to the Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan (HSK/HT OZP) No. S/HSK/2 at Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories (Development Sites) from "Residential (Group B) 3" to "Residential (Group A) 6" for Proposed Residential Development.

1.1.2 Falling within Area 4B of the HSK/HT OZP, the Development Sites consist of Site 4B-1, Site 4B-2 and Site 4B-3. They belong to Phase Stage 3 of the development plan of the HSK/HT NDA. The Development Sites contribute to an area of about 33,767 m^2, intersected by the Hung Shui Kiu Tin Sam Road and Tin Ha Road. The Development Sites are currently occupied by temporary structures for domestic and brownfield operation uses.

1.2 Objective of the Report

1.2.1 The purpose of this report is to evaluate the potential traffic impact associated with the proposed residential development and community facilities under the proposed amendment with proposed Plot Ratio of 5.2.

1.3 Scope of the TIA under this Study

1.3.1 The tasks for this TIA study are outlined as follows:

(1) Update the inventory regarding traffic circulation patterns, traffic conditions, as well as the constraints of the existing and future committed road network in the vicinity of the Development Sites based on the latest information available;

(2) Assess the volume of traffic likely to be generated by the Development Sites;

(3) Identify the likely traffic generation should the Development Sites be developed into the Development Sites;

(4) Assess future traffic condition, taking into account any future traffic growth, as well as the traffic generated by the Development Sites and other planned/committed development, if any, to be built in the vicinity;

(5) Review the access arrangement for the Development Sites and to make recommendation;

(6) Recommend car parking provisions and goods vehicle loading/unloading arrangements;

(7) Review pedestrian walking condition and cycle track connectivity; and

(8) Review the public transport provisions.

1.4 Structure of this Report

1.4.1 This Report is structured as follows:

(1) **Chapter 1** provides an overall introduction of the Project background and the contents of this Report;

(2) **Chapter 2** describes the existing traffic condition in vicinity of Site 4B-1, Site 4B-2 and Site 4B-3;

(3) **Chapter 3** describes the development proposal at Site 4B-1, Site 4B-2 and Site 4B-3;

(4) **Chapter 4** describes the future local road network in the vicinity of the Development Sites and its site accesses;

(5) **Chapter 5** discusses the transport modelling methodology, and approach for developing design year traffic forecasts;

(6) **Chapter 6** presents the traffic forecasts and junction capacity assessment results for the respective design years, with potential local junction improvements proposed where adverse traffic impacts are identified;

(7) **Chapter 7** discusses the future public transport provision of the Development Sites;

(8) **Chapter 8** discusses the pedestrian conditions and pedestrian connectivity of the proposed development;

(9) **Chapter 9** concludes by summarising key findings of this TIA.

1.5 Abbreviations

1.5.1 The following abbreviations have been used in this Report.

Table 1.1 Abbreviations Used in the Report

Abbreviations	Full terms
AOI	Area of Influence
Arup	Ove Arup & Partners Hong Kong Limited
CTS	Comprehensive Transport Study
DFC	Design Flow to Capacity
GTC	Green Transit Corridor
HKPSG	Hong Kong Planning Standards and Guidelines
HSK/HT NDA	Hung Shui Kiu/Ha Tsuen New Development Area
LATM	Local Area Traffic Model
LFS	Tsim Bei Tsui, Lau Fau Shan, Pak Nai areas
LFS-I stage	Agreement No. CE 5/2024 (CE) Developments at Lau Fau Shan, Tsim Bei Tsui and Pak Nai Areas – Investigation
NWNT	North-West New Territories
RC	Reserve Capacity
SGMTS	Smart and Green Mass Transit System
STM	Strategic Transport Model
TPDM	Transport Planning and Design Manual

TIA	Traffic Impact Assessment
TTIA	Traffic and Transport Impact Assessment
V/C	Volume-to-Capacity
YLS NDA	Yuen Long South New Development Area

2. Existing Traffic Condition

2.1 Existing Road Network

2.1.1 Site 4B-1, Site 4B-2 and Site 4B-3 are bounded by the local distributor Tin Ha Road to the west, the trunk road Castle Peak Road to the south and the local distributor Hung Shui Kiu Tin Sam Road to the north. The existing road network within the area of influence (AOI) is shown in **Figure 2.1**.

2.1.2 Currently, Yuen Long Highway, an Expressway, is one of the major strategic roads connecting the Development Sites with the rest of New Territories and urban area.

2.1.3 Castle Peak Road as a rural trunk road in East-West directions serves as an inter-district connection between the Development Sites and the rest of North-West New Territories (NWNT).

2.1.4 Hung Tin Road, a district distributor near the Development Sites provides the major North-South connections between Tin Shui Wai North and Yuen Long Highway. Development traffic from the Development Sites can be connected to external road network, i.e. Yuen Long Highway, via junction of Hung Tin Road / Hung Chi Road.

2.1.5 Since the Applicate Site is located in the planned HSK/HT NDA, it will be well served by the planned road network in the NDA and connected to existing and planned transport infrastructures which will be discussed in Chapter 4.

2.2 Existing Public Transport

2.2.1 The closest MTR station is Siu Hong Station, which is around 2.7 km from the Development Sites. MTR feeder buses are currently provided to serve passengers in the Development Sites to the nearest MTR Tin Shui Wai Station. The Development Sites mainly served by light railway transit (LRT) and buses under existing condition.

2.2.2 The closest light railway transit is Chung Uk Tsuen Stop in Castle Peak Road, which is approximately 350 m distance from the Development Sites. Currently, LRT is providing inter-district transportation to neighbouring areas of Tuen Mun, Yuen Long and Tin Shui Wai. LRT passengers can interchange with Tuen Ma Line at Tuen Mun Station, Siu Hong Station, Tin Shui Wai Station and Yuen Long Station.

2.2.3 The existing road-based public transport services near the Development Sites are provided along Tin Ha Road. The area is mainly served by franchised buses and green minibuses. Details of existing transport service arrangement are shown in **Figure 2.2**.

2.2.4 Since the Applicate Site is located in the planned HSK/HT NDA, it will be well served by the future public transport system in the NDA which will be discussed in Chapter 7.

2.3 Existing Junctions Performance

2.3.1 The existing traffic condition within AOI are calculated based on the survey done by Agreement No. CE 5/2024 (CE) Developments at Lau Fau Shan, Tsim Bei Tsui and Pak

Nai Areas – Investigation (LFS-I stage) TTIA study in 2024. The results are summarized in **Table 2.1**. The assessed junction locations are presented in **Figure 2.3**.

Table 2.1 Existing Key Junction Performance

No.	Junction	Type[1]	Existing Junction Performance[2]	
			AM	PM
J1	Ha Tsuen Road/ Tin Ha Road	P	0.42	0.73
J4	Hung Tin Road/ Hung Chi Road	S	>50%	>50%
J5	Tin Ha Road/ Hung Shui Kiu Tin Sam Road	P	0.36	0.35
J7	Hung Shui Kiu Tin Sam Road/ Hung Shui Kiu Main Street	P	0.17	0.27
J8	Hung Shui Kiu Tin Sam Road/ Hung Yuen Road	S	>100%	>50%
J15	Castle Peak Road/ Yick Yuen Road	S	>100%	>100%
J16	Castle Peak Road/ Tin Ha Road	S	47%	>50%
J17	Castle Peak Road/ Tan Kwai Tsuen Road/ Hung Shui Kiu Main Street	S	>100%	>100%
J18	Castle Peak Road/ Hung Tin Road	S	29%	>50%

Notes: (1) "S" represents signalised junction, "P" represents priority and "R" represents roundabout.

(2) Performance is assessed with "Design Flow to Capacity" (DFC) ratio for priority junctions and roundabout, whereas "Reserve Capacity" (RC) for signalised junctions.

2.3.2 In general, all junctions were operating with a R.C. of not less than 15% for signalized junctions and a DFC less than 0.85 for roundabout and priority junctions, which indicate that existing junctions have sufficient capacity.

3. Development Proposal at the Sites

3.1 Site Location

3.1.1 Site 4B-1, Site 4B-2 and Site 4B-3 are bounded by Tin Ha Road, Castle Peak Road and Hung Shui Kiu Tin Sam Road. The location of the Development Sites is illustrated in **Figure 2.1**.

3.2 Development Parameters of the Indicative Scheme

3.2.1 The development parameters of the Indicative Scheme compared with the OZP Compliant Scheme are summarised in **Table 3.1**.

Table 3.1 Key Development Parameters of the Indicative Scheme

Development Parameters	OZP Compliant Scheme	Indicative Scheme (under Plot Ratio 5.2)
Total Development Site Area	36,048 m²	33,767 m²
Total Plot Ratio ▪ Domestic ▪ Non-domestic	**1.26** 1.26 0.00	**5.20** 5.00 0.20
Total GFA ▪ Domestic ▪ Non-domestic	**45,420 m²** 45,420 m² 0 m²	**175,587 m²** 168,833 m² 6,753 m²
No. of Units	567	3,070
Average Unit Size	80 m²	55 m²
Population	1,533	8,289
Year of Population Intake (tentatively)	NA	2035
Site 4B-1		
Total Development Site Area	9,798 m²	9,062 m²
Total GFA ▪ Domestic ▪ Non-domestic	**12,345 m²** 12,345 m² 0 m²	**47,121 m²** 45,308 m² 1,812 m²
No. of Units	154	824
Population	417	2,225
Site 4B-2		
Total Development Site Area	16,981 m²	16,089 m²
Total GFA ▪ Domestic ▪ Non-domestic	**21,396 m²** 21,396 m² 0 m²	**83,665 m²** 80,447 m² 3,218 m²
No. of Units	267	1,463
Population	722	3,950
Site 4B-3		
Total Development Site Area	9,269 m²	8,616 m²
Total GFA ▪ Domestic ▪ Non-domestic	**11,679 m²** 11,679 m² 0 m²	**44,801 m²** 43,078 m² 1,723 m²
No. of Units	146	783
Population	394	2,114

3.3 Proposed Parking and Loading/ Unloading Facilities Provision

3.3.1 Required provision of private car, motorcycle, visitors, bicycle and loading/ unloading facilities for the private housing and retail development in the proposed development are estimated in accordance with the Hong Kong Planning Standards and Guidelines (HKPSG). The Traffic Impact Assessment Checklist for Development Projects issued by the Transport Department is also adopted for estimating the required provision of bicycle parking spaces in NDAs. The adopted parking ratio for domestic is summarized in **Table 3.2** and the parking provisions is summarized in **Table 3.3**

Table 3.2 Adopted Parking and Loading/ Unloading Provision Rate

Type of Development	Facility	Proposed Development
Private Housing	Private Car Parking	**GPS x R1 x R2 x R3** Global Parking Standard (**GPS**) = 1 parking spaces per 4 - 7 flats Demand Adjustment Ratio (**R1**) = 0.5 (flat size ≤ 40m^2); **or** 1.2 (40 <flat size ≤70m^2) Accessibility Adjustment Ratio (**R2**): Within a 500m-radius of rail station = 0.75 Development Intensity Adjustment Ratio (**R3**) = 1.0 (2.00 < Domestic Plot Ratio ≤ 5.00 m^2)
	Visitor Parking	5 visitor spaces per residential block for developments with more than 75 units per block
	Motor Cycle Parking	1 per 100-150 flats
	Loading/ Unloading	Minimum of 1 loading/unloading bay for goods vehicles within the site for every 800 flats or part thereof, subject to a minimum of 1 bay for each housing block or as determined by the Authority
	Bicycle Parking	1 per 5 flats for residents 1 per 45 flats for visitors
Retail	Private Car Parking	1 car space per 150 – 300m^2 GFA
	Motorcycle Parking	5 to 10% of the total provision for private cars
	Loading / Unloading	1 loading/ unloading bay for goods vehicles for every 800 to 1,200m^2, or part thereof, GFA
	Bicycle Parking	1 per 200 – 300 m^2 GFA

Table 3.3 Estimated Parking and Loading/ Unloading Provision for Proposed Development

Sites	Types	GFA	Blocks	Units	PV Parking Spaces		M/C Parking Spaces		L/UL Parking Spaces		Visitor Parking Spaces		Bicycle Parking Spaces (2) (3)	
					Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Site 4B-1	Residential	45,308	4	824	106	186	6	9	2	4	20		184	

	Retail	1,812	0	NA	7	13	1	2	2	3	0	7	10
Site 4B-2	Residential	80,447	6	1463	189	330	10	15	2	6	30	326	
	Retail	3,218	2	NA	11	22	1	3	3	5	0	11	17
Site 4B-3	Residential	43,078	4	783	101	177	6	8	1	4	20	174	
	Retail	1,723	0	NA	6	12	1	2	2	3	0	6	9
Total		175,587	16	3,070	420	740	25	39	12	25	70	708	720

Note:

(1) The exact numbers will be subject to future developers' proposal.

(2) Provision for visitor parking has also been included.

(3) There are no minimum or maximum requirements for bicycle parking provision in residential developments, as stipulated in the Traffic Impact Assessment Checklist for Development Projects.

4. Future Road Network in Hung Shui Kiu/ Ha Tsuen New Development

4.1 Introduction

4.1.1 The HSK/HT NDA will provide new primary and district roads to facilitate east-west and north-south movements within the NDA to enhance the internal connectivity of the NDA. A comprehensive local road network, cycle tracks, pedestrian walkways and pedestrian streets will also be provided to facilitate internal vehicular and pedestrian movements. The general function of each road type in the proposed highway hierarchy is shown in **Table 4.1**.

Table 4.1 Road Hierarchy Function and Characteristic

Hierarchy	Function	Characteristic	Road in HSK/HT NDA
Expressway/ Trunk Road	Connecting the main centres of population	High capacity roads; No frontage access or development, Segregation of pedestrians, Widely spaced grade-separated junctions, 24 our stopping restrictions.	• Kong Sham Western Highway (Expressway) • Castle Peak Road (Rural Trunk)
Primary Distributor	Forming the major network of the urban area	Having high capacity junctions, though may be at-grade; Segregated pedestrian facilities wherever possible and frontage access limited if not entirely restricted; 24 hour stopping restrictions	• Road P1
District Distributor	Linking Districts to the Primary Distributor Roads	High capacity at-grade junctions; Peak hour stopping restrictions; Parking restrictions throughout the day	• Road D1 to D8, Hung Tin Road, Tin Ying Road
Local Distributor	Linking developments to the District Distributor Roads		• Tin Ha Road • Hung Shui Kiu Tin Sam Road • Hung Yu Road • Hung Kei Road • Hung Leong Road • Hung Shui Kiu Main Street • Other local road network in HSK/HT NDA

4.1.2 The Development Sites will be served by the planned road network of the HSK/HT NDA and Tsim Bei Tsui, Lau Fau Shan, Pak Nai areas (LFS) phase 1. The expected completion of LFS phase 1 is expected in 2036. Besides, according to HSK/HT NDA TTIA study, all the planned HSK/HT NDA first phase and seconds phase works will be completed in 2038. While the completion date of HSK/HT NDA remaining phase is still uncertain. In this report, it is assumed that all the HSK/HT NDA and LFS phase 1 road works will be

completed before the population intake of the Development Sites in 2035.The proposed developments would not change the nature of the surrounding road network. Hence, no changes to the road types in the vicinity is proposed. The future road network in the vicinity and the proposed vehicular access is shown in **Figure 4.1**.

4.2 Vehicular Access Arrangement

4.2.1 Vehicular access to the Development Sites will be facilitated via Hung Leong Road, Hung Kei Road, and Hung Yu Road. As depicted in **Figure 4.1**, these roads are reachable from Hung Shui Kiu Tin Sam Road and Tin Ha Road, which serve as primary approach routes to the Development Sites.

5. TRAFFIC FORECAST AND METHODOLOGY

5.1 Methodology

5.1.1 Two-tier traffic modelling approach has been adopted in this Study. The Strategic Transport Model (STM) is at the upper level. At the lower level, it contains the Local Area Traffic Model (LATM) for road traffic. This Study adopted the layout in TTIA for HSK/HT NDA and LFS phase 1 development. Besides, this study adopts the Task Force Planning Data Set, which is the same background assumption as TTIA for LFS-I stage.

5.1.2 The STM is a link-based transport model which produces transport demand forecasts at strategic and inter-district levels. It is mainly to estimate the transport demand of the district-to-district movements by different private and public transport modes with respect to the planning data and infrastructures of the whole territory. The STM would be based on Arup's Comprehensive Transport Study (CTS) compatible model. The vehicular demand from the STM would be the primary input for the LATM.

5.1.3 The LATM, on the other hand, is a junction-based assignment model which stimulates the local area traffic demand at intra-district level. With the incorporation of local area junction characteristics, the LATM is capable of estimating the junction delay and traffic queuing for route choice in assigning the traffic demand in local areas.

5.2 Assessment Scenarios

5.2.1 The tentative year of population intake for the proposed development in the 3 Development Sites will be no later than 2035. The planning horizon for the traffic forecast has been set at the time at a design year 3 years after the tentative population intake year, i.e. Design year 2038.

5.2.2 The following assessment scenarios for the Design Year and road network assumptions were adopted:

1. Reference Scenario: Year 2038 under LFS Phase 1 development + HSK/HT NDA + Withdraw the total traffic generation from Conforming Development (OZP Compliant Scheme) + planned and committed developments in vicinity and not included in TFPD (Refer to **Table 5.1-5.3**)

2. Design Scenario: Year 2038 Reference Scenario + Add total traffic generation from Proposed Development (Indicative Scheme)

Table 5.1 Planned and Committed Developments

#	Planned and Committed Developments
1	Public housing development (9 sites) in HSK/HT NDA (Source: Tuen Mun District Council 26.6.2025 swhc_2025_015.pdf)
2	Minor Relaxation of Plot Ratio Restriction for the Public Housing Sites (Dedicated Rehousing Estate) (No. A/HSK/253 approved with conditions on 6.11.2020)
3	Intensification of 11 public and private housing sites in HSK/HT NDA (No. A/HSK/452 approved on 23.6.2023)
4	Minor Relaxation of Domestic Plot Ratio Restriction (From 4.5 to 5) for Permitted Mixed Use Development in "Other Specified Uses" annotated "Mixed Use" Zone, Government Land at Planning Areas 28A and 28B of HSK/HT NDA (No. A/HSK/573 approved on 15.8.2025)
5	Minor Relaxation of PR Relaxation for Permitted Residential and Commercial Development (No. A/HSK/474 approved on 26/01/2024)
6	Application for Permission under Section 16 of the Town Planning Ordinance (Cap. 131) for Proposed Flat and Shop and Services and Eating Place at Non-Domestic Podium within "Government, Institution or Community (1)" Zone of Planning Area 34E of Hung Shui Kiu/ Ha Tsuen New Development Area

Table 5.2 Adopted Trip Generation and Attraction Rates for Other Planned and Committed Developments

Development	Unit	AM Peak		PM Peak	
		Generation	Attraction	Generation	Attraction
Private Housing (Average Flat Size: 70sqm) (1)	pcu/hr/flat	0.0888	0.0515	0.0356	0.0480
Private Housing (Average Flat Size: 50 and 60 sqm) (1)	pcu/hr/flat	0.0718	0.0425	0.0286	0.0370
Subsidised Housing (Average Flat Size: 50 sqm) (1)	pcu/hr/flat	0.0622	0.0426	0.0297	0.0401
Retail (1)	pcu/hr/100m^2	0.2296	0.2434	0.3100	0.3563

Note: (1) Mean trip rates in TPDM have been adopted

Table 5.3 Traffic Generation and Attraction of Other Planned and Committed Developments (pcu/hr)

Proposed Development # in Table 5.1	No. of Units	Retail GFA (sqm)	AM		PM	
			Generation	Attraction	Generation	Attraction
1	24,500 private housing flats (1)	NA	1759	1041	701	907
2	430 additional subsidised housing flats (2)	NA	27	18	13	17
3	4,970 additional subsidised housing flats (2) +240 additional private housing flats (1)	NA	326	222	154	208
4	820 additional flats in 50 sqm (1)	NA	59	35	23	30
5	498 additional private housing flats (1)	NA	36	21	14	18

6	931 new private housing flats in 50 sqm [1] - 480 existing private housing flats in 70sqm [3]	3,880 sqn Retail GFA- existing trips in Fire Station and Ambulance Depot	23	7	5	15
Total			**2230**	**1344**	**910**	**1195**

Note: (1) Mean trip rates of private housing (50sqm average flat size)
(2) Mean trip rates of subsidised housing (50sqm average flat size)
(3) Mean trip rates of private housing (70sqm average flat size)

5.3 Traffic Generation Assumption

5.3.1 The likely amount of traffic generated and attracted by the proposed development in the 3 Development Sites was calculated based on "Traffic Rates for Non- Residential Developments at 95% Confidence Level" adopted in the Transport Planning and Design Manual (TPDM) Vol.1 Table 1 of Annex D. The adopted rate and associated trip are shown in **Table 5.4**.

Table 5.4 Adopted Trip Generation and Attraction Rates for the Proposed Development

Development	Unit	AM Peak		PM Peak	
		Generation	Attraction	Generation	Attraction
Private Housing (Average Flat Size: 60 sqm) [1]	pcu/hr/flat	0.0718	0.0425	0.0286	0.0370
Retail [1]	pcu/hr/100m^2	0.2296	0.2434	0.31	0.3563

Note: (1) Mean trip rates for 60sqm in TPDM have been adopted as conservative approach

5.3.2 The traffic generation and attraction trips for the design scenarios in year 2038 is estimated in **Table 5.5**.

Table 5.5 Traffic Generation and Attraction of Proposed Development (pcu/hr)

Proposed Development	No. of Units	Retail GFA (sqm)	AM		PM	
			Generation	Attraction	Generation	Attraction
4B-1	824	1,812	64	40	30	37
4B-2	1,463	3,218	113	71	52	66
4B-3	783	1,723	61	38	28	36
Total			**238**	**149**	**110**	**139**
Total Two-way			**387**		**249**	

5.3.3 As indicated in **Table 5.5**, the total trip generated by the proposed development in the 3 Development Sites would be around 387 pcu/hr (two-way) and 249 pcu/hr (two-way) during the AM and PM peak periods respectively.

6. Traffic Impact Assessments

6.1 Junction Capacity Assessment

6.1.1 The performance of key junctions in the vicinity of the proposed development in the 3 Development Sites has been assessed and the assessment results are presented in **Table 6.1**. The assessment location for key junctions is shown in **Figure 6.1**. Future junction layouts are shown in **Appendix A.** Detailed junction calculations for design year 2038 are shown in **Appendix B**. The traffic flow diagrams of development traffic distribution, reference and design scenario are shown in **Figure 6.2-4**.

Table 6.1 Key Junction Performance in Year 2038

No.	Junction	Type[1]	Year 2038 RC/DFC[2]			
			Reference		Design	
			AM	PM	AM	PM
J1	Ha Tsuen Road/ Tin Ha Road	S	33%	>100%	32%	>100%
J2	Road L18/ Tin Ha Road	S	39%	37%	32%	35%
J3	Hung Shui Kiu Main Street/ Hung Chi Road	P	0.51	0.38	0.79	0.39
J4	Hung Tin Road/ Hung Chi Road	S	34%	**-1%**	25%	**-5%**
J5	Tin Ha Road/ Hung Shui Kiu Tin Sam Road	P	0.6	0.34	0.6	0.34
J6	Hung Kei Road/ Hung Shui Kiu Tin Sam Road	P	0.1	0.05	0.46	0.13
J7	Hung Shui Kiu Tin Sam Road/ Hung Shui Kiu Main Street	P	0.43	0.39	0.72	0.56
J8	Hung Shui Kiu Tin Sam Road/ Hung Yuen Road	S	48%	>100%	46%	>100%
J9	Hung Shui Kiu Tin Sam Road/ Hung Tin Road	P	0.14	0.08	0.14	0.12
J10	Tin Ha Road/ Road L16/ Hung Leong Road	P	**1.08**	0.59	**1.09**	0.59
J11	Road P1 and Road D8	R	0.64	0.5	0.66	0.5
J12	Road D8/ Road D6	S	>50%	45%	>50%	45%
J13	Road D8/ Road L13	R	0.28	0.26	0.28	0.26
J14	Road L15/ Road L12	S	**22%**	39%	**21%**	39%
J15	Castle Peak Road/ Yick Yuen Road	S	>50%	>100%	>50%	>100%
J16	Castle Peak Road/ Tin Ha Road	S	47%	>50%	41%	>50%
J17	Castle Peak Road/ Tan Kwai Tsuen Road/ Hung Shui Kiu Main Street	S	38%	>100%	33%	>100%
J18	Castle Peak Road/ Hung Tin Road	S	**14%**	>50%	**12%**	>50%

Notes: (1) "S" represents signalised junction, "P" represents priority and "R" represents roundabout.

(2) Performance is assessed with "Design Flow to Capacity" (DFC) ratio for priority junctions and roundabout, whereas "Reserve Capacity" (RC) for signalised junctions.

6.1.2 In general, RC for signalised junctions will not be less than 15% in existing junctions and 25% in new junctions. Besides, DFC ratio of both existing and new junctions is not more than 0.85 for priority junctions and roundabouts in the peak hours for all design years except the below junctions:

- J4 Hung Tin Road/ Hung Chi Road
- J10 Tin Ha Road/ Road L16/ Hung Leong Road
- J14 Road L15/ Road L12
- J18 Castle Peak Road/ Hung Tin Road

6.1.3 Junction improvement measures have been identified to improve the traffic performance at these problematic junctions. The proposed junction improvement schemes will be discussed in **Section 6.2**.

6.2 Proposed Junction Improvement Measures

6.2.1 The proposed conceptual junction improvement schemes for the 4 critical junctions identified (Junctions J4, J10, J14 and J18) are presented as follows:

J4 Hung Tin Road/ Hung Chi Road

6.2.2 In LFS-I stage, an additional left-turn lane on Hung Tin Road northbound is proposed and road marking along Hung Chi Road is updated to reallocate the traffic lane. Through adopting the improvement scheme performed by LFS-I stage, the capacity issue in Hung Tin Road northbound and Hung Chi Road can be relieved. The proposed improvement work is illustrated in **Figure 6.5**.

J10 Tin Ha Road/ Road L16/ Hung Leong Road

6.2.3 To facilitate development traffic of the 3 Development Sites, J10 are upgraded from priority junction to signalized junction, with additional traffic lanes on Road L16 and Tin Ha Road. After widening, Tin Ha Road carriageway would be around 12m wide, with 2 lanes approaching the junction and one lane departing the junctions. Road L16 carriageway would be widened to around 13.5m with 2 lanes in each direction. Signalized pedestrian crossings are added to each arm to enhance the pedestrian connectivity to nearby PTI and Hung Shui Kiu Station. The Hung Leong Road section in connection with J10 will also be widened to 7.3m, maintaining single-2 lane arrangement. The proposed improvement work is illustrated in **Figure 6.6**.

J14 Road L15/Road L12

6.2.4 To facilitate the critical straight-ahead movement in Road L15 under traffic forecast results, the reallocation of the traffic lane is proposed on Road L15 eastbound. The straight-ahead movement is more critical than the left-turn movement. Therefore, reallocating the traffic lane is suggested to better align with the traffic pattern. The proposed improvement work is illustrated in **Figure 6.7**.

J18 Castle Peak Road/ Hung Tin Road

6.2.5 In LFS-I stage, Castle Peak Road westbound is improved to 4 lanes, allowing 2 lanes for through movement and 2 lanes for right-turn movement with split phases. Through adopting the improvement scheme performed by LFS-I stage, the capacity issue in Castle Peak Road can be relieved. The proposed improvement work is illustrated in **Figure 6.8**.

6.2.6 As summarised in **Table 6.2**, all junctions perform satisfactorily with proposed improvement schemes. The detailed junction calculations for design year 2038 under improvement are shown in **Appendix B.**

Table 6.2 Key Junction Performance in Year 2038 with Proposed Improvement Schemes

No.	Junction	Type(1)	Year 2038 RC/DFC(2)				Projects that Initiated the Improvement Schemes
			Design		Design with Improvement Schemes		
			AM	PM	AM	PM	
J4	Hung Tin Road/ Hung Chi Road	S	25%	**-5%**	49%	24%	LFS-I stage
J10	Tin Ha Road/ Road L16/ Hung Leong Road	P/S	**1.09**	0.59	19%	43%	This project
J14	Road L15/ Road L12	S	**21%**	39%	33%	25%	This project
J18	Castle Peak Road/ Hung Tin Road	S	**12%**	>50%	>50%	>50%	LFS-I stage

Notes: (1) "S" represents signalised junction, "P" represents priority and "R" represents roundabout.

(2) Performance is assessed with "Design Flow to Capacity" (DFC) ratio for priority junctions and roundabout, whereas "Reserve Capacity" (RC) for signalised junctions.

7. Public Transport Provision in HSK/HT NDA

7.1 Future Public Transport

7.1.1 The key public transport facilities near the Development Sites are illustrated in **Figure 7.1**.

7.1.2 Public transport strategy for HSK/HT NDA has been formulated with railway for inter-district connection. Tuen Ma Line as a heavy rail connects HSK/HT NDA to NWNT and urban areas. Light Rail Transit connects HSK/HT NDA to neighbouring districts in Tuen Mun, Yuen Long and Tin Shui Wai.

7.1.3 The Green Transit Corridor (GTC) enclosing Smart and Green Mass Transit System (SGMTS), pedestrian walkway and cycle track has been introduced to enhance the internal movement through the HSK/HT NDA development clusters. SGMTS is proposed as the major intra-district public transport feeder running between HSK/HT NDA and Yuen Long South New Development Area (YLS NDA) supporting the heavy rail services.

7.1.4 In year 2030/2031, Hung Shui Kiu Station, part of SGMTS and PTIs in will be commissioned to serve the major population and employment intake in NDA Town Centre. The Development Sites are located near the Hung Shui Kiu station and PTI in a distance within 400m ideal walking distance.

7.1.5 All existing bus stops in vicinity, as shown in **Figure 2.2**, will be retained. Some of these bus stops will be relocated to suit the revised road layout. In addition, a bus layby along Tin Ha Road southbound is proposed to be extended to cater for future increase in passenger demand.

8. Pedestrian and Cyclist Network and Strategy for HSK/HT NDA

8.1.1 As illustrated in **Figure 8.1,** the Development Sites are within 400m walking distance to the nearby PTI and Hung Shui Kiu Stations. Pedestrian will be well served by the planned pedestrian and cyclist network in HSK/HT NDA in Road L16 connected to nearby Hung Shui Kiu Station.

8.1.2 Continuous footpath network will be provided with support of signal-controlled crossing and pedestrian footpath at J10 Tin Ha Road/ Road L16/ Hung Leong Road and along Road L16.

8.1.3 Along Hung Leong Road, a minimum walkway width of 3.25 m is provided to serve residents of Sites 4B-1 and 4B-2. This section is further enhanced by the proposed at-grade pedestrian crossing that connects Hung Leong Road to Road L16, improving accessibility to Hung Shui Kiu Station.

8.1.4 Along Road L16 and Tin Ha Road, pedestrian walkways are provided with minimum widths of 3.5 m and 3.3 m respectively. These provisions are intended to facilitate smooth pedestrian movement and maintain strong connectivity between the development sites and nearby PTI and Hung Shui Kiu Station, supporting efficient and safe travel for residents.

8.1.5 In addition, pedestrian walkways along Hung Shui Kiu Tin Sam Road can be maintained as the existing, with an approximate clear width of 3 m and 2m wide amenity areas to serve residents of Sites 4B-2 and 4B-3.

8.1.6 In general, adequate pedestrian walkways are provided in the vicinity of the 3 Development Sites which would be able to serve the residents of the proposed developments.

8.1.7 Cycle track network is also provided along Road L16 connected to the Hung Shui Kiu Station. Sufficient cycling supporting facilitates such as cycle parking areas would be provided along the cycle track network. The cycle track along Tin Ha Road, Road L16 and Road L12 also connected to the existing cycle track in Castle Peak Road. The 3 Development Sites will be well covered by the existing and future cycle track network.

9. Conclusion

9.1.1 With the intensification of the 3 Development Sites, the number of flats and population will increase to 3,070 flats and 8,289 persons. The tentative population intake year for the proposed development in the 3 Development Sites will be 2035.

9.1.2 The performance of key road links and junction within and in the vicinity of HSK/HT NDA have been assessed for Design Year 2038.

9.1.3 The assessment results reveal that the overall traffic conditions will be operated with sufficient capacity in Design Year 2038 except J4 Hung Tin Road/ Hung Chi Road, J10 Tin Ha Road/ Road L16/ Hung Leong Road, J14 Road L15/ Road L12, and J18 Castle Peak Road/ Hung Tin Road.

9.1.4 With the aid of the improvement schemes proposed in this report and schemes proposed in Developments at LFS TTIA, these junctions will be operated with sufficient capacity in Design Year 2038.

9.1.5 The proposed development will be served by the planned pedestrian and cyclist network, including the Green Transit Corridor which provides a direct connection between the proposed development and Hung Shui Kiu Station (Tuen Ma Line).

9.1.6 Based on the assessment under this report, no insurmountable traffic and transport impact will be induced by the intensification of the 3 Development Sites.

Figures

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N

HA TSUEN
厦村

HA TSUEN ROAD
KONG SHAM WESTERN HIGHWAY
PING HA ROAD
TIN HA ROAD
HUNG CHI RD
HUNG SHUI KIU
CASTLE PEAK ROAD - PING SHAN
CASTLE PEAK ROAD - LAM TEI
YUEN LONG HIGHWAY
MTR (WEST RAIL LINE)
HUNG KEI ROAD
Hung Shui Kiu Tin Sam Road
Hung Yu Road
4B-1
4B-2
4B-3
PING SHAN
屏山
TAI TAO TSUEN
TIN SHUI WAI
WEST INTERCHANGE
TAN KWAI TSUEN
SUN FUNG WAI
TUEN TSZ WAI

0 50 100 150 200 250
METRES
1 : 5000

LEGEND :

AREA OF INFLUENCE

SITE LOCATIONS

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

AREA OF INFLUENCE

Drawing no.		Rev.
FIGURE 2.1		A
Drawn: WKKL	Date: 09/25	Checked: WVZ	Approved: HLHK
Scale: 1 : 5000 @ A1		Status: PRELIMINARY	

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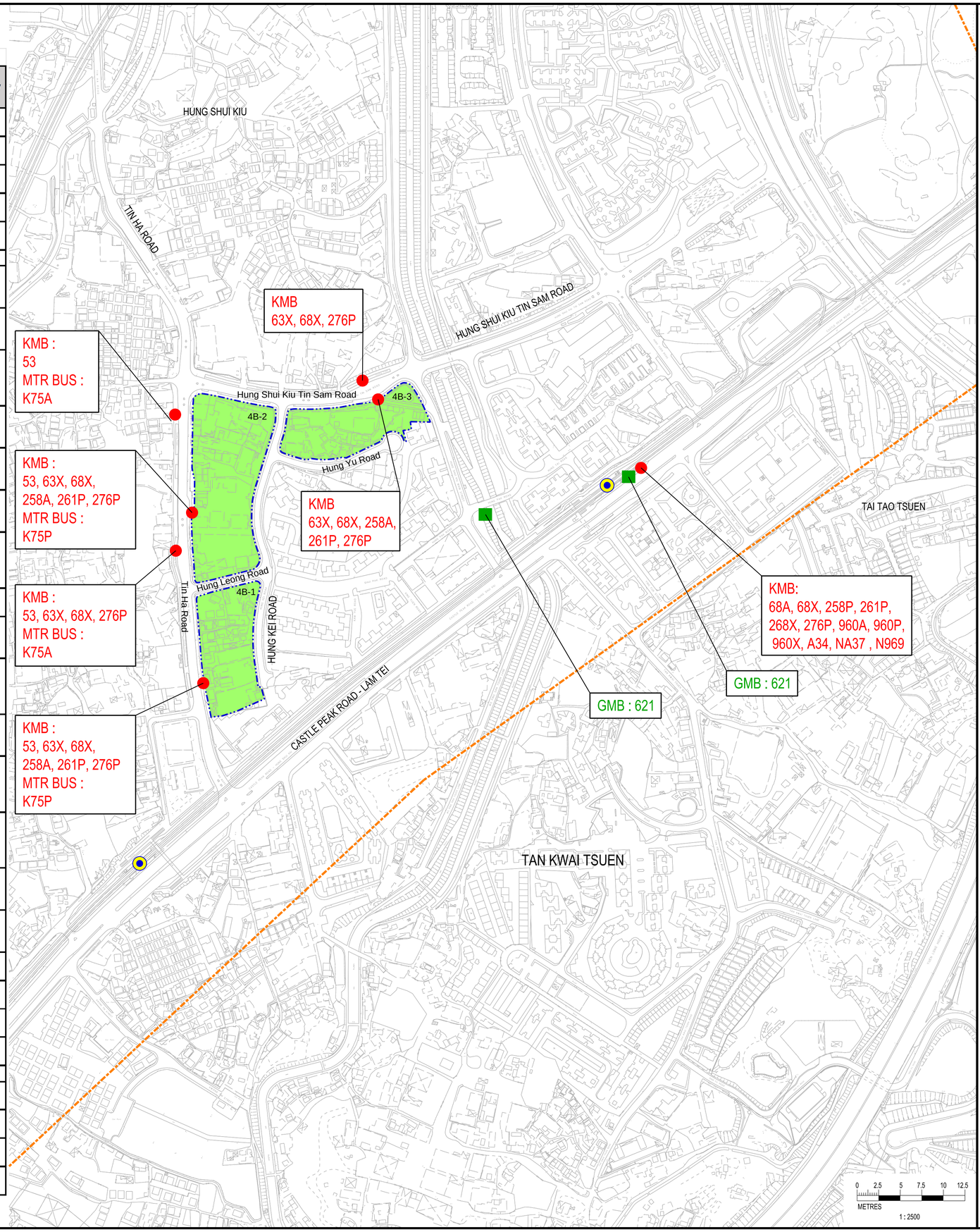
Existing Public Transportation Provision

Service Corridor	Route No.	Mode	Origin / Destination		Average Headway (Mins)
Tin Ha Road	53	Fr. Bus	Yoho Mall (Yuen Long)	Tsuen Wan (Nina Tower)	25
	63X	Fr. Bus	Hung Shui Kiu (Hung Fuk Estate)	Jordan (West Kowloon Station)	12
	68X	Fr. Bus	Hung Shui Kiu (Hung Fuk Estate)	Mong Kok (Park Avenue)	15
	258A	Fr. Bus	Hung Shui Kiu (Hung Fuk Estate)	Lam Tin Station	15
	261P	Fr. Bus	Tuen Mun (Siu Hong Court)	Sheung Shui (Tin Ping)	20
	276P	Fr. Bus	Tin Shui Wai Station	Sheung Shui	12
	K75A	MTR Feeder Bus	Hung Shui Kiu	Tin Shui Wai Station	30
	K75P	MTR Feeder Bus	Hung Shui Kiu	Tin Shui	10
Castle Peak Road – Hung Shui Kiu	68A	Fr. Bus	Long Ping Estate	Tsing Yi Station	10
	68X	Fr. Bus	Hung Shui Kiu (Hung Fuk Estate)	Mong Kok (Park Avenue)	15
	258P	Fr. Bus	Hung Shui Kiu (Hung Fuk Estate)	Lam Tin Station	12
	261P	Fr. Bus	Tuen Mun (Siu Hong Court)	Sheung Shui (Tin Ping)	20
	268X	Fr. Bus	Hung Shui Kiu (Hung Fuk Estate)	Jordan (West Kowloon Station)	15
	276P	Fr. Bus	Tin Shui Wai Station	Sheung Shui	12
	960A	Fr. Bus	Central	Hung Shui Kiu (Hung Fuk Estate)	60
	960P	Fr. Bus	Hung Shui Kiu (Hung Yuen Road)	Causeway Bay (Victoria Park)	10
	960X	Fr. Bus	Hung Shui Kiu (Hung Yuen Road)	Quarry Bay (King's Road)	10
	A34	Fr. Bus	Hung Shui Kiu (Hung Yuen Road)	Airport (Ground Transportation Centre)	20
	N969	Fr. Bus	Tin Shui Wai Town Centre	Causeway Bay (Moreton Terrace)	20
	NA37	Fr. Bus	Tin Shui Wai Town Centre	Cathay Pacific City	15
	621	GMB	Hung Fuk Estate	Tin Shui Wai Hospital	12
Hung Shui Kiu Tin Sam Road	63X	Fr. Bus	Hung Shui Kiu (Hung Fuk Estate)	Jordan (West Kowloon Station)	12
	68X	Fr. Bus	Hung Shui Kiu (Hung Fuk Estate)	Mong Kok (Park Avenue)	15
	258A	Fr. Bus	Hung Shui Kiu (Hung Fuk Estate)	Lam Tin Station	15
	261P	Fr. Bus	Tuen Mun (Siu Hong Court)	Sheung Shui (Tin Ping)	20
	276P	Fr. Bus	Tin Shui Wai Station	Sheung Shui	12
	960A	Fr.Bus	Central	Hung Shui Kiu (Hung Fuk Estate)	60
	960B	Fr.Bus	Quarry Bay	Hung Shui Kiu (Hung Fuk Estate)	15
	960P	Fr.Bus	Hung Shui Kiu (Hung Yuen Road)	Causeway Bay (Victoria Park)	10
	960X	Fr.Bus	Hung Shui Kiu (Hung Yuen Road)	Quarry Bay (King's Road)	10



LEGEND :

- AREA OF INFLUENCE
- SITE LOCATIONS
- BUS STOP
- GMB STOP
- LIGHT RAILWAY TRANSIT STATION

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

EXISTING PUBLIC TRANSPORT SERVICE

Drawing no.	Rev.
FIGURE 2.2	A

Drawn	Date	Checked	Approved
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N

HA TSUEN
厦村

PING HA ROAD
HA TSUEN ROAD
KONG SHAM WESTERN HIGHWAY
TIN HA ROAD
HUNG CHI RD
HUNG SHUI KIU
CASTLE PEAK ROAD - PING SHAN
CASTLE PEAK ROAD - LAM TEI
YUEN LONG HIGHWAY
HUNG KEI ROAD
Hung Shui Kiu Tin Sam Road
Hung Yu Road
MTR (WEST RAIL LINE)
TAI TAO TSUEN
TIN SHUI WAI WEST INTERCHANGE
TAN KWAI TSUEN
SUN FUNG WAI
TUEN TSZ WAI
PING SHAN

J1
J4
J18
J8
J7
J5
J17
J16
J15

4B-1
4B-2
4B-3

LEGEND :
- AREA OF INFLUENCE
- SITE LOCATIONS
- J10 EXISTING JUNCTIONS

Rev	Description	By	Date

Consultant
ARUP

Contract No. and Title
Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title
EXISTING KEY JUNCTIONS ASSESSED

Drawing no.		Rev.
	FIGURE 2.3	A

Drawn	Date	Checked	Approved
WKKL	09/25	WVZ	HLHK

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Status: PRELIMINARY

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0 50 100 150 200 250
METRES
1 : 5000

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N

ROAD D3
ROAD D5
ROAD L31
HA TSUEN ROAD
KONG SHAM WESTERN HIGHWAY
ROAD L30
TIN HA ROAD
ROAD L50
PING HA ROAD
ROAD L7
ROAD L6
ROAD L8
ROAD L9
West Rail Line
ROAD L5
ROAD L10
HUNG TIN ROAD
HUNG CHI RD
CASTLE PEAK ROAD - PING SHAN
ROAD L24
ROAD L25
ROAD D6
ROAD L18
HUNG SHUI KIU
ROAD L23
ROAD L17
MTR (WEST RAIL LINE)
Hung Shui Kiu Tin Sam Road
4B-2
4B-3
Hung Yu Road
Tin Ha Road
ROAD L16
HUNG KEI ROAD
4B-1
ROAD L22
ROAD L12
ROAD L19
ROAD L21
ROAD D7
ROAD L15
CASTLE PEAK ROAD - LAM TEI
TAI TAO TSUEN
TIN SHUI WAI WEST INTERCHANGE
TAN KWAI TSUEN
ROAD D8
ROAD L13
ROAD D6
YUEN LONG HIGHWAY
TUEN TSZ WAI
SUN FUNG WAI

0 50 100 150 200 250
METRES
1 : 5000

LEGEND :

- AREA OF INFLUENCE
- SITE LOCATIONS
- PLANNED ROAD LAYOUT OF HSK/HT NDA
- PROPOSED ROAD LAYOUT OF LFS PHASE 1
- PROPOSED VEHICULAR ACCESS OF APPLICATION SITES

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE ROAD NETWORK AND PROPOSED VEHICULAR ACCESS

Drawing no.			Rev.
FIGURE 4.1			A
Drawn	Date	Checked	Approved
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Scale		Status	
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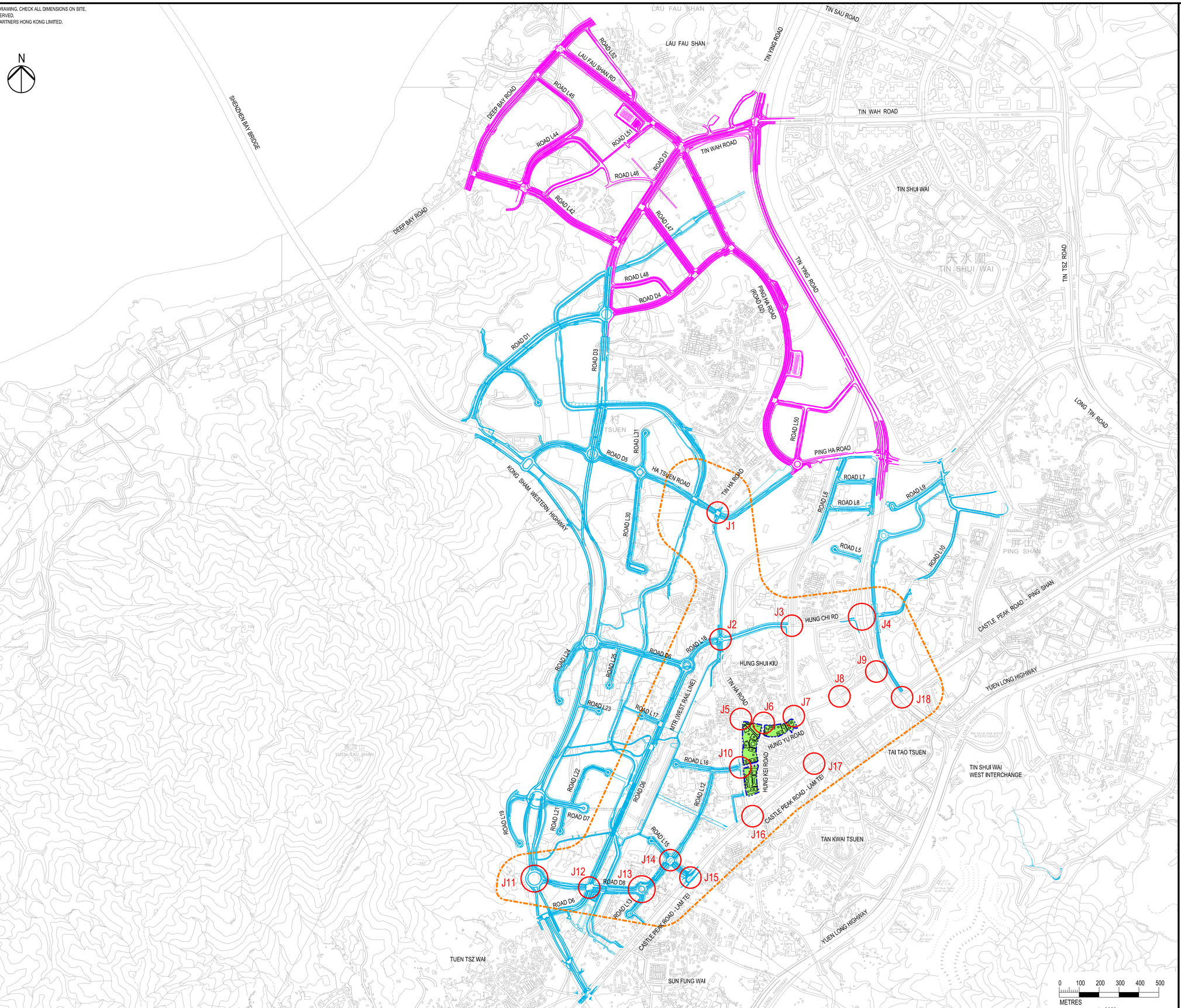

LEGEND :

- AREA OF INFLUENCE
- SITE LOCATIONS
- PLANNED ROAD LAYOUT OF HSK/HT NDA
- PROPOSED ROAD LAYOUT OF LFS PHASE 1
- J10 LOCATION OF JUNCTIONS TO BE ASSESSED

Rev	Description	By	Date
A	PRELIMINARY DESIGN	SML	10/25

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

KEY JUNCTIONS FOR ASSESSMENT

Drawing no.		Rev.
	FIGURE 6.1	A

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Scale	Status
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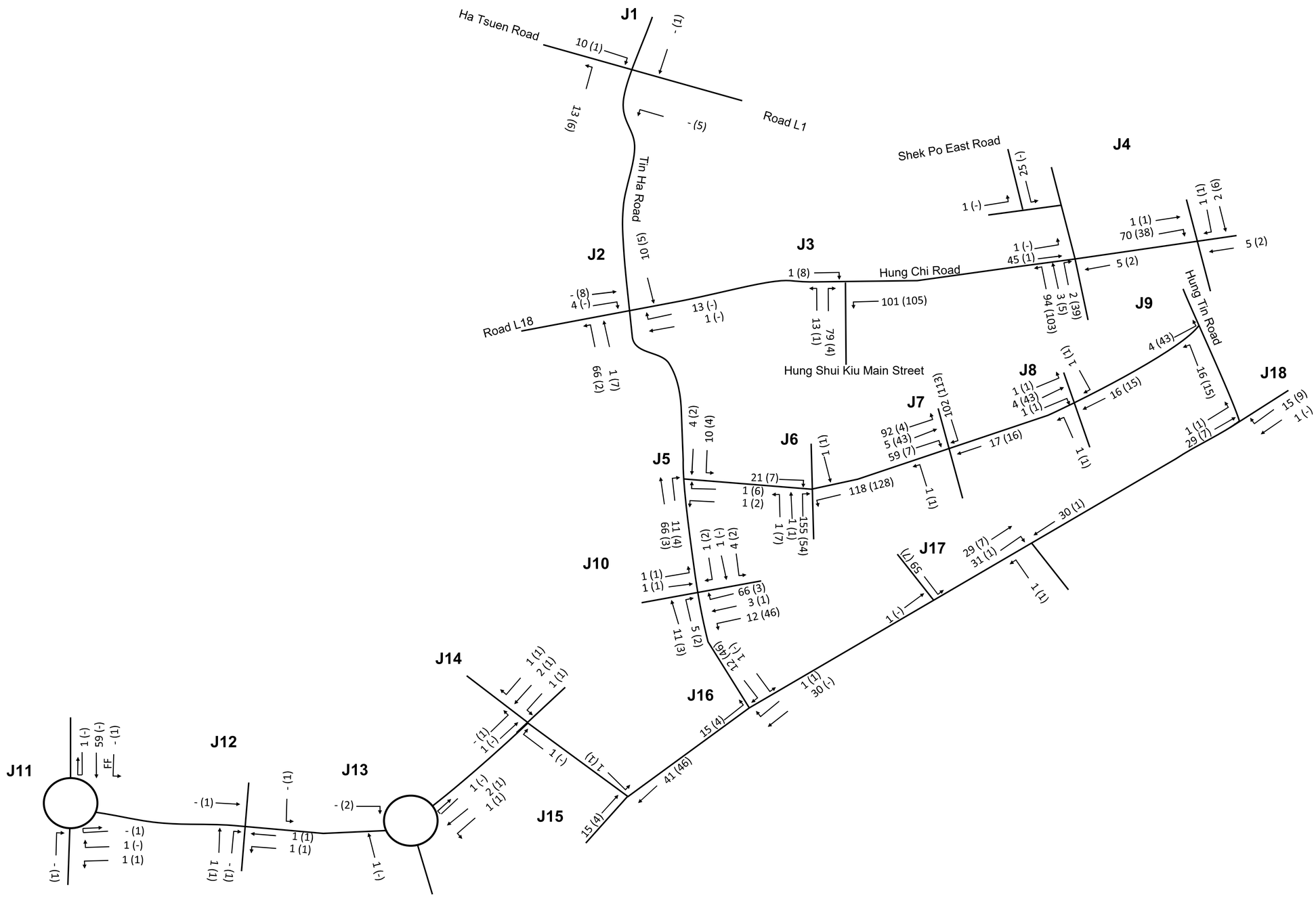

LEGEND:

Traffic Flow in PCUs/hr
100 AM PEAK HOUR FLOW (PCU/HR)
(100) PM PEAK HOUR FLOW (PCU/HR)

Rev	Description	By	Date
A	PRELIMINARY DESIGN	SML	10/25

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

DEVELOPMENT TRAFFIC DISTRIBUTION

Drawing no.		Rev.
	FIGURE 6.2	A

Drawn	Date	Checked	Approved
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Scale	Status
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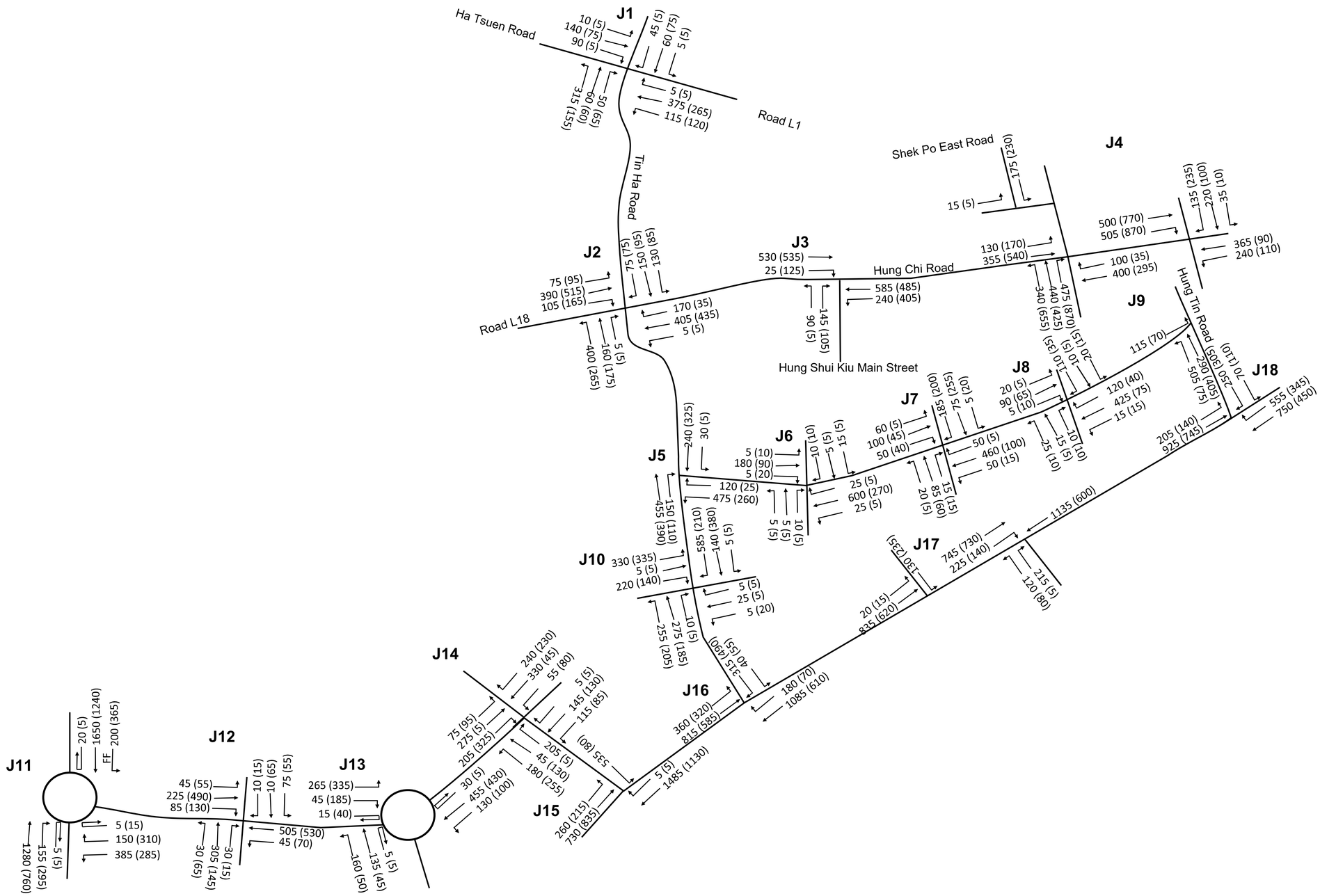

LEGEND:

Traffic Flow in PCUs/hr
100 AM PEAK HOUR FLOW (PCU/HR)
(100) PM PEAK HOUR FLOW (PCU/HR)

Rev	Description	By	Date
A	PRELIMINARY DESIGN	SML	10/25

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

2038 REFERENCE WEEKDAYS PEAK HOUR TRAFFIC FLOW

Drawing no.		Rev.
FIGURE 6.3		A
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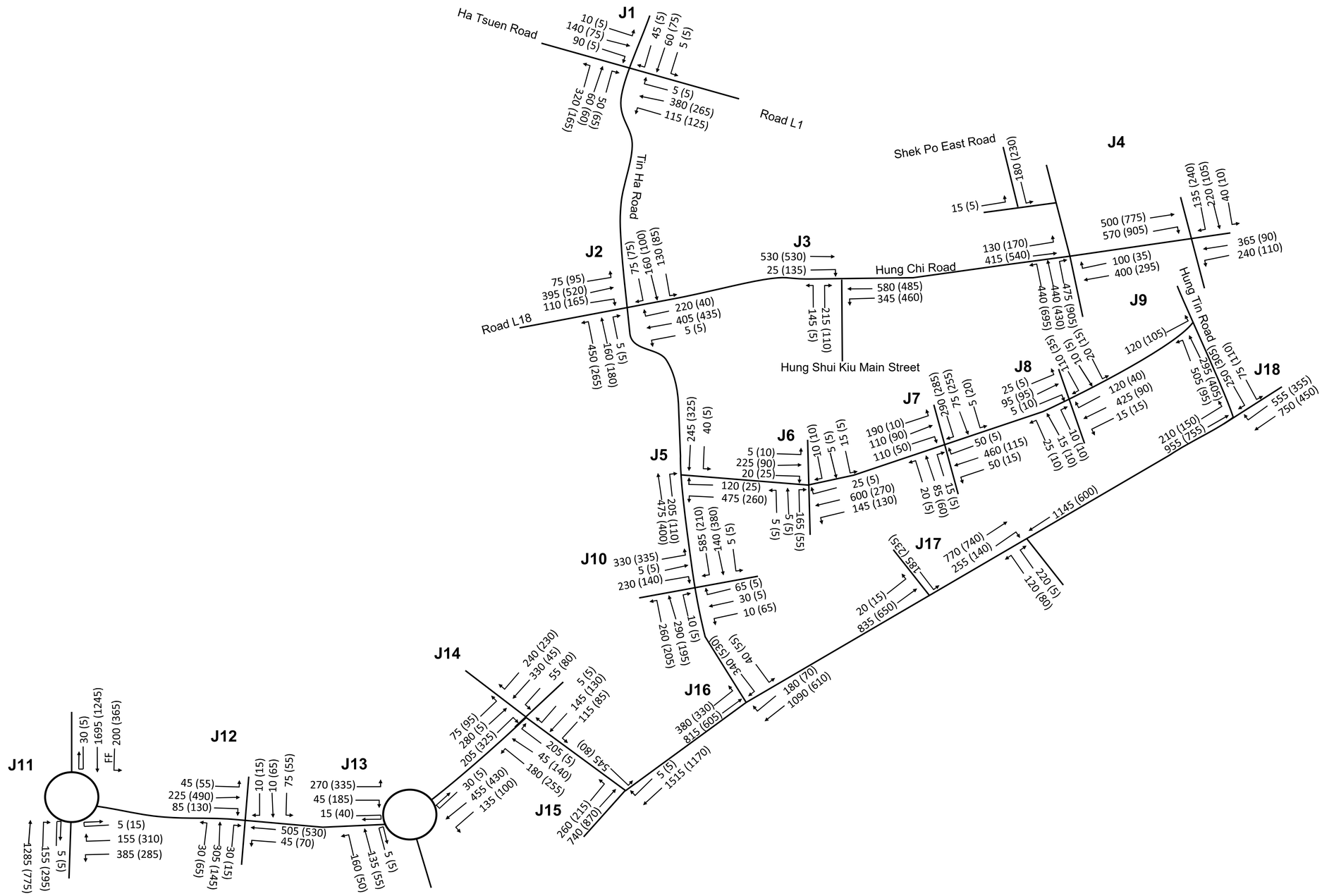

LEGEND:

Traffic Flow in PCUs/hr
100 AM PEAK HOUR FLOW (PCU/HR)
(100) PM PEAK HOUR FLOW (PCU/HR)

Rev	Description	By	Date
A	PRELIMINARY DESIGN	SML	10/25

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

2038 DESIGN WEEKDAYS PEAK HOUR TRAFFIC FLOW

Drawing no.		Rev.
	FIGURE 6.4	A

Drawn	Date	Checked	Approved
WKKL	09/25	WVZ	HLHK

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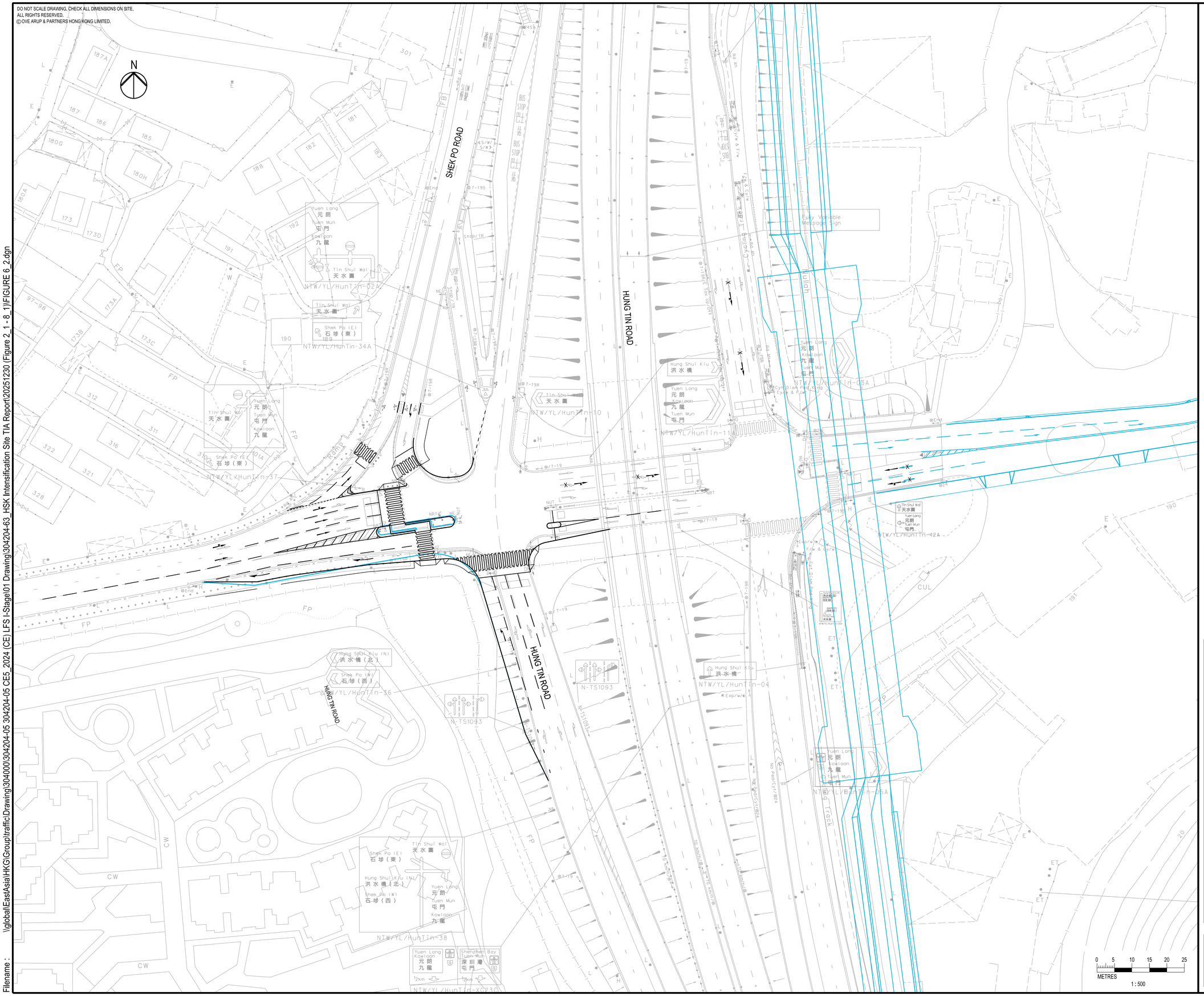

LEGEND :

- PLANNED ROAD LAYOUT OF HSK/HT NDA
- PROPOSED JUNCTION IMPROVEMENT SCHEME

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

PROPOSED JUNCTION IMPROVEMENT SCHEME OF HUNG TIN ROAD / HUNG CHI ROAD / SHEK PO EAST ROAD (J4)

Drawing no.			Rev.
FIGURE 6.5			A
Drawn	Date	Checked	Approved
WKKL	05/25	WVZ	HLHK
Scale		Status	
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N

PROPOSED JUNCTION IMPROVEMENT SCHEME

HSK_5-39_Block Plan

HSK_5-39_Block Plan

TIN HA ROAD

TIN HA ROAD

HUNG LEONG ROAD

ROAD L16

Cycling Track

Cycling Track

BUS STOP 巴士站

3.44m
3.50m
3.30m
3.25m
7.30m
3.25m
3.54m
3.54m
3.25m
3.50m
3.5m
3.5m
3.4m
0.6m
3.4m
6.1m

LEGEND :

PLANNED ROAD LAYOUT OF HSK/HT NDA

PROPOSED JUNCTION IMPROVEMENT SCHEME

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

PROPOSED JUNCTION IMPROVEMENT SCHEME OF TIN HA ROAD / ROAD L16 / HUNG LEONG ROAD (J10)

Drawing no.		Rev.
FIGURE 6.6		A
Drawn: WKKL	Date: 05/25	Checked: WVZ	Approved: HLHK
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0 2.5 5 7.5 10 12.5
METRES
1 : 250

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Filename : M:\Drawing\304000\304204-05 304204-05 CE5_2024 (CE) LFS I-Stage\01 Drawing\304204-63_HSK Intensification Site TIA Report\20260108 (Figure 2_1 - 8_1)_PR5_2\FIGURE 6_3.dgn

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N

ROAD L15

ROAD L12

ROAD L13

ROAD L14

50 km/h

LRT Aft/Cable/ Sofe Ht 5.3m

Childschool

5B

5A

5

6

7A

0 2.5 5 7.5 10 12.5
METRES
1 : 250

LEGEND :

PLANNED ROAD LAYOUT OF HSK/HT NDA

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

PROPOSED JUNCTION IMPROVEMENT SCHEME OF ROAD L12 / ROAD L13 / ROAD L14 / ROAD L15 (J14)

Drawing no.		Rev.
FIGURE 6.7		A
Drawn: WKKL	Date: 05/25	Checked: WVZ	Approved: HLHK
Scale: 1 : 250 @ A1		Status: PRELIMINARY	

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PROPOSED LAYOUT FROM OTHER PROJECTS

HUNG TIN ROAD

CASTLE PEAK ROAD - HUNG SHUI KIU

PROPOSED LAYOUT OR PROPOSED JUNCTION IMPROVEMENT SCHEME

Except buses and private cars 巴士及私家車例外 N-TS914

Yuen Long 元朗 Tuen Mun 屯門 NTW/YL/HunTin-32

Yuen Long 元朗 Hung Shui Kiu 洪水橋 Tuen Mun 屯門 NTW/YL/HunTin-08A

Tin Shui Wai 天水圍 NTW/YL/CasPea-C14

LRT Stop 輕鐵站 NTW/YL/CasPea-P08

Light Rail Bus Stop 巴士站 NTW/YL/CasPea-P07

Hung Shui Kiu 洪水橋 Tin Shui Wai 天水圍 NTW/YL/HunTin-G18

Tuen Mun 屯門 Yuen Long 元朗 NTW/YL/CasPea-C15

NT8406 Yuen Long Kowloon 元朗 九龍 Shenzhen Bay Tuen Mun 深圳灣 屯門 NTW/YL/HunTin-XG26

Cycling Track

BUS STOP 巴士站

LEGEND :

PLANNED ROAD LAYOUT OF HSK/HT NDA

PROPOSED JUNCTION IMPROVEMENT SCHEME

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

PROPOSED JUNCTION IMPROVEMENT SCHEME OF CASTLE PEAK ROAD - HUNG SHUI KIU / HUNG TIN ROAD (J18)

Drawing no.		Rev.
FIGURE 6.8		A
Drawn: WKKL	Date: 05/25	Checked: WVZ	Approved: HLHK
Scale: 1:250 @ A1		Status: PRELIMINARY

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0 2.5 5 7.5 10 12.5 METRES
1 : 250

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Filename : M:\Drawing\30400\304204-05 304204-05 CE5_2024 (CE) LFS I-Stage\01 Drawing\304204-63_HSK Intensification Site TIA Report\20251218 (Figure 2_1 - 8_1)\FIGURE 6_5.dgn

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N

ROAD D3
ROAD D5
ROAD L31
ROAD L30
HA TSUEN ROAD
TIN HA ROAD
KONG SHAM WESTERN HIGHWAY
ROAD L50
PING HA ROAD
ROAD L7
ROAD L6
ROAD L8
ROAD L9
ROAD L5
ROAD L10
West Rail Line
HUNG CHI RD
CASTLE PEAK ROAD - PING SHAN
YUEN LONG HIGHWAY
ROAD L24
ROAD L25
ROAD D6
ROAD L18
HUNG SHUI KIU
ROAD L23
ROAD L17
MTR (WEST RAIL LINE)
TIN HA ROAD
Hung Shui Kiu Tin Sam Road
4B-2
4B-3
Hung Yu Road
Tin Ha Road
4B-1
HUNG KEI ROAD
ROAD L16
ROAD L22
ROAD L12
ROAD L19
ROAD L21
ROAD D7
HUNG SHUI KIU
PTI
ROAD L15
CASTLE PEAK ROAD - LAM TEI
ROAD D8
ROAD L13
ROAD D6
TAI TAO TSUEN
TIN SHUI WAI
WEST INTERCHANGE
TAN KWAI TSUEN
TUEN TSZ WAI
SUN FUNG WAI
CASTLE PEAK ROAD - LAM TEI
YUEN LONG HIGHWAY
屏山
PING SHAN
Ling To Monastery
Tsui Sing Lau Pagoda
Old Wall
Yu Kiu Yuen
Tan Kwai Tsuen North Ser Res
Tan Kwai Tsuen South Ser Res
Salt Water Ser Res

0 50 100 150 200 250
METRES
1 : 5000

LEGEND :

- AREA OF INFLUENCE
- SITE LOCATIONS
- FUTURE MTR STATION
- PLANNED ROAD LAYOUT OF HSK/HT NDA
- PROPOSED ROAD LAYOUT OF LFS PHASE 1
- PTI — FUTURE PUBLIC TRANSPORT INTERCHANGE
- FUTURE GREEN TRANSIT CORRIDOR
- EXISTING BUS STOP
- RELOACTED BUS STOP

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE PUBLIC TRANSPORT FACILITIES

Drawing no.		Rev.
FIGURE 7.1		A
Drawn: WKKL	Date: 09/25	Checked: WVZ	Approved: HLHK
Scale: 1 : 5000 @ A1		Status: PRELIMINARY	

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N

TSUEN

ROAD D3
ROAD D5
ROAD L31
HA TSUEN ROAD
KONG SHAM WESTERN HIGHWAY
ROAD L30
TIN HA ROAD
ROAD L50
PING HA ROAD
ROAD L7
ROAD L6
ROAD L8
ROAD L9
ROAD L5
ROAD L10
HUNG TIN ROAD
HUNG CHI RD
CASTLE PEAK ROAD - PING SHAN
YUEN LONG HIGHWAY
ROAD L24
ROAD L25
ROAD D6
ROAD L18
HUNG SHUI KIU
TIN HA ROAD
ROAD L23
ROAD L17
MTR (WEST RAIL LINE)
Hung Shui Kiu Tin Sam Road
4B-2
4B-3
Hung Yu Road
Tin Ha Road
ROAD L16
4B-1
HUNG KEI ROAD
ROAD L12
CASTLE PEAK ROAD - LAM TEI
ROAD L22
ROAD L21
ROAD D7
ROAD L19
HUNG SHUI KIU
PTI
ROAD L15
ROAD D8
ROAD D6
ROAD L13
CASTLE PEAK ROAD - LAM TEI
TAI TAO TSUEN
TIN SHUI WAI
WEST INTERCHANGE
TAN KWAI TSUEN
SUN FUNG WAI
TUEN TSZ WAI
PING SHAN

CYCLE TRACK CONNECTED TO EXISTING CYCLE TRACK IN CASTLE PEAK ROAD

PEDESTRIAN FOOTPATH AND CYCLE TRACK CONNECTED TO HUNG SHUI KIU STATION AND PTI

CYCLE TRACK CONNECTED TO EXISTING CYCLE TRACK IN CASTLE PEAK ROAD

0 50 100 150 200 250
METRES
1 : 5000

LEGEND :

- AREA OF INFLUENCE
- SITE LOCATIONS
- FUTURE MTR STATION
- PLANNED ROAD LAYOUT OF HSK/HT NDA
- PROPOSED ROAD LAYOUT OF LFS PHASE 1
- PTI — FUTURE PUBLIC TRANSPORT INTERCHANGE
- FUTURE GREEN TRANSIT CORRIDOR
- PLANNED PEDESTRIAN FOOTPATH
- PLANNED CYCLE TRACK

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE PEDESTRIAN AND CYCLE TRACK CONNECTIVITY

Drawing no.			Rev.
FIGURE 8.1			A
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Appendix A Future Junction Layouts

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N

HA TSUEN ROAD

TIN HA ROAD

TIN HA ROAD

LEGEND :

PLANNED ROAD LAYOUT OF HSK/HT NDA

0 2.5 5 7.5 10 12.5
METRES
1 : 250

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE JUNCTION LAYOUT OF HA TSUEN ROAD / TIN HA ROAD (J1)

Drawing no.		Rev.
Appendix - A1		A
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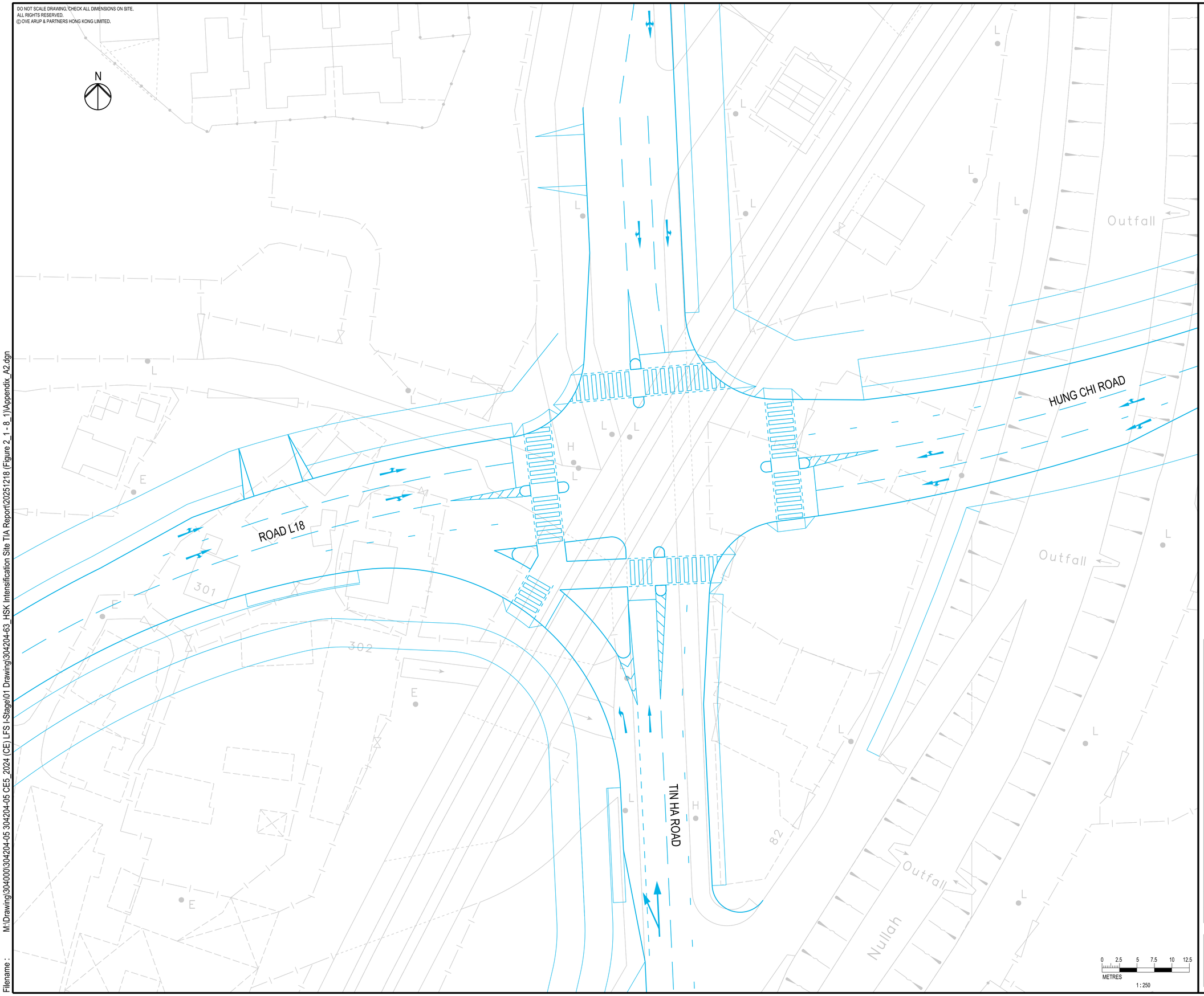

LEGEND :

PLANNED ROAD LAYOUT OF HSK/HT NDA

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE JUNCTION LAYOUT OF TIN HA ROAD / ROAD L18 (J2)

Drawing no.		Rev.
Appendix - A2		A
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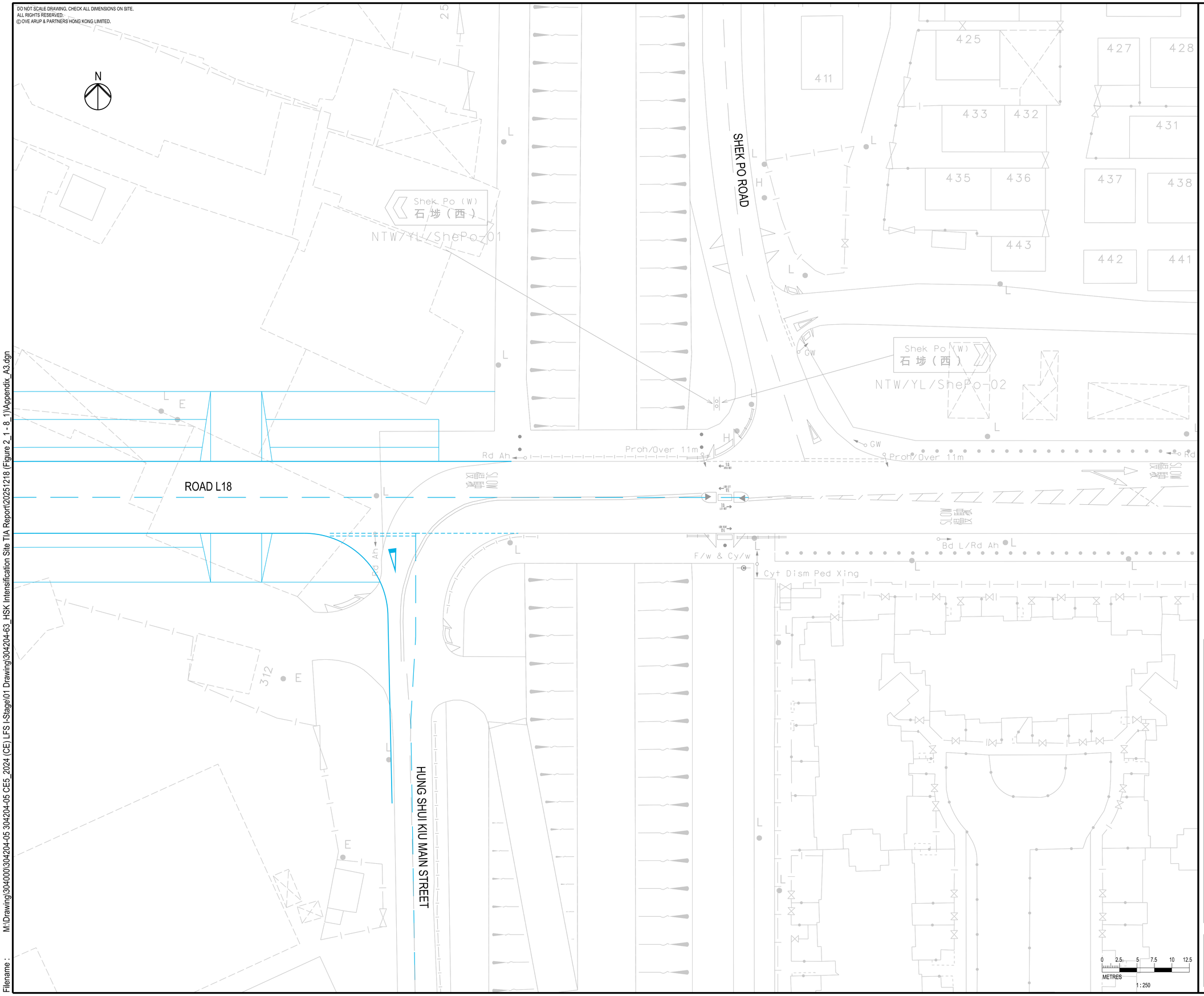

LEGEND :

PLANNED ROAD LAYOUT OF HSK/HT NDA

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE JUNCTION LAYOUT OF ROAD L18 / HUNG CHI ROAD / HUNG SHUI KIU MAIN STREET (J3)

Drawing no.			Rev.
Appendix - A3			A
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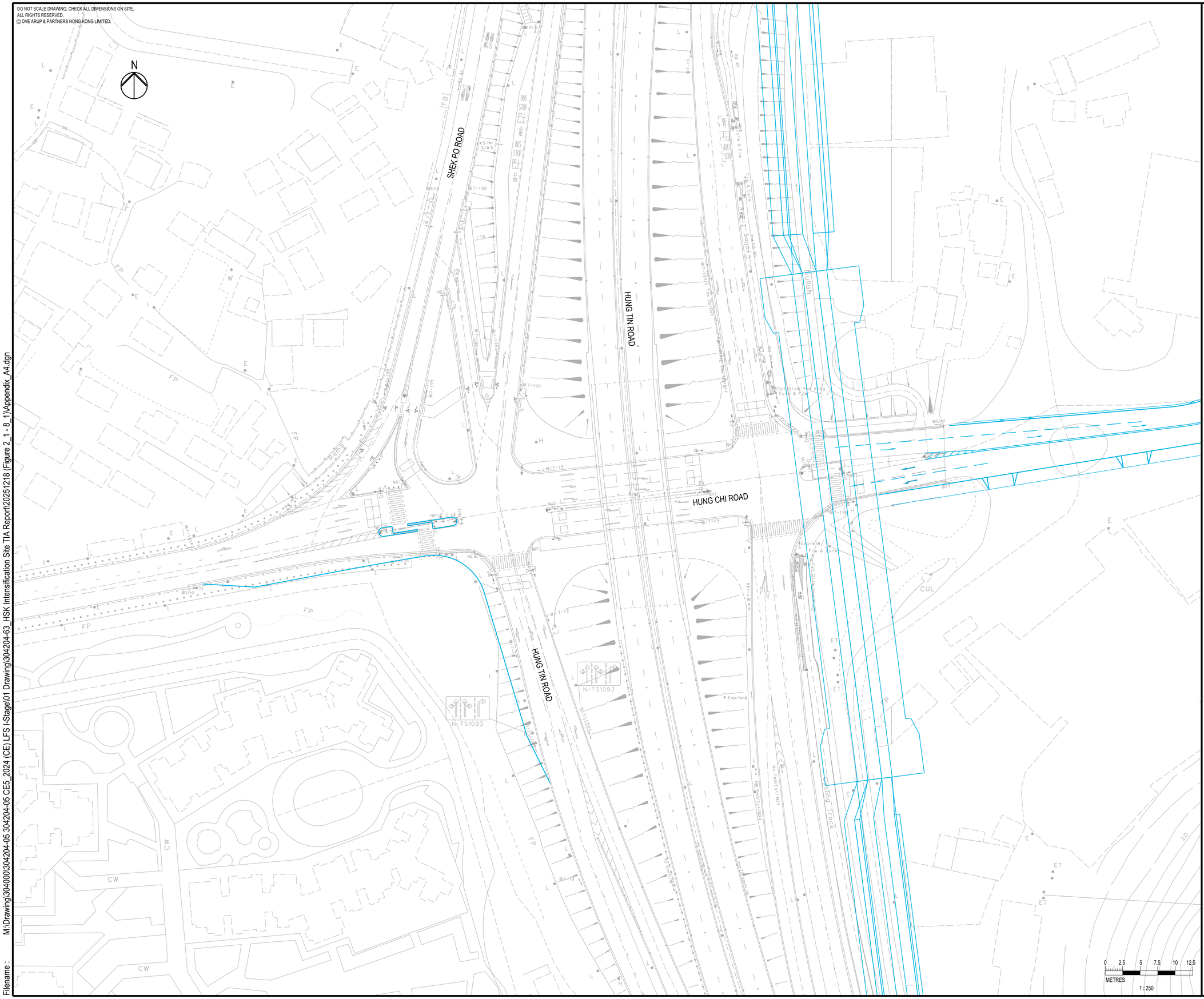

LEGEND :

PLANNED ROAD LAYOUT OF HSK/HT NDA

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE JUNCTION LAYOUT OF HUNG TIN ROAD / HUNG CHI ROAD / SHEK PO EAST ROAD (J4)

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Appendix - A4		A
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Consultant

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Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE JUNCTION LAYOUT OF HUNG SHUI KIU TIN SAM ROAD / TIN HA ROAD (J5)

Drawing no.		Rev.
Appendix - A5		A
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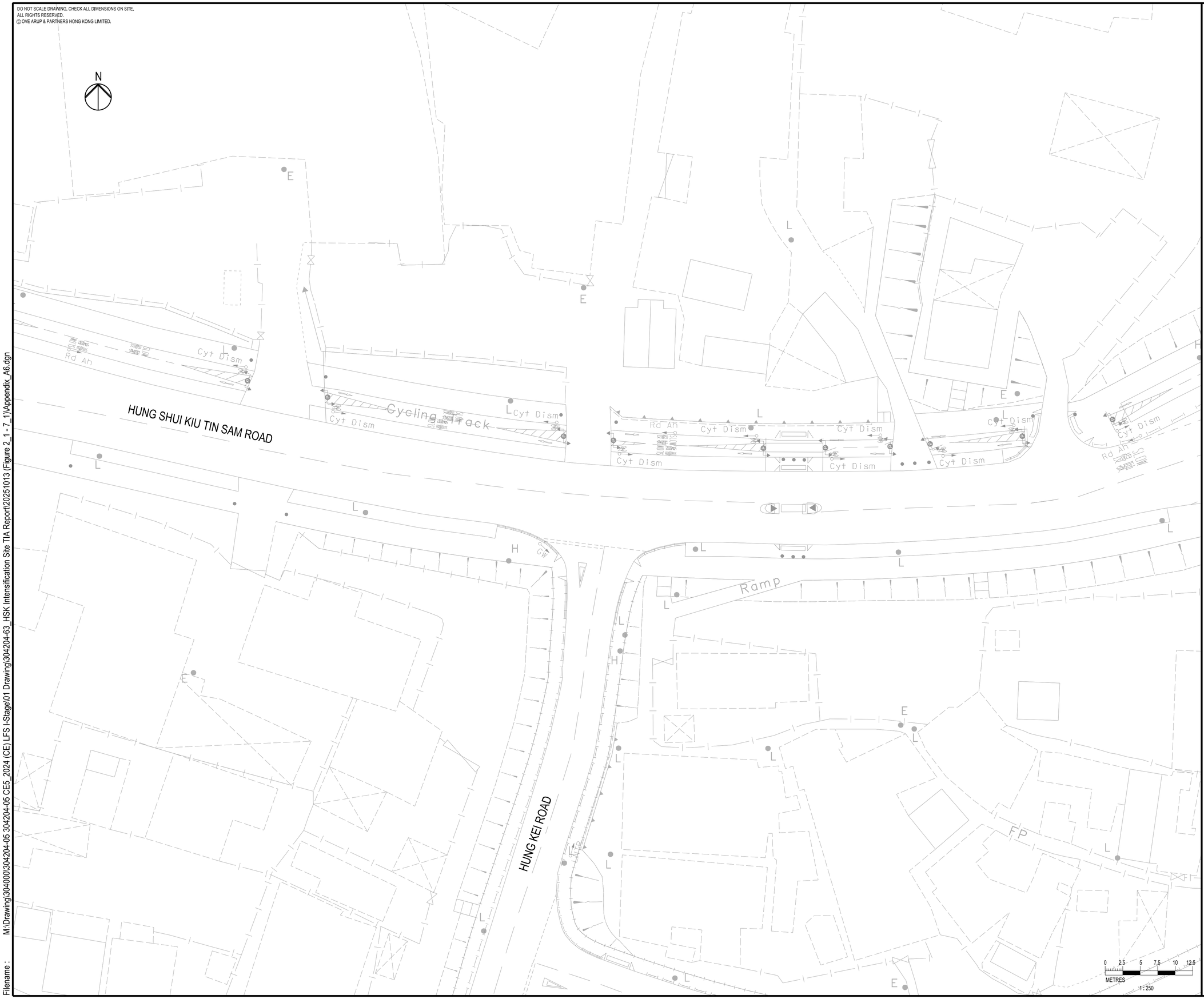

Rev	Description	By	Date

Consultant

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Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE JUNCTION LAYOUT OF HUNG SHUI KIU TIN SAM ROAD / HUNG KEI ROAD (J6)

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Appendix - A6		A
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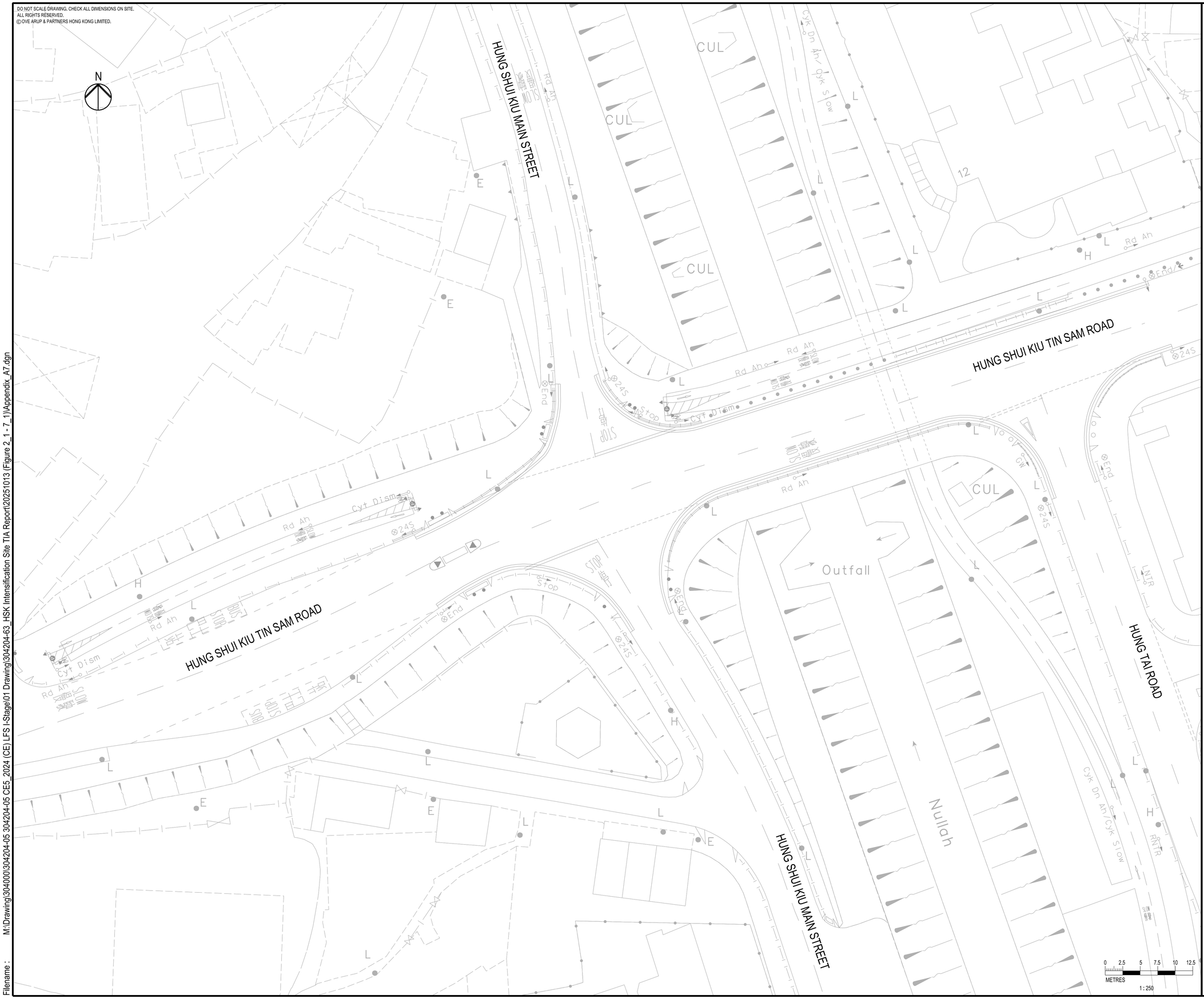

Rev	Description	By	Date

Consultant

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Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE JUNCTION LAYOUT OF HUNG SHUI KIU TIN SAM ROAD / HUNG SHUI KIU MAIN STREET (J7)

Drawing no.			Rev.
Appendix - A7			A
Drawn	Date	Checked	Approved
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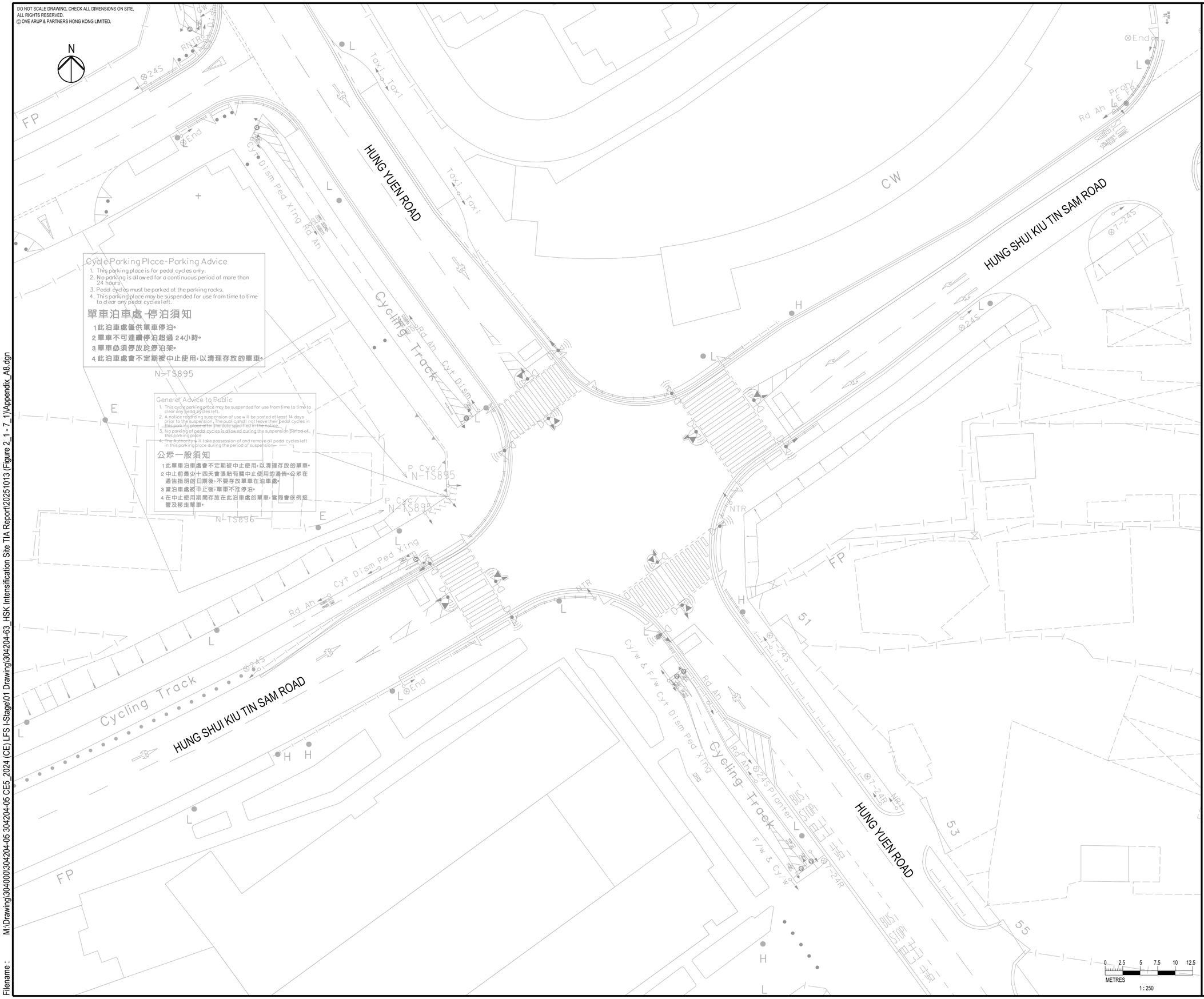

Rev	Description	By	Date

Consultant

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Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE JUNCTION LAYOUT OF HUNG SHUI KIU TIN SAM ROAD / HUNG YUEN ROAD (J8)

Drawing no.			Rev.
Appendix - A8			A
Drawn	Date	Checked	Approved
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N

HUNG TIN ROAD

HUNG SHUI KIU TIN SAM ROAD

Cycle Parking Place- Parking Advice
1. This parking place is for pedal cycles only.
2. No parking is allowed for a continuous period of more than 24 hours.
3. Pedal cycles must be parked at the parking racks.
4. This parking place may be suspended for use from time to time to clear any pedal cycles left.

單車泊車處-停泊須知
1. 此泊車處僅供單車停泊。
2. 單車不可連續停泊超過24小時。
3. 單車必須停放於停泊架。
4. 此泊車處會不定期被中止使用，以清理存放的單車。

General Advice to Public
1. This cycle parking place may be suspended for use from time to time to clear any pedal cycles left.
2. A notice regarding suspension of use will be posted at least 14 days prior to the suspension. The public shall not leave their pedal cycles in this parking place after the date specified in the notice.
3. No parking of pedal cycles is allowed during the suspension period of this parking place.
4. The Authority will take possession of and remove all pedal cycles left in this parking place during the period of suspension.

公眾一般須知
1. 此單車泊車處會不定期被中止使用，以清理存放的單車。
2. 中止前最少十四天會張貼有關中止使用的通告。公眾在通告指明的日期後，不得存放單車在泊車處。
3. 單泊車處被中止使，單車不准停泊。
4. 在中止使用期間存放在此泊車處的單車，實用會收拘留及移走單車。

N-TS895
N-TS896
N-TS914
N-TS915
N-TS916

Terminus
Bus Stop 巴士站
Stop & End Zone
P Cyc
Cycle Track
Prop. Cycle Track
Rd Adj
FP
ET
E
H
L
CW
TL/OW
F/W & CY/W
GW
NE
NRT/N-TS914/NE
⊗7-19
⊗7-19R
⊗7-24R
⊗7-24S

0 2.5 5 7.5 10 12.5
METRES
1 : 250

LEGEND :
PLANNED ROAD LAYOUT OF HSK/HT NDA

Rev	Description	By	Date

Consultant
ARUP

Contract No. and Title
Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title
PROPOSED JUNCTION LAYOUT OF HUNG SHUI KIU TIN SAM ROAD / HUNG TIN ROAD (J9)

Drawing no.		Rev.
Appendix - A9		A
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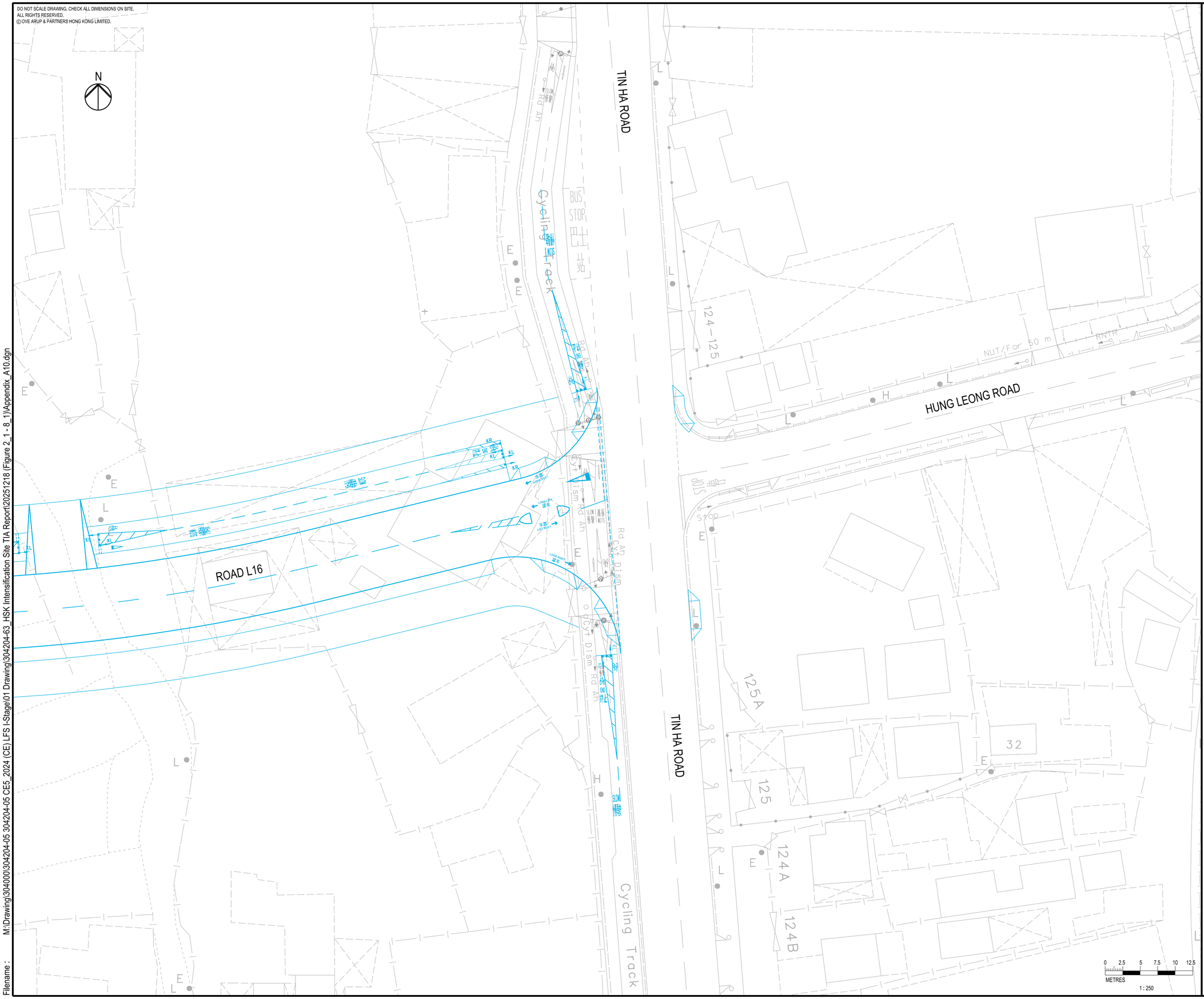

LEGEND :

PLANNED ROAD LAYOUT OF HSK/HT NDA

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE JUNCTION LAYOUT OF TIN HA ROAD / ROAD L16 / HUNG LEONG ROAD (J10)

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Appendix - A10		A
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N

ROAD P1

ROAD D8

+19.0

+19.0

+19.0

Reduce Sp

Septic Tank

Septic Tank

FP

E

L

CUL

0 2.5 5 7.5 10 12.5
METRES
1 : 250

LEGEND :

PLANNED ROAD LAYOUT OF HSK/HT NDA

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE JUNCTION LAYOUT OF ROAD P1 / ROAD D8 (J11)

Drawing no.		Rev.
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N

ROAD D6

ROAD D8

ROAD D8

ROAD D6

MTR (Tuen Ma Line)

FP

FP

FP

MTR

PO

L

H

E

0 2.5 5 7.5 10 12.5
METRES
1 : 250

LEGEND :

PLANNED ROAD LAYOUT OF HSK/HT NDA

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE JUNCTION LAYOUT OF ROAD L6 / ROAD L8 (J12)

Drawing no.			Rev.
Appendix - A12			A
Drawn	Date	Checked	Approved
WKKL	05/25	WVZ	HLHK
Scale		Status	
1 : 250 @ A1		PRELIMINARY	

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N

ROAD D8

ROAD L13

ROAD L13

LEGEND :

PLANNED ROAD LAYOUT OF HSK/HT NDA

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE JUNCTION LAYOUT OF ROAD D8 / ROAD L13 (J13)

Drawing no.		Rev.
Appendix - A13		A
Drawn: WKKL	Date: 05/25	Checked: WVZ	Approved: HLHK
Scale: 1 : 250 @ A1		Status: PRELIMINARY	

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0 2.5 5 7.5 10 12.5
METRES
1 : 250

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Filename : M:\Drawing\304000\304204-05 304204-05 CE5_2024 (CE) LFS I-Stage\01 Drawing\304204-63_HSK Intensification Site TIA Report\20251218 (Figure 2_1 - 8_1)\Appendix_A13.dgn

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N

ROAD L15

ROAD L12

ROAD L13

ROAD L14

50 km/h

LRT Ah/Cable/ Safe Ht 5.3m

Child/School

Rd Ahead

5B

5A

5

6

1A

0 2.5 5 7.5 10 12.5
METRES
1 : 250

LEGEND :

PLANNED ROAD LAYOUT OF HSK/HT NDA

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

PROPOSED JUNCTION LAYOUT OF ROAD L12 / ROAD L13 / ROAD L14 / ROAD L15 (J14)

Drawing no.			Rev.
Appendix - A14			A
Drawn	Date	Checked	Approved
WKKL	05/25	WVZ	HLHK
Scale		Status	
1 : 250 @ A1		PRELIMINARY	

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Filename : M:\Drawing\304000\304204-05 304204-05 CE5_2024 (CE) LFS I-Stage\01 Drawing\304204-63_HSK Intensification Site TIA Report\20251218 (Figure 2_1 - 8_1)\Appendix_A14.dgn

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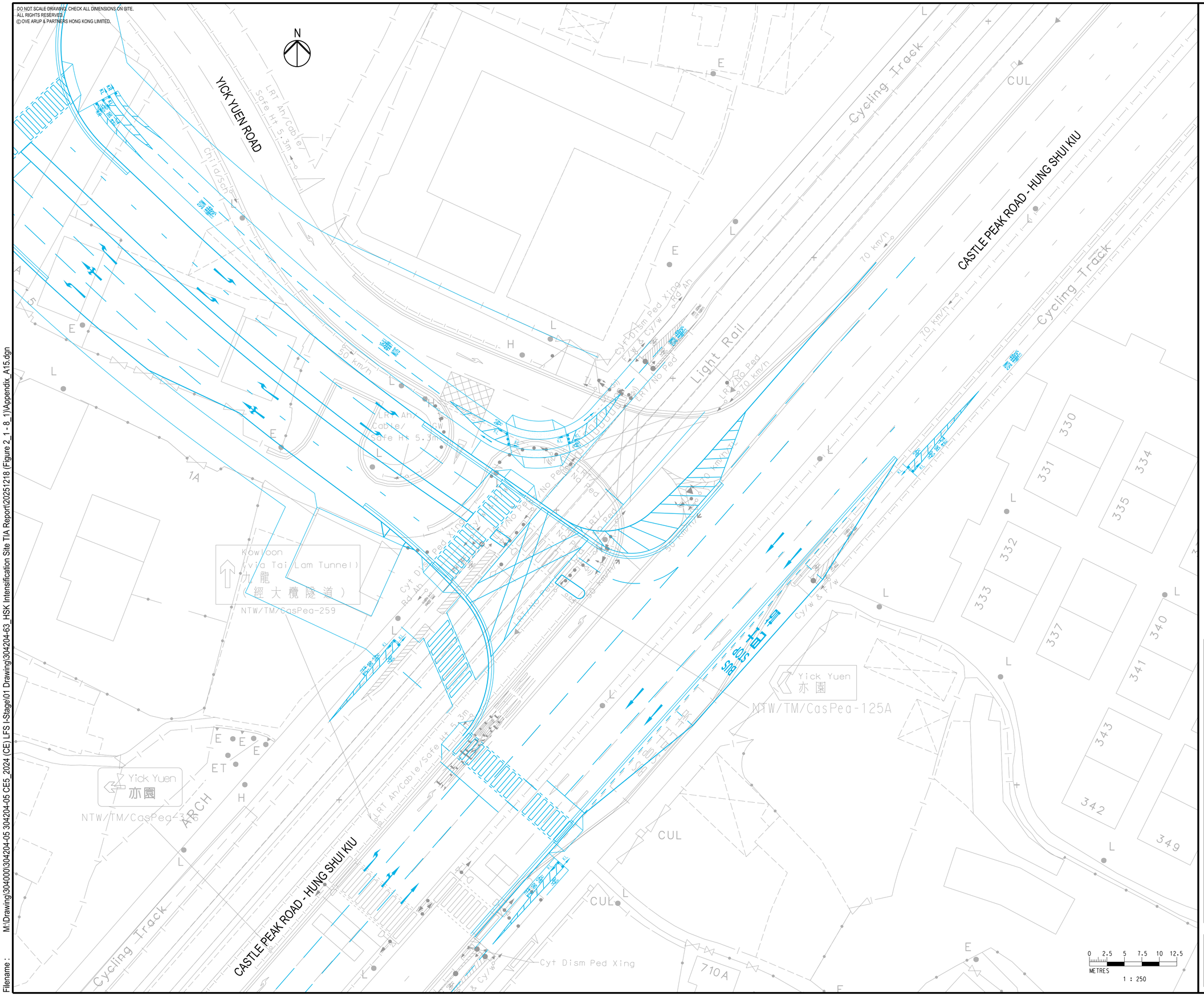

LEGEND :

PLANNED ROAD LAYOUT OF HSK/HT NDA

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

PROPOSED JUNCTION LAYOUT OF CASTLE PEAK ROAD - HUNG SHUI KIU / YICK YUEN ROAD (J15)

Drawing no.			Rev.
Appendix - A15			A
Drawn	Date	Checked	Approved
WKKL	05/25	WVZ	HLHK
Scale		Status	
1 : 250 @ A1		PRELIMINARY	

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Filename : M:\Drawing\304000\304204-05 304204-05 CE5_2024 (CE) LFS I-Stage\01 Drawing\304204-63_HSK Intensification Site TIA Report\20251218 (Figure 2_1 - 8_1)\Appendix_A15.dgn

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N

TIN HA ROAD

CASTLE PEAK ROAD - HUNG SHUI KIU

Cycle Parking Place-Parking Advice
1. This parking place is for pedal cycles only.
2. No parking is allowed for a continuous period of more than 24 hours.
3. Pedal cycles must be parked at the parking racks.
4. This parking place may be suspended for use from time to time to clear any pedal cycles left.

單車泊車處-停泊須知
1.此泊車處僅供單車停泊。
2.單車不可連續停泊超過 24小時。
3.單車必須停放於停泊架。
4.此泊車處會不定期被中止使用，以清理存放的單車。

N-TS895

Ha Tsuen 廈村
Lau Fau Shan 流浮山

NTW/TM/CasPeg-244B

General Advice to Public
1. This cycle parking place may be suspended for use from time to time to clear any pedal cycles left.
2. A notice regarding suspension of use will be posted at least 14 days prior to the suspension. The public shall not leave their pedal cycles in this parking place after the date specified in the notice.
3. No parking of pedal cycles is allowed during the suspension period of this parking place.
4. The Authority will take possession of and remove all pedal cycles left in this parking place during the period of suspension.

公眾一般須知
1.此單車泊車處會不定期被中止使用，以清理存放的單車。
2.中止使用通告會於四天會張貼在單車泊車處。公眾在通告指明的日期後，不要存放單車在泊車處。
3.單車泊車處被中止後，單車不准停泊。
4.在中止使用期間存放在此泊車處的單車，當局會依例拆管及移走單車。

N-TS896

Cycling Track

Light Rail

FP Cycling Track

Cyclists dismount
Use footbridge to cross the road
騎單車者到此下車
使用天橋橫過馬路
N-TS69

Do Not cross Here
Please Use Footbridge
勿在此橫過馬路
請使用行人天橋
N-TS664

Beware of vehicles
小心車輛
N-TS967

206

0 2.5 5 7.5 10 12.5
METRES
1 : 250

LEGEND :
PLANNED ROAD LAYOUT OF HSK/HT NDA

Rev	Description	By	Date

Consultant
ARUP

Contract No. and Title
Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title
FUTURE JUNCTION LAYOUT OF CASTLE PEAK ROAD - HUNG SHUI KIU / TIN HA ROAD (J16)

Drawing no.			Rev.
Appendix - A16			A
Drawn	Date	Checked	Approved
WKKL	05/25	WVZ	HLHK
Scale		Status	
1 : 250 @ A1		PRELIMINARY	

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Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE JUNCTION LAYOUT OF CASTLE PEAK ROAD - HUNG SHUI KIU / TAN KWAI TSUEN ROAD / HUNG SHUI KIU MAIN STREET (J17)

Drawing no.		Rev.
Appendix - A17		A
Drawn: WKKL	Date: 05/25	Checked: WVZ	Approved: HLHK
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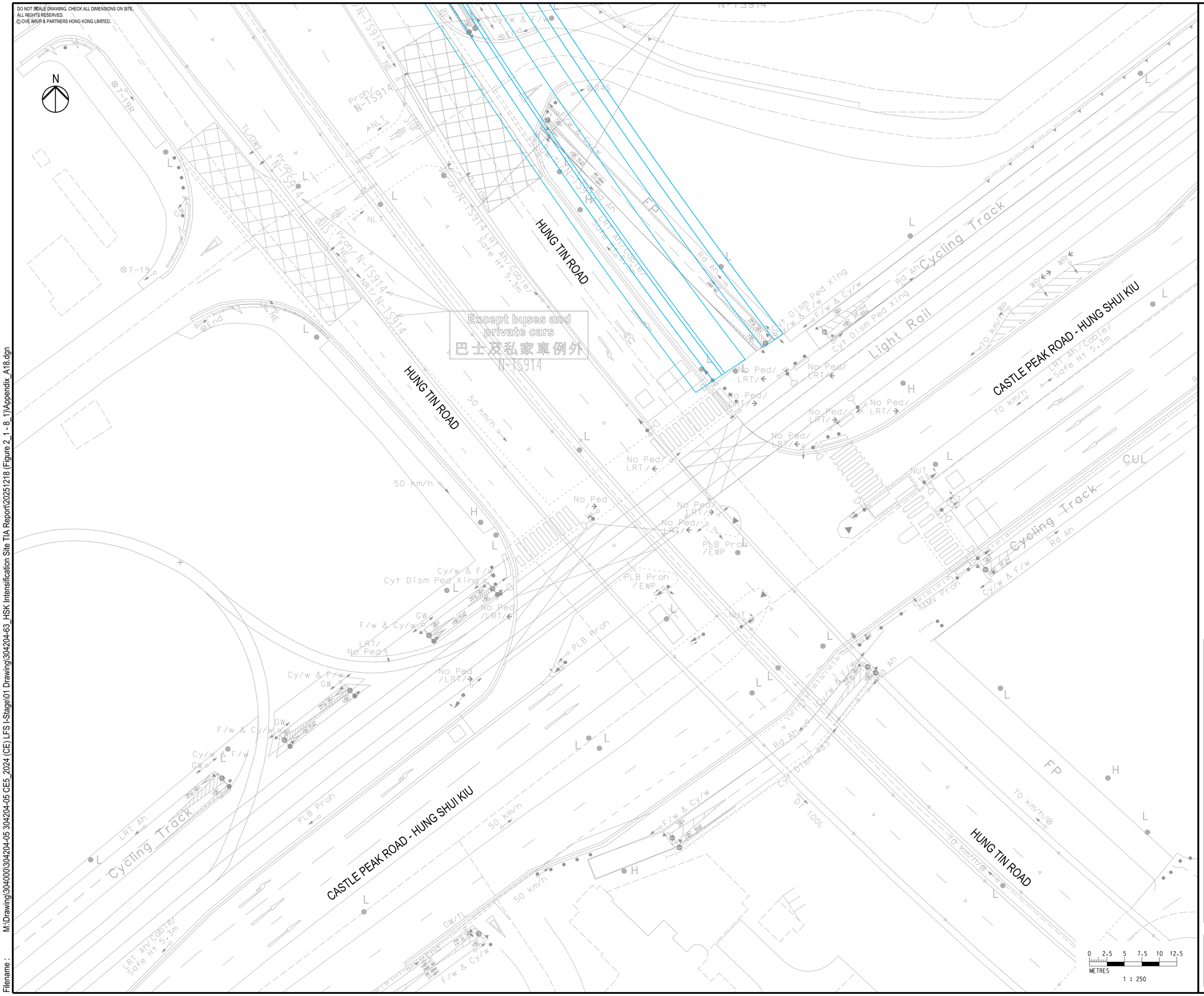

LEGEND :

PLANNED ROAD LAYOUT OF HSK/HT NDA

Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

FUTURE JUNCTION LAYOUT OF CASTLE PEAK ROAD - HUNG SHUI KIU / HUNG TIN ROAD (J18)

Drawing no.			Rev.
CE0524/HSKIS/TRA/F1018			A
Drawn	Date	Checked	Approved
WKKL	05/25	WVZ	HLHK
Scale		Status	
1:250 @ A1		PRELIMINARY	

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Civil Engineering and Development Department

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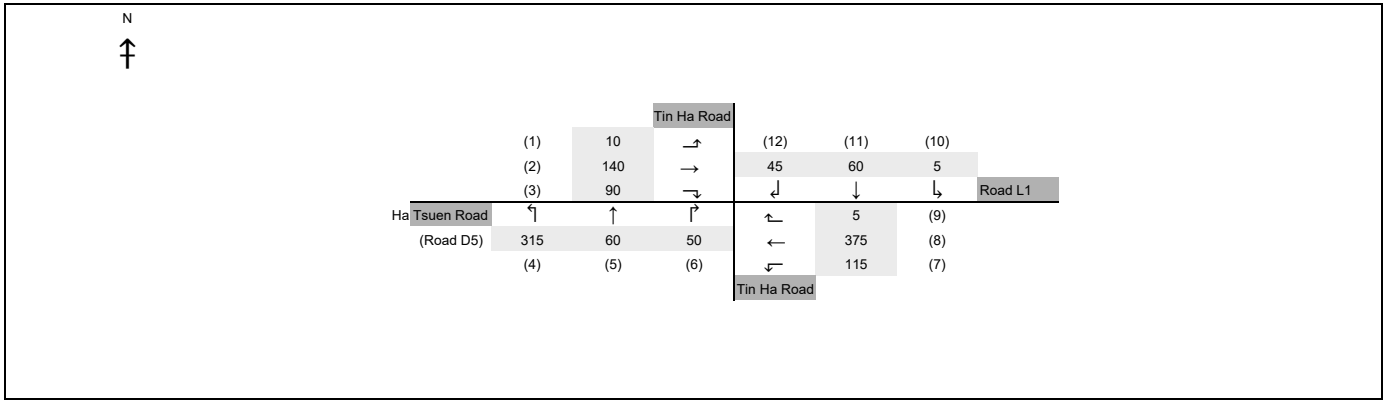
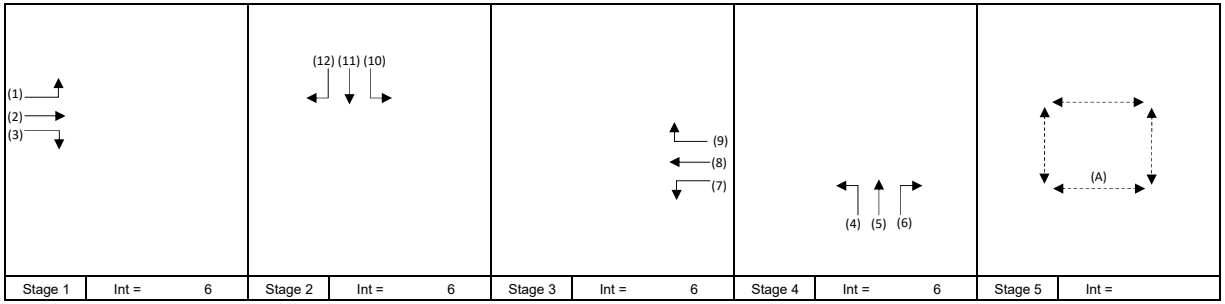
Filename : M:\Drawing\304000\304204-05 304204-05 CE5_2024 (CE) LFS I-Stage\01 Drawing\304204-63_HSK Intensification Site TIA Report\20251218 (Figure 2_1 - 8_1)\Appendix_A18.dgn

Appendix B Junction Calculation Sheet

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J1_AM	PROJECT NO: 304204
J1 - Ha Tsuen Road/ Tin Ha Road	Year 2038 Reference Case (AM Peak)	DATE: 31-Dec-25	FILENAME:



No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.464
Loss Time	L=	38 sec
Total Flow	=	1270 pcu
Co =(1.5*L+5)/(1-Y)	=	116 sec
Cm =L/(1-Y)	=	71 sec
Yult	=	0.615
R.C.ult =(Yult-Y)/Y*100%	=	32.6 %
Cp =0.9*L/(0.9-Y)	=	78.4 sec
Ymax =1-L/C	=	0.683
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	32.6 %



Stage 1	Int = 6	Stage 2	Int = 6	Stage 3	Int = 6	Stage 4	Int = 6	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	A	18.00	9	2	7	9	2	7	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S5	20 18				
1,2	1	3.65	A	1	18		N	1980	10	116		126	0.08	1967		-	1967	0.064	0.064	0	11	11	0.677	21
2,3	1	2.65	A	1	20		N	1880		24	90	114	0.79	1775		0	1775	0.064			11	11	0.679	0
10,11,12	2	3.60	B	1	15		N	1975	5	60	45	110	0.45	1889		-	1889	0.058	0.058	0	10	10	0.679	19
7,8	3	3.65	C	1	18		N	1980	115	119		234	0.49	1902		-	1902	0.123	0.123	0	22	22	0.677	33
8,9	3	3.65	C	1	20			2120		256	5	261	0.02	2117		-	2117	0.123			22	22	0.679	36
4,5,6	4	5.00	D	1	15		N	2115	315	60	50	425	0.86	1948		-	1948	0.218	0.218	0	39	39	0.679	48
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
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OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J1_PM	PROJECT NO: 304204
J1 - Ha Tsuen Road/ Tin Ha Road	Year 2038 Reference Case (PM Peak)	DATE: 31-Dec-25	FILENAME:

N

			Tin Ha Road				
	(1)	5		(12)	(11)	(10)	
	(2)	75		5	75	5	
	(3)	5					Road L1
Ha Tsuen Road					5	(9)	
(Road D5)	155	60	65		265	(8)	
	(4)	(5)	(6)		120	(7)	
				Tin Ha Road			

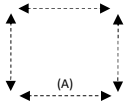
No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.298
Loss Time	L=	38 sec
Total Flow	=	840 pcu
Co =(1.5*L+5)/(1-Y)	=	88 sec
Cm =L/(1-Y)	=	54 sec
Yult	=	0.615
R.C.ult =(Yult-Y)/Y*100%	=	106.7 %
Cp =0.9*L/(0.9-Y)	=	56.8 sec
Ymax =1-L/C	=	0.683
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	106.7 %

Stage 1	Int =	6

Stage 2	Int =	6

Stage 3	Int =	6

Stage 4	Int =	6



Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	A	18.00	9	2	7	9	2	7	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S5	20 18				
1,2	1	3.65	A	1	18		N	1980	5	39		44	0.11	1961		-	1961	0.022	0.022	0	6	6	0.435	7
2,3	1	2.65	A	1	20		N	1880		36	5	41	0.12	1863		-	1863	0.022			6	6	0.427	7
10,11,12	2	3.60	B	1	15		N	1975	5	75	5	85	0.12	1952		-	1952	0.044	0.044	0	12	12	0.435	13
7,8	3	3.65	C	1	18			2120	120	77		197	0.61	2018		-	2018	0.098	0.098	0	27	27	0.435	25
8,9	3	3.65	C	1	20		N	1980		188	5	193	0.03	1976		-	1976	0.098			27	27	0.435	25
4,5,6	4	5.00	D	1	15			2255	155	60	65	280	0.79	2091		-	2091	0.134	0.134	0	37	37	0.435	32
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
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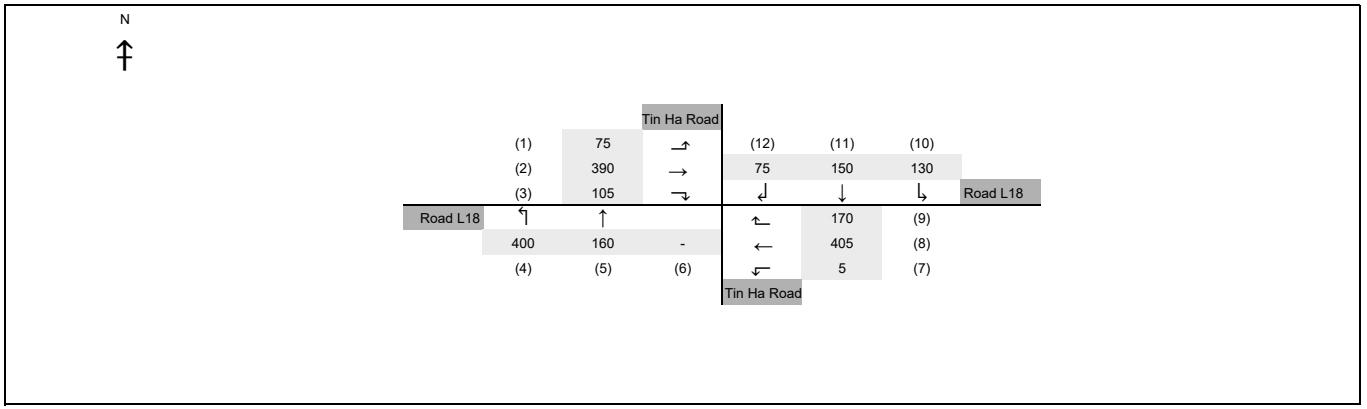
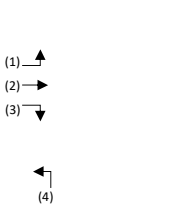
								-				-	-	-		-	-	-			-		-	-

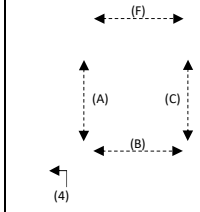
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J2_AM	PROJECT NO: 304204
J2 - Road L18/ Tin Ha Road	Year 2038 Reference Case (AM Peak)	DATE: 31-Dec-25	FILENAME:



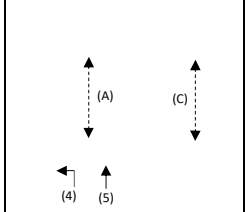
No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.465
Loss Time	L=	34 sec
Total Flow	=	2065 pcu
Co =(1.5*L+5)/(1-Y)	=	105 sec
Cm =L/(1-Y)	=	64 sec
Yult	=	0.645
R.C.ult =(Yult-Y)/Y*100%	=	38.6 %
Cp =0.9*L/(0.9-Y)	=	70.4 sec
Ymax =1-L/C	=	0.717
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	38.6 %



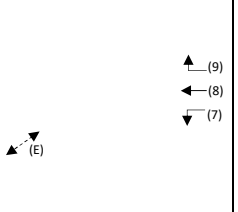
Stage 1 Int = 5



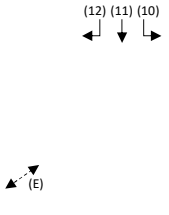
Stage 2 Int =



Stage 3 Int = 5



Stage 4 Int = 5



Stage 5 Int = 5

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2,3	A	11.00	10	0	8	29	0	8	OK
2	B	10.00	9	0	7	11	0	7	OK
2,3	C	11.00	10	0	8	29	0	8	OK
4,5	E	5.50	5	0	5	47	0	5	OK
2	F	11.00	10	0	8	10	0	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S2	16 18				
1,2	1	3.50	A	1	15		N	1965	75	201		276	0.27	1913		-	1913	0.144	0.145	0	27	27	0.648	36
2,3	1	3.50	A	1	15			2105		189	105	294	0.36	2032		-	2032	0.145			27	27	0.649	38
4	1,2,3	3.50	B	1	15		N	1965	400			400	1.00	1786		-	1786	0.224			41	64	0.421	31
5	3	3.50	E	1			N	1965		160		160	0.00	1965		-	1965	0.081	0.081	0	15	15	0.649	24
7,8	4	3.50	C	1	15		N	1965	5	283		288	0.02	1962		-	1962	0.147	0.147	0	27	27	0.649	37
8,9	4	3.50	C	1	15			2105		122	170	292	0.58	1989		-	1989	0.147			27	27	0.649	38
10,11	5	3.50	D	1	15		N	1965	130	38		168	0.77	1824		-	1824	0.092	0.092	0	17	17	0.647	25
11,12	5	3.50	D	1	15			2105		112	75	187	0.40	2024		-	2024	0.092			17	17	0.649	28
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
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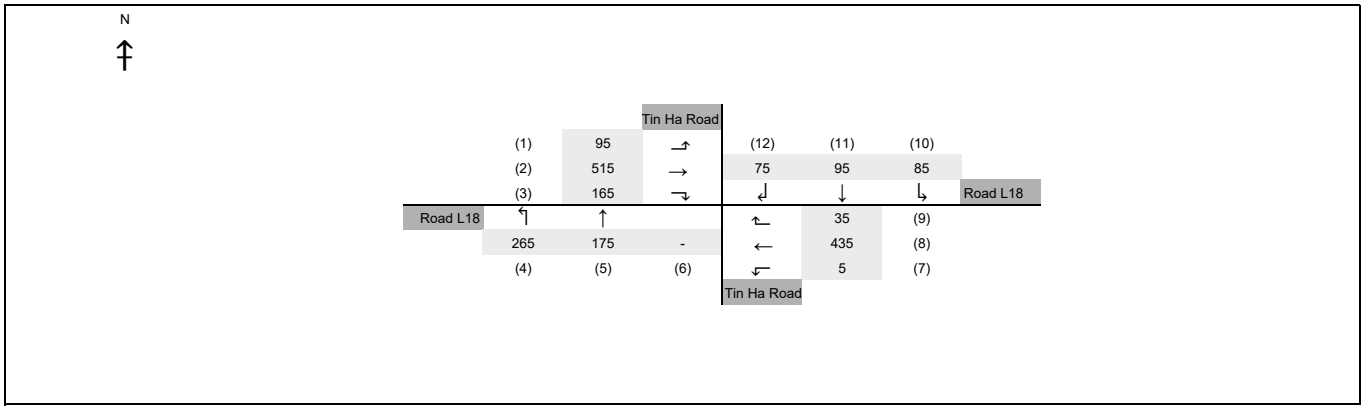
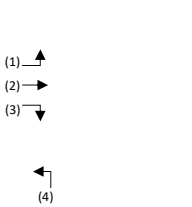
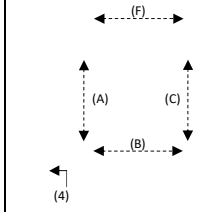
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J2_PM	PROJECT NO: 304204
J2 - Road L18/ Tin Ha Road	Year 2038 Reference Case (PM Peak)	DATE: 31-Dec-25	FILENAME:



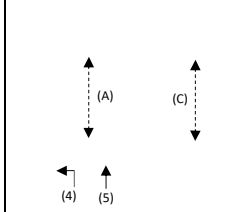
No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.471
Loss Time	L=	34 sec
Total Flow	=	1945 pcu
Co =(1.5*L+5)/(1-Y)	=	106 sec
Cm =L/(1-Y)	=	64 sec
Yult	=	0.645
R.C.ult =(Yult-Y)/Y*100%	=	37.1 %
Cp =0.9*L/(0.9-Y)	=	71.3 sec
Ymax =1-L/C	=	0.717
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	37.1 %



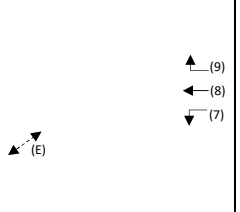
Stage 1 Int = 5



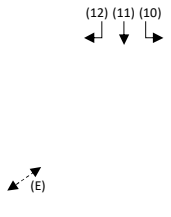
Stage 2 Int =



Stage 3 Int = 5



Stage 4 Int = 5



Stage 5 Int = 5

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2,3	A	11.00	10	0	8	30	0	8	OK
2	B	10.00	9	0	7	11	0	7	OK
2,3	C	11.00	10	0	8	30	0	8	OK
4,5	E	5.50	5	0	5	37	0	5	OK
2	F	11.00	10	0	8	10	0	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S2	16 18				
1,2	1	3.50	A	1	15		N	1965	95	282		377	0.25	1917		-	1917	0.197	0.197	0	36	36	0.656	44
2,3	1	3.50	A	1	15			2105		233	165	398	0.41	2021		-	2021	0.197			36	36	0.657	46
4	1,2,3	3.50	B	1	15		N	1965	265			265	1.00	1786		-	1786	0.148			27	74	0.240	17
5	3	3.50	E	1			N	1965		175		175	0.00	1965		-	1965	0.089	0.089	0	16	16	0.657	26
7,8	4	3.50	C	1	15		N	1965	5	226		231	0.02	1961		-	1961	0.118	0.118	0	22	22	0.657	32
8,9	4	3.50	C	1	15			2105		209	35	244	0.14	2075		-	2075	0.118			21	22	0.655	34
10,11	5	3.50	D	1	15		N	1965	85	37		122	0.70	1837		-	1837	0.066	0.067	0	12	12	0.653	20
11,12	5	3.50	D	1	15			2105		58	75	133	0.56	1993		-	1993	0.067			12	12	0.657	21
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
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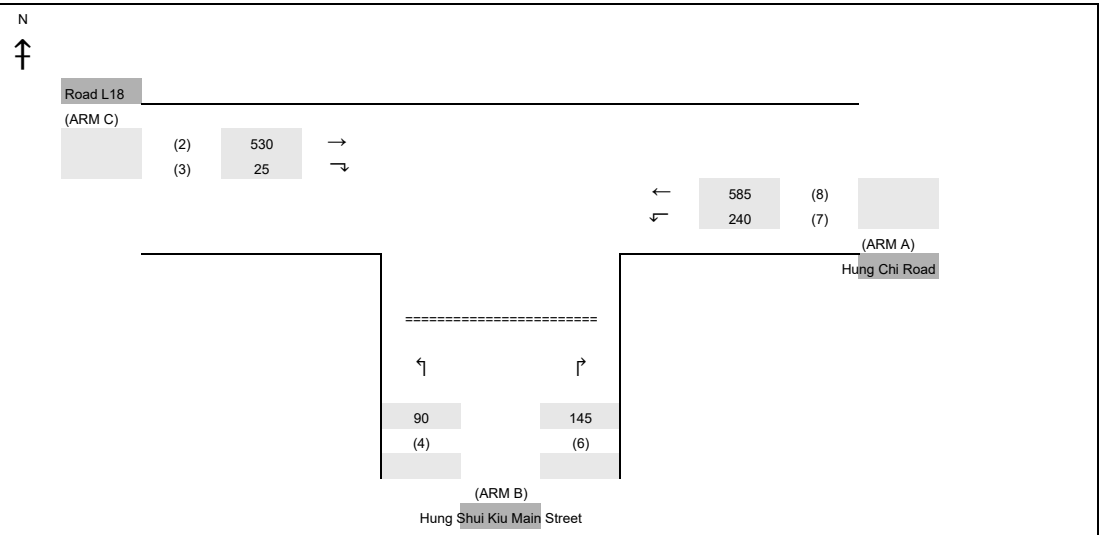
OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION				
HSK Intensification Site		SHEET:	J3_AM	PROJECT NO:	304204
J3 - Hung Shui Kiu Main Street/ Hung Chi Road	Year 2038 Reference Case (AM Peak)	DATE:	31-Dec-25	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.30	(metres)
W cr	=	0	(metres)
q a-b	=	240	(pcu/hr)
q a-c	=	585	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.10	(metres)
Vr c-b	=	21	(metres)
q c-a	=	530	(pcu/hr)
q c-b	=	25	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.90	(metres)
W b-c	=	4.90	(metres)
Vl b-a	=	82	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	80	(metres)
q b-a	=	145	(pcu/hr)
q b-c	=	90	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.033
E	=	1.077
F	=	1.035
Y	=	0.645

THE CAPACITY OF MOVEMENT :

Q b-a	=	394
Q b-c	=	631
Q c-b	=	571
Q b-ac	=	460
Q c-a	=	1721

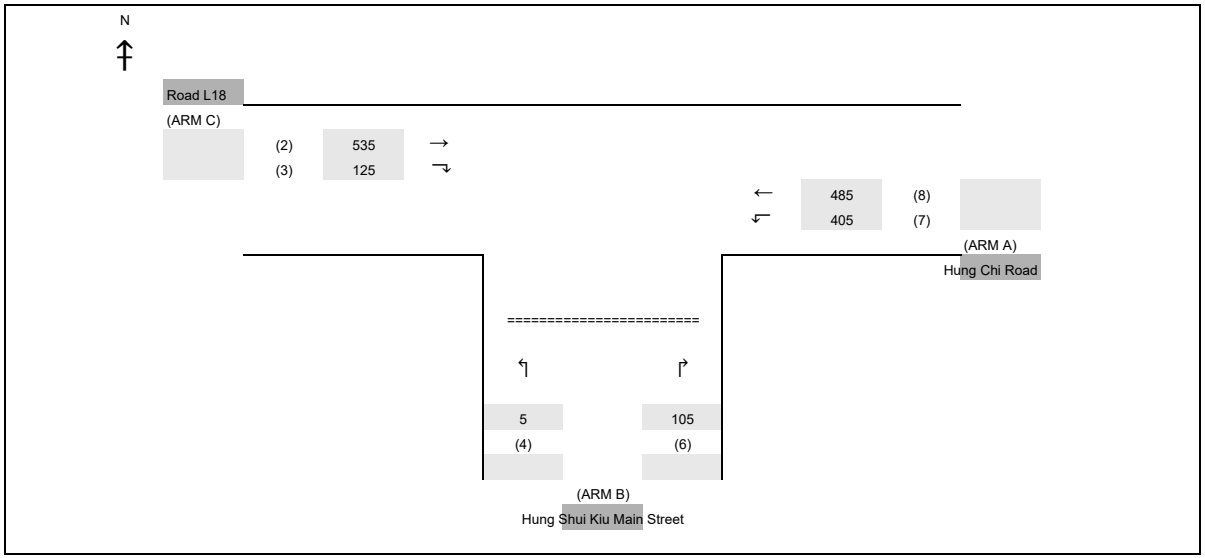
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.3680
DFC b-c	=	0.1426
DFC c-b	=	0.0438
DFC c-a	=	0.3079
DFC b-ca	=	0.5107

TOTAL FLOW = 1615 (PCU/HR)

CRITICAL DFC = 0.51

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION				
HSK Intensification Site		SHEET:	J3_PM	PROJECT NO:	304204
J3 - Hung Shui Kiu Main Street/ Hung Chi Road	Year 2038 Reference Case (PM Peak)	DATE:	31-Dec-25	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.30	(metres)
W cr	=	0	(metres)
q a-b	=	405	(pcu/hr)
q a-c	=	485	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.10	(metres)
Vr c-b	=	21	(metres)
q c-a	=	535	(pcu/hr)
q c-b	=	125	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.90	(metres)
W b-c	=	4.90	(metres)
Vl b-a	=	82	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	80	(metres)
q b-a	=	105	(pcu/hr)
q b-c	=	5	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.033
E	=	1.077
F	=	1.035
Y	=	0.645

THE CAPACITY OF MOVEMENT :

Q b-a	=	367
Q b-c	=	639
Q c-b	=	555
Q b-ac	=	374
Q c-a	=	1395

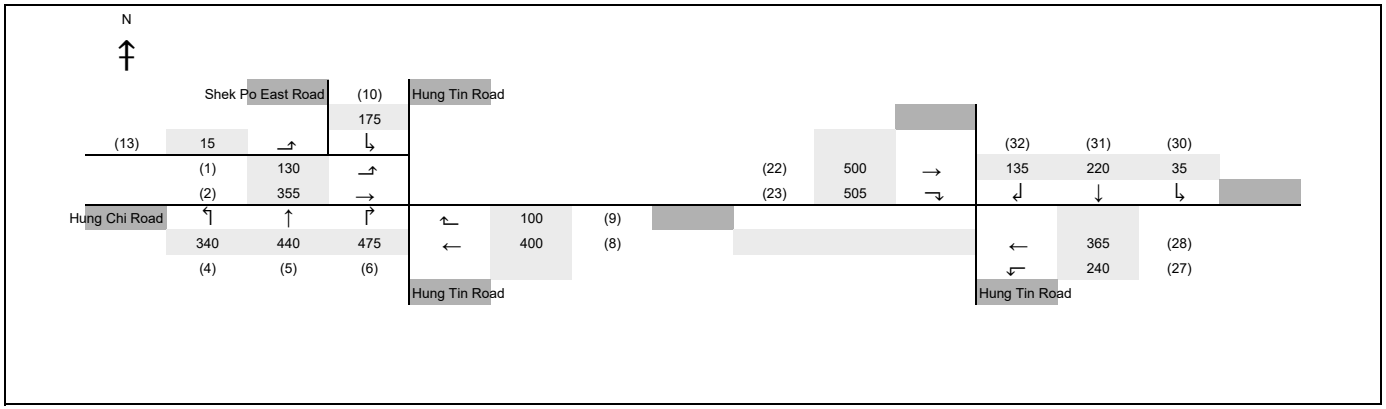
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.2861
DFC b-c	=	0.0078
DFC c-b	=	0.2252
DFC c-a	=	0.3836
DFC b-ca	=	0.2939

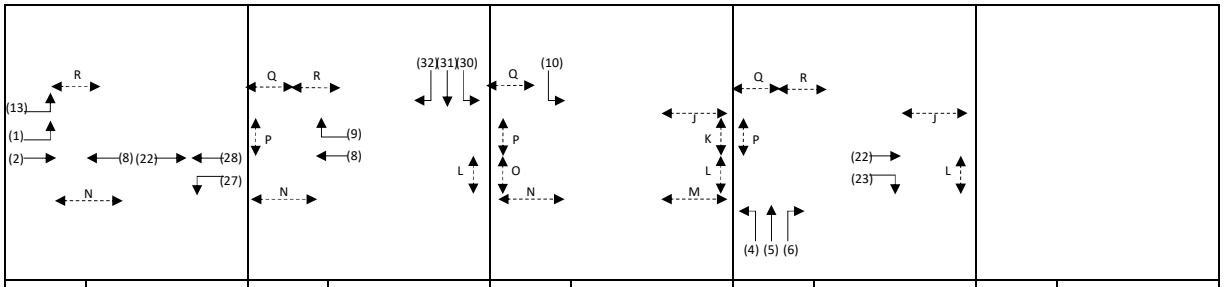
TOTAL FLOW = 1660 (PCU/HR)

CRITICAL DFC = 0.38

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J4_AM	PROJECT NO: 304204
J4 - Hung Tin Road/ Hung Chi Road	Year 2038 Reference Case (AM Peak)	DATE: 31-Dec-25	FILENAME:



No. of Stages per Cycle	N=	4
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.544
Loss Time	L=	23 sec
Total Flow	=	4430 pcu
Co =(1.5*L+5)/(1-Y)	=	87 sec
Cm =L/(1-Y)	=	50 sec
Yult	=	0.728
R.C.ult =(Yult-Y)/Y*100%	=	33.8 %
Cp =0.9*L/(0.9-Y)	=	58.1 sec
Ymax =1-L/C	=	0.808
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	33.8 %

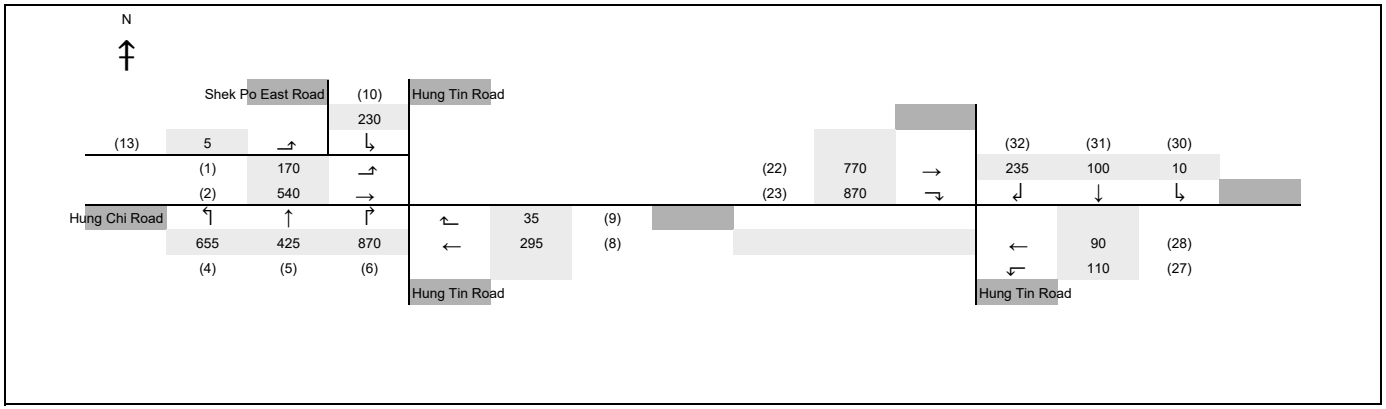


Stage 1	Int =	6	Stage 2	Int =	6	Stage 3	Int =	9	Stage 4	Int =	5	Stage 5	Int =

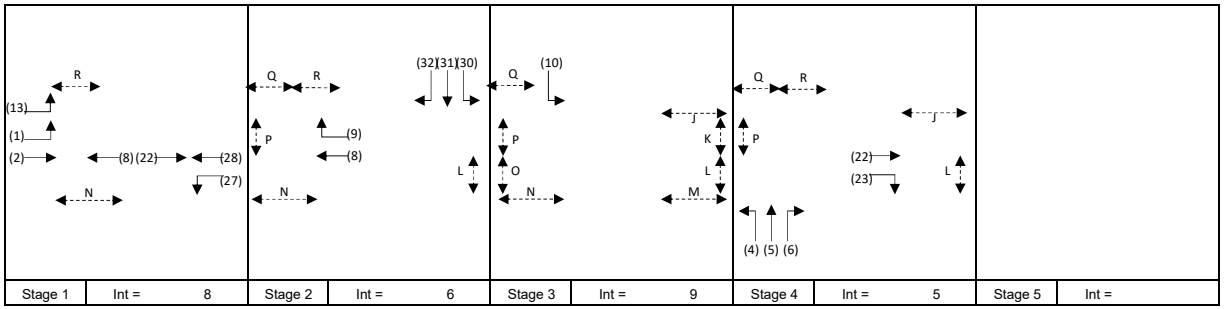
Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3,4	J	15.00	7	2	10	55	2	10	OK
3	K	9.00	6	3	6	16	3	6	OK
2,3,4	L	8.00	6	1	6	77	1	6	OK
3	M	13.00	7	4	14	7	4	14	OK
1,2,3	N	23.00	7	3	10	65	3	10	OK
3	O	8.00	6	3	6	16	3	6	OK
2,3,4	P	10.00	7	1	9	74	1	9	OK
2,3,4	Q	6.00	5	2	5	77	2	5	OK
1,2,4	R	6.00	5	2	5	88	2	5	OK
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				22 0				
22	1,4	3.50	A	1			N	1965		500		500	0.00	1965		-	1965	0.254			45	74	0.415	32
8	1,2	3.50	E	1			N	1965		400		400	0.00	1965		-	1965	0.204			36	46	0.530	41
28	1	3.50	D	1	15			2105		365		365	0.00	2105		-	2105	0.173	0.173	0	31	31	0.673	45
27	1	3.50	D	1	12		N	1965	240			240	1.00	1747		-	1747	0.137			25	31	0.533	30
13	1	3.30	H	1	60		N	1945	15			15	1.00	1898		-	1898	0.008			1	29	0.033	2
1,2	1	3.30	H	1	20		N	1945	130	18		148	0.88	1825		-	1825	0.081			14	29	0.336	19
2	1	3.30	H	2				4170		337		337	0.00	4170		-	4170	0.081			14	29	0.335	11
9	2	3.50	F	1	25			2105			100	100	1.00	1986		-	1986	0.050	0.068	0	9	12	0.498	15
30,31	2	3.50	C	1	10		N	1965	35	85		120	0.29	1883		-	1883	0.064			11	12	0.631	19
31	2	3.50	C	1				2105		135		135	0.00	2105		-	2105	0.064			11	12	0.635	21
32	2	3.50	C	1	25			2105			135	135	1.00	1986		-	1986	0.068			12	12	0.673	22
10	3	3.50	I	1	15			2105	175			175	1.00	1914		-	1914	0.091	0.091	1	16	17	0.634	26
4,5	4	3.50	G	1	10			2105	340	53		393	0.87	1863		-	1863	0.211	0.211	0	38	38	0.673	45
5,6	4	3.50	G	1	30			2105		387	54	441	0.12	2092		-	2092	0.211			38	38	0.672	50
6	4	3.50	G	1	28			2105			421	421	1.00	1998		-	1998	0.211			38	38	0.672	48
23	4	3.50	B	2	25			4210			505	505	1.00	3972		-	3972	0.127			23	38	0.406	14
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J4_PM	PROJECT NO: 304204
J4 - Hung Tin Road/ Hung Chi Road	Year 2038 Reference Case (PM Peak)	DATE: 31-Dec-25	FILENAME:



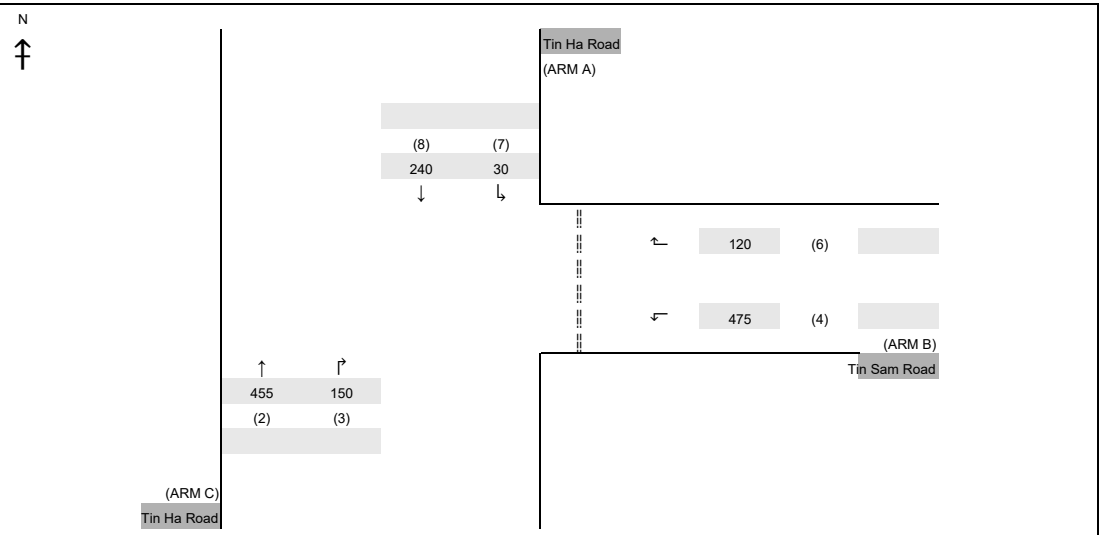
No. of Stages per Cycle	N=	4
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.715
Loss Time	L=	26 sec
Total Flow	=	5410 pcu
Co =(1.5*L+5)/(1-Y)	=	154 sec
Cm =L/(1-Y)	=	91 sec
Yult	=	0.705
R.C.ult =(Yult-Y)/Y*100%	=	-1.3 %
Cp =0.9*L/(0.9-Y)	=	126.2 sec
Ymax =1-L/C	=	0.783
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	-1.3 %



Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3,4	J	15.00	7	2	10	65	2	10	OK
3	K	9.00	6	3	6	17	3	6	OK
2,3,4	L	8.00	6	1	6	90	1	6	OK
3	M	13.00	7	4	14	8	4	14	OK
1,2,3	N	23.00	7	3	10	56	3	10	OK
3	O	8.00	6	3	6	17	3	6	OK
2,3,4	P	10.00	7	1	9	87	1	9	OK
2,3,4	Q	6.00	5	2	5	90	2	5	OK
1,2,4	R	6.00	5	2	5	87	2	5	OK
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				24 0				
22	1,4	3.50	A	1			N	1965		770		770	0.00	1965		-	1965	0.392			52	70	0.675	54
8	1,2	3.50	E	1			N	1965		295		295	0.00	1965		-	1965	0.150			20	36	0.499	34
28	1	3.50	D	1	15			2105		90		90	0.00	2105		-	2105	0.043	0.118	0	6	18	0.292	13
27	1	3.50	D	1	12		N	1965	110			110	1.00	1747		-	1747	0.063			8	18	0.431	16
13	1	3.30	H	1	60		N	1945	5			5	1.00	1898		-	1898	0.003			0	16	0.020	1
1,2	1	3.30	H	1	20		N	1945	170	47		217	0.78	1837		-	1837	0.118			16	16	0.911	54
2	1	3.30	H	2				4170		493		493	0.00	4170		-	4170	0.118			16	16	0.912	23
9	2	3.50	F	1	25			2105			35	35	1.00	1986		-	1986	0.018	0.118	0	2	16	0.136	5
30,31	2	3.50	C	1	10		N	1965	10	42		52	0.19	1910		-	1910	0.027			4	16	0.210	8
31	2	3.50	C	1				2105		58		58	0.00	2105		-	2105	0.028			4	16	0.212	8
32	2	3.50	C	1	25			2105			235	235	1.00	1986		-	1986	0.118			16	16	0.912	57
10	3	3.50	I	1	15			2105	230			230	1.00	1914		-	1914	0.120	0.120	2	16	18	0.810	38
4,5	4	3.50	G	1	10			2105	655	0		655	1.00	1830		-	1830	0.358	0.358	0	47	47	0.912	86
5,6	4	3.50	G	1	30			2105		425	234	659	0.36	2068		-	2068	0.319			42	47	0.812	72
6	4	3.50	G	1	28			2105			636	636	1.00	1998		-	1998	0.318			42	47	0.812	69
23	4	3.50	B	2	25			4210			870	870	1.00	3972		-	3972	0.219			29	47	0.558	22
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION				
HSK Intensification Site		SHEET:	J5_AM	PROJECT NO:	304204
J5 - Tin Ha Road/ Hung Shui Kiu Tin Sam Road	Year 2038 Reference Case (AM Peak)	DATE:	31-Dec-25	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	11.50	(metres)
W cr	=	0	(metres)
q a-b	=	30	(pcu/hr)
q a-c	=	240	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.40	(metres)
Vr c-b	=	100	(metres)
q c-a	=	455	(pcu/hr)
q c-b	=	150	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	6.00	(metres)
W b-c	=	6.00	(metres)
Vl b-a	=	45	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	50	(metres)
q b-a	=	120	(pcu/hr)
q b-c	=	475	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.103
E	=	1.144
F	=	0.959
Y	=	0.603

THE CAPACITY OF MOVEMENT :

Q b-a	=	509
Q b-c	=	789
Q c-b	=	658
Q b-ac	=	710
Q c-a	=	1390

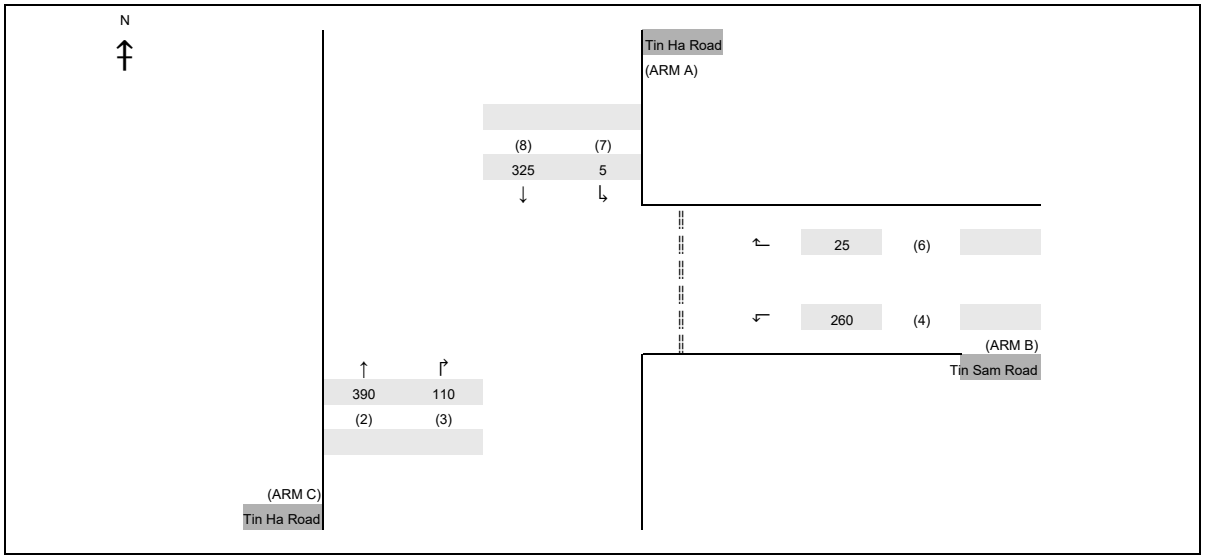
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.2358
DFC b-c	=	0.6020
DFC c-b	=	0.2280
DFC c-a	=	0.3274
DFC b-ca	=	0.8378

TOTAL FLOW = 1470 (PCU/HR)

CRITICAL DFC = 0.60

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION				
HSK Intensification Site		SHEET:	J5_PM	PROJECT NO:	304204
J5 - Tin Ha Road/ Hung Shui Kiu Tin Sam Road	Year 2038 Reference Case (PM Peak)	DATE:	31-Dec-25	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	11.50	(metres)
W cr	=	0	(metres)
q a-b	=	5	(pcu/hr)
q a-c	=	325	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.40	(metres)
Vr c-b	=	100	(metres)
q c-a	=	390	(pcu/hr)
q c-b	=	110	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	6.00	(metres)
W b-c	=	6.00	(metres)
Vl b-a	=	45	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	50	(metres)
q b-a	=	25	(pcu/hr)
q b-c	=	260	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.103
E	=	1.144
F	=	0.959
Y	=	0.603

THE CAPACITY OF MOVEMENT :

Q b-a	=	515
Q b-c	=	770
Q c-b	=	645
Q b-ac	=	738
Q c-a	=	1493

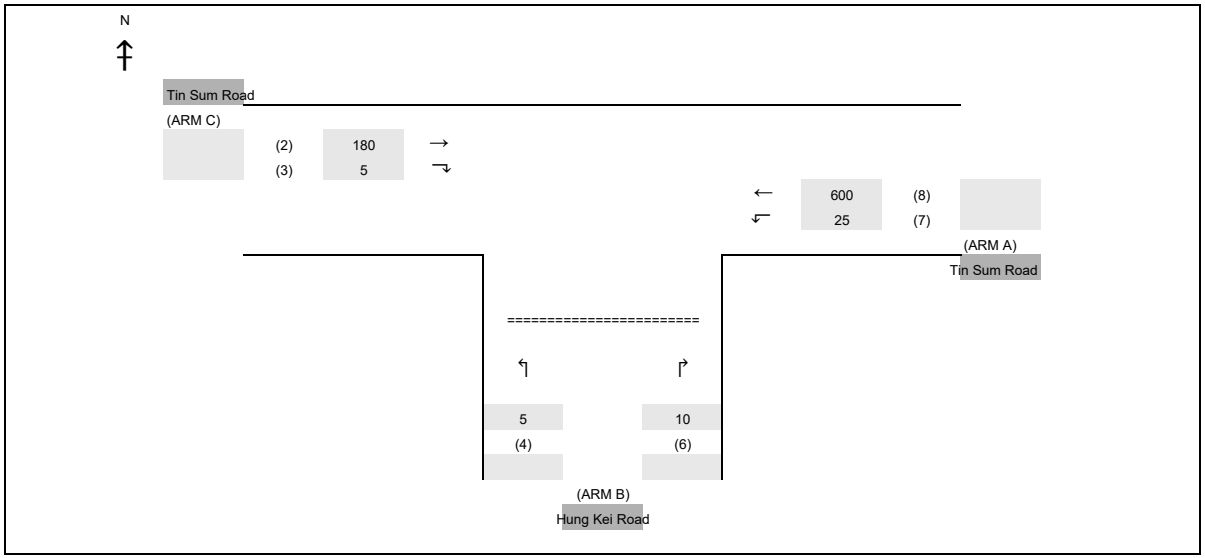
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0485
DFC b-c	=	0.3377
DFC c-b	=	0.1705
DFC c-a	=	0.2612
DFC b-ca	=	0.3862

TOTAL FLOW = 1115 (PCU/HR)

CRITICAL DFC = 0.34

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION				
HSK Intensification Site		SHEET:	J6_AM	PROJECT NO:	304204
J6 - Hung Kei Road/ Hung Shui Kiu Tin Sam Road	Year 2038 Reference Case (AM Peak)	DATE:	31-Dec-25	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0	(metres)
q a-b	=	25	(pcu/hr)
q a-c	=	600	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.00	(metres)
Vr c-b	=	80	(metres)
q c-a	=	180	(pcu/hr)
q c-b	=	5	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.00	(metres)
W b-c	=	3.00	(metres)
Vl b-a	=	60	(metres)
Vr b-a	=	75	(metres)
Vr b-c	=	75	(metres)
q b-a	=	10	(pcu/hr)
q b-c	=	5	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.852
E	=	0.901
F	=	0.905
Y	=	0.655

THE CAPACITY OF MOVEMENT :

Q b-a	=	386
Q b-c	=	540
Q c-b	=	539
Q b-ac	=	427
Q c-a	=	1783

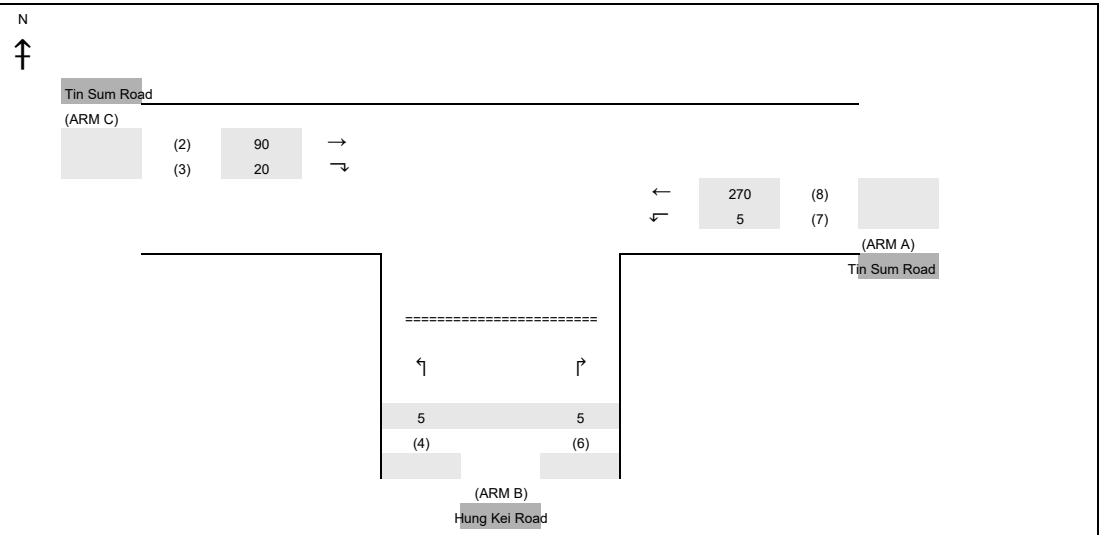
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0259
DFC b-c	=	0.0093
DFC c-b	=	0.0093
DFC c-a	=	0.1009
DFC b-ca	=	0.0352

TOTAL FLOW = 825 (PCU/HR)

CRITICAL DFC = 0.10

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION				
HSK Intensification Site		SHEET:	J6_PM	PROJECT NO:	304204
J6 - Hung Kei Road/ Hung Shui Kiu Tin Sam Road	Year 2038 Reference Case (PM Peak)	DATE:	31-Dec-25	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0	(metres)
q a-b	=	5	(pcu/hr)
q a-c	=	270	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.00	(metres)
Vr c-b	=	80	(metres)
q c-a	=	90	(pcu/hr)
q c-b	=	20	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.00	(metres)
W b-c	=	3.00	(metres)
Vl b-a	=	60	(metres)
Vr b-a	=	75	(metres)
Vr b-c	=	75	(metres)
q b-a	=	5	(pcu/hr)
q b-c	=	5	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.852
E	=	0.901
F	=	0.905
Y	=	0.655

THE CAPACITY OF MOVEMENT :

Q b-a	=	462
Q b-c	=	613
Q c-b	=	615
Q b-ac	=	527
Q c-a	=	1741

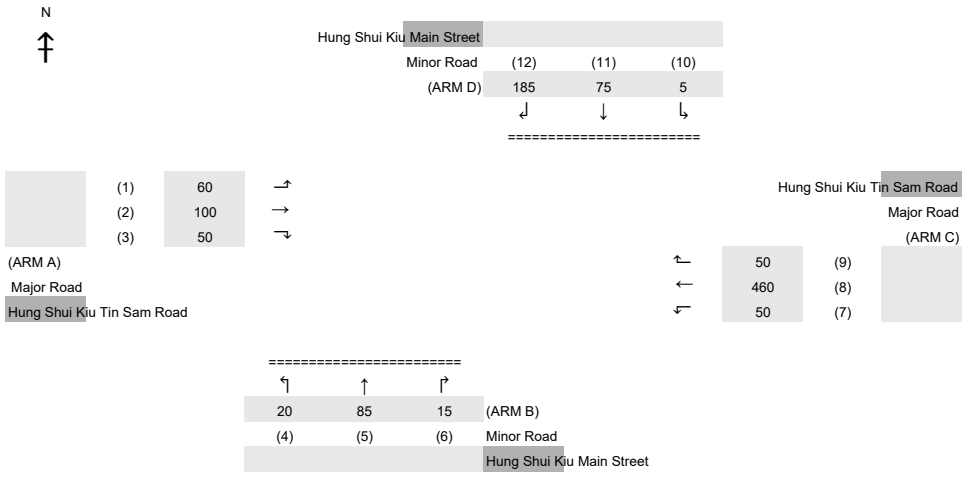
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0108
DFC b-c	=	0.0082
DFC c-b	=	0.0325
DFC c-a	=	0.0517
DFC b-ca	=	0.0190

TOTAL FLOW = 395 (PCU/HR)

CRITICAL DFC = 0.05

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION			
HSK Intensification Site		SHEET: J7_AM	PROJECT NO: 304204	
J7 - Hung Shui Kiu Tin Sam Road/ Hung Shui Kiu Main Street	Year 2038 Reference Case (AM Peak)	DATE: 31-Dec-25	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
X a	=	STREAM-SPECIFIC (RIGHT TURN FROM A)
X b	=	STREAM-SPECIFIC (RIGHT TURN FROM B)
Z b	=	STREAM-SPECIFIC (LEFT TURN FROM B)
M b	=	STREAM-SPECIFIC (STRAIGHT AHEAD FROM B - LEFT LANE)
Y	=	(1-0.0345W)
r b-a	=	RATIO OF FLOW TO CAPACITY IN STREAM b-a

GEOMETRIC DETAILS:

GENERAL

W	=	10.00	(metres)				
W cr	=	0	(metres)	Y	=	0.655	

MAJOR ROAD (ARM A)

W a-d	=	5.00	(metres)
Vr a-d	=	40	(metres)
q a-b	=	60	(pcu/hr)
q a-c	=	100	(pcu/hr)
q a-d	=	50	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.00	(metres)
Vr c-b	=	40	(metres)
q c-a	=	460	(pcu/hr)
q c-b	=	50	(pcu/hr)
q c-d	=	50	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.00	(metres)
W b-c	=	4.00	(metres)
Vl b-a	=	45	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	50	(metres)
q b-a	=	185	(pcu/hr)
q b-c	=	5	(pcu/hr)
q b-d	=	75	(pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	4.00	(metres)
W d-a	=	4.00	(metres)
Vl d-c	=	45	(metres)
Vr d-c	=	50	(metres)
Vr d-a	=	50	(metres)
q d-c	=	15	(pcu/hr)
q d-a	=	20	(pcu/hr)
q d-b	=	85	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.907	X a	=	1.046
X c	=	1.046	X d	=	0.907
Z b	=	0.968	Z d	=	0.968
M b	=	0.907	M d	=	0.907

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.48		r d-c	=	0.04	
ql b-d	=	55.38	(pcu/hr)	ql d-b	=	44.14	(pcu/hr)
qr b-d	=	19.62	(pcu/hr)	qr d-b	=	40.86	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	429	(pcu/hr)	Q d-c	=	388	(pcu/hr)
Q b-c	=	610	(pcu/hr)	Q d-a	=	604	(pcu/hr)
Q c-b	=	721	(pcu/hr)	Q a-d	=	634	(pcu/hr)
Ql b-d	=	446	(pcu/hr)	Ql d-b	=	417	(pcu/hr)
Qr b-d	=	446	(pcu/hr)	Qr d-b	=	417	(pcu/hr)

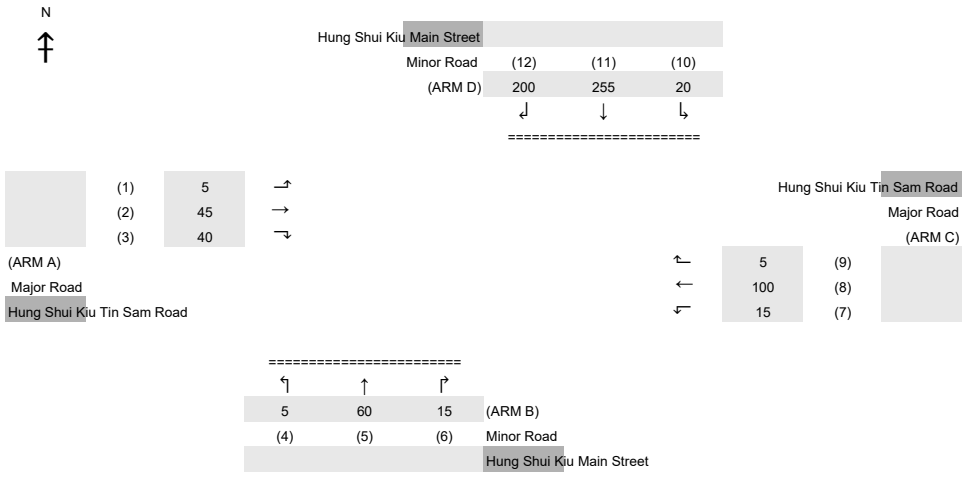
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.4312
DFC b-c	=	0.0082
DFC c-b	=	0.0693
DFCl b-d	=	0.1242
DFCr b-d	=	0.0440
DFC d-c	=	0.0387
DFC d-a	=	0.0331
DFC a-d	=	0.0789
DFCl d-b	=	0.1059
DFCr d-b	=	0.0980

TOTAL FLOW = 1155 (PCU/HR)

CRITICAL DFC = 0.43

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
HSK Intensification Site		SHEET: J7_PM	PROJECT NO: 304204
J7 - Hung Shui Kiu Tin Sam Road/ Hung Shui Kiu Main Street	Year 2038 Reference Case (PM Peak)	DATE: 31-Dec-25	FILENAME:



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
X a	=	STREAM-SPECIFIC (RIGHT TURN FROM A)
X b	=	STREAM-SPECIFIC (RIGHT TURN FROM B)
Z b	=	STREAM-SPECIFIC (LEFT TURN FROM B)
M b	=	STREAM-SPECIFIC (STRAIGHT AHEAD FROM B - LEFT LANE)
Y	=	(1-0.0345W)
r b-a	=	RATIO OF FLOW TO CAPACITY IN STREAM b-a

GEOMETRIC DETAILS:

GENERAL

W	=	10.00	(metres)			
W cr	=	0	(metres)	Y	=	0.655

MAJOR ROAD (ARM A)

W a-d	=	5.00	(metres)
Vr a-d	=	40	(metres)
q a-b	=	5	(pcu/hr)
q a-c	=	45	(pcu/hr)
q a-d	=	40	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.00	(metres)
Vr c-b	=	40	(metres)
q c-a	=	100	(pcu/hr)
q c-b	=	5	(pcu/hr)
q c-d	=	15	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.00	(metres)
W b-c	=	4.00	(metres)
Vl b-a	=	45	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	50	(metres)
q b-a	=	200	(pcu/hr)
q b-c	=	20	(pcu/hr)
q b-d	=	255	(pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	4.00	(metres)
W d-a	=	4.00	(metres)
Vl d-c	=	45	(metres)
Vr d-c	=	50	(metres)
Vr d-a	=	50	(metres)
q d-c	=	15	(pcu/hr)
q d-a	=	5	(pcu/hr)
q d-b	=	60	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.907	X a	=	1.046
X c	=	1.046	X d	=	0.907
Z b	=	0.968	Z d	=	0.968
M b	=	0.907	M d	=	0.907

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.45		r d-c	=	0.03	
ql b-d	=	184.80	(pcu/hr)	ql d-b	=	31.01	(pcu/hr)
qr b-d	=	70.20	(pcu/hr)	qr d-b	=	28.99	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	519	(pcu/hr)	Q d-c	=	445	(pcu/hr)
Q b-c	=	630	(pcu/hr)	Q d-a	=	691	(pcu/hr)
Q c-b	=	752	(pcu/hr)	Q a-d	=	749	(pcu/hr)
Ql b-d	=	533	(pcu/hr)	Ql d-b	=	525	(pcu/hr)
Qr b-d	=	533	(pcu/hr)	Qr d-b	=	525	(pcu/hr)

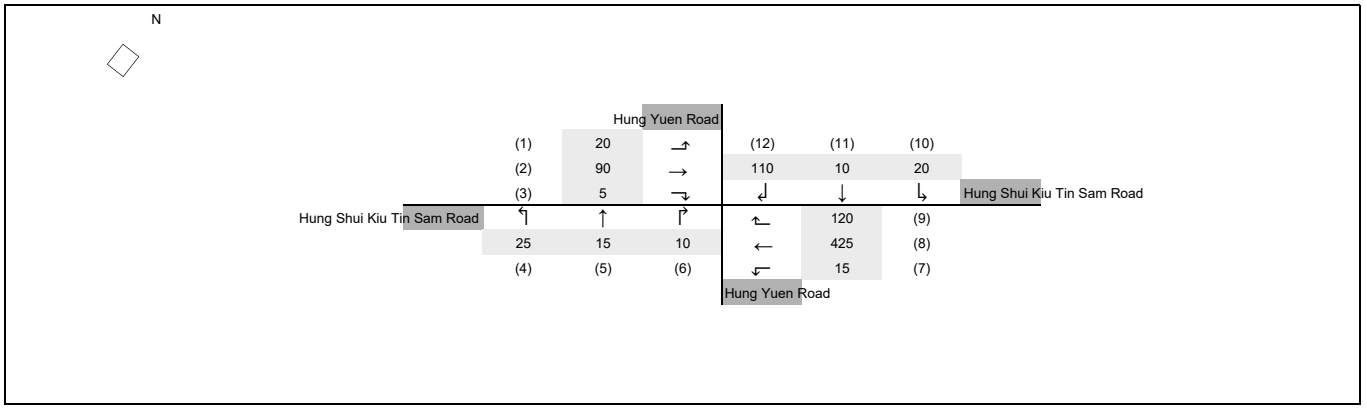
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.3854
DFC b-c	=	0.0317
DFC c-b	=	0.0066
DFCl b-d	=	0.3467
DFCr b-d	=	0.1317
DFC d-c	=	0.0337
DFC d-a	=	0.0072
DFC a-d	=	0.0534
DFCl d-b	=	0.0591
DFCr d-b	=	0.0552

TOTAL FLOW = 765 (PCU/HR)

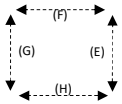
CRITICAL DFC = 0.39

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J8_AM	PROJECT NO: 304204
J8 - Tin Sam Road/ Hung Yuen Road	Year 2038 Reference Case (AM Peak)	DATE: 31-Dec-25	FILENAME:

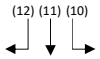


No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.390
Loss Time	L=	43 sec
Total Flow	=	865 pcu
Co =(1.5*L+5)/(1-Y)	=	114 sec
Cm =L/(1-Y)	=	70 sec
Yult	=	0.578
R.C.ult =(Yult-Y)/Y*100%	=	48.2 %
Cp =0.9*L/(0.9-Y)	=	75.8 sec
Ymax =1-L/C	=	0.642
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	48.2 %

Stage 1	Int = 5



Stage 2	Int =



Stage 3	Int = 5

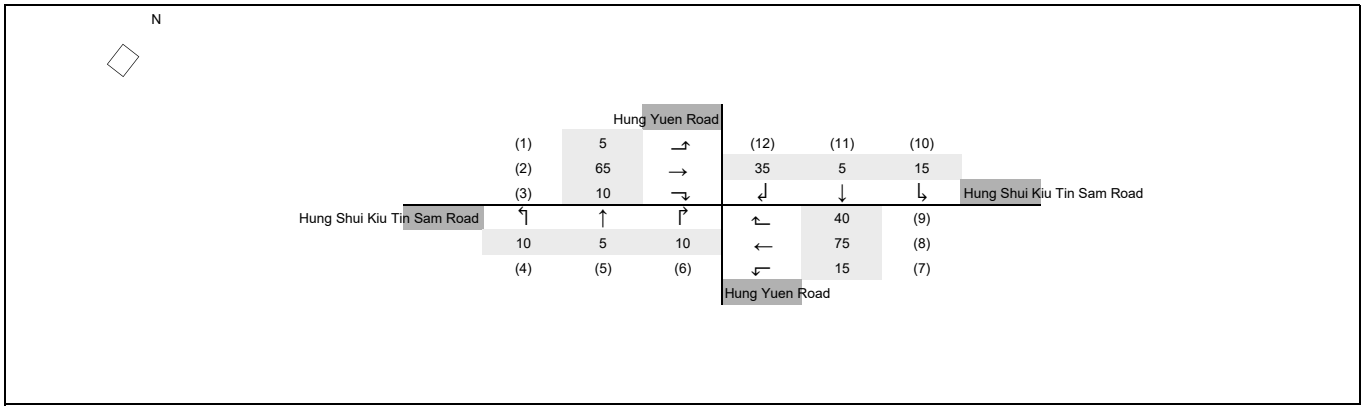
Stage 4	Int = 5

Stage 5	Int = 6

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2	E	10.00	9	3	8	15	3	8	OK
2	F	9.00	9	10	7	9	10	7	OK
2	G	7.00	7	7	6	13	7	6	OK
2	H	7.00	8	6	6	14	6	6	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

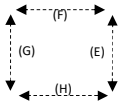
Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S2	17 26				
7,8	1	3.50	A	1	15		N	1965	15	425		440	0.03	1958		-	1958	0.225	0.225	0	44	44	0.607	46
9	1	3.50	A	1	15			2105			120	120	1.00	1914		-	1914	0.063			12	44	0.169	13
10,11,12	3	3.50	B	1	15		N	1965	20	10	110	140	0.93	1798		-	1798	0.078	0.078	0	15	15	0.607	21
1,2,3	4	3.50	C	1	15		N	1965	20	90	5	115	0.22	1923		-	1923	0.060	0.060	0	12	12	0.607	18
4,5,6	5	3.50	D	1	15		N	1965	25	15	10	50	0.70	1836		-	1836	0.027	0.027	0	5	5	0.607	9
								-				-	-	-		-	-	-			-		-	-

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J8_PM	PROJECT NO: 304204
J8 - Tin Sam Road/ Hung Yuen Road	Year 2038 Reference Case (PM Peak)	DATE: 31-Dec-25	FILENAME:

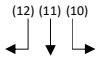


No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.132
Loss Time	L=	43 sec
Total Flow	=	290 pcu
Co =(1.5*L+5)/(1-Y)	=	80 sec
Cm =L/(1-Y)	=	50 sec
Yult	=	0.578
R.C.ult =(Yult-Y)/Y*100%	=	336.5 %
Cp =0.9*L/(0.9-Y)	=	50.4 sec
Ymax =1-L/C	=	0.642
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	336.5 %

Stage 1	Int = 5



Stage 2	Int =



Stage 3	Int = 5

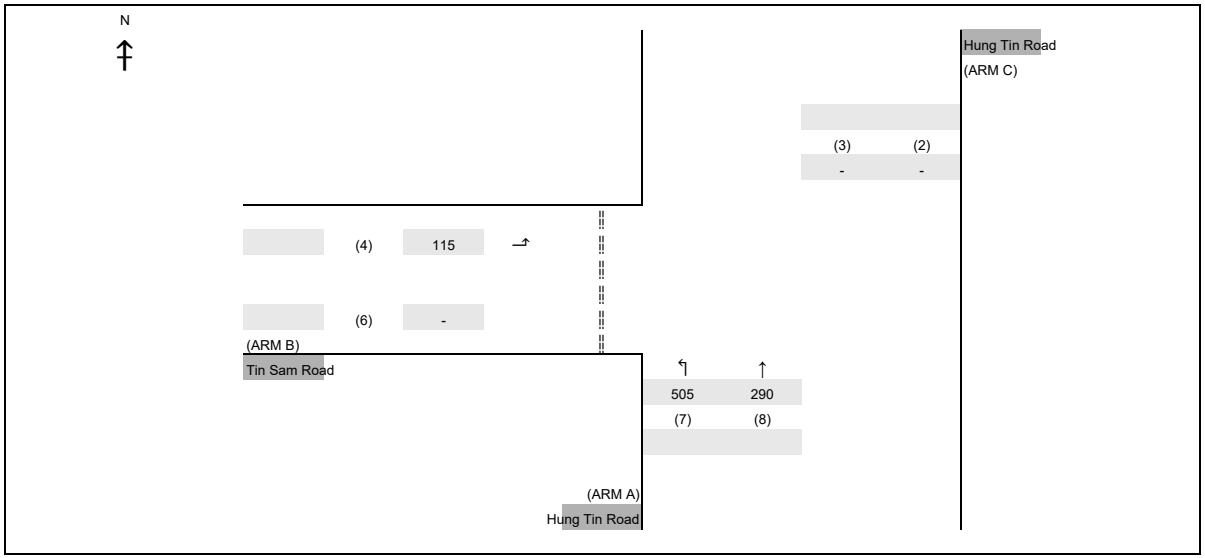
Stage 4	Int = 5

Stage 5	Int = 6

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2	E	10.00	9	3	8	15	3	8	OK
2	F	9.00	9	10	7	9	10	7	OK
2	G	7.00	7	7	6	13	7	6	OK
2	H	7.00	8	6	6	14	6	6	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S2	17 26				
7,8	1	3.50	A	1	15		N	1965	15	75		90	0.17	1933		-	1933	0.047	0.047	0	27	27	0.206	12
9	1	3.50	A	1	15			2105			40	40	1.00	1914		-	1914	0.021			12	27	0.093	5
10,11,12	3	3.50	B	1	15		N	1965	15	5	35	55	0.91	1801		-	1801	0.031	0.031	0	18	18	0.206	8
1,2,3	4	3.50	C	1	15		N	1965	5	65	10	80	0.19	1929		-	1929	0.041	0.041	0	24	24	0.206	11
4,5,6	5	3.50	D	1	15		N	1965	10	5	10	25	0.80	1819		-	1819	0.014	0.014	0	8	8	0.206	4
								-				-	-	-		-	-	-			-		-	-

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION				
HSK Intensification Site		SHEET:	J9_AM	PROJECT NO:	304204
J9 - Tin Sam Road/ Hung Tin Road	Year 2038 Reference Case (AM Peak)	DATE:	31-Dec-25	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	505	(pcu/hr)
q a-c	=	290	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	0.00	(metres)
Vr c-b	=	0	(metres)
q c-a	=	0	(pcu/hr)
q c-b	=	0	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	7.30	(metres)
Vl b-a	=	150	(metres)
Vr b-a	=	150	(metres)
Vr b-c	=	150	(metres)
q b-a	=	0	(pcu/hr)
q b-c	=	115	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.675
E	=	1.379
F	=	0.586
Y	=	0.759

THE CAPACITY OF MOVEMENT :

Q b-a	=	332
Q b-c	=	841
Q c-b	=	308
Q b-ac	=	841
Q c-a	=	1800

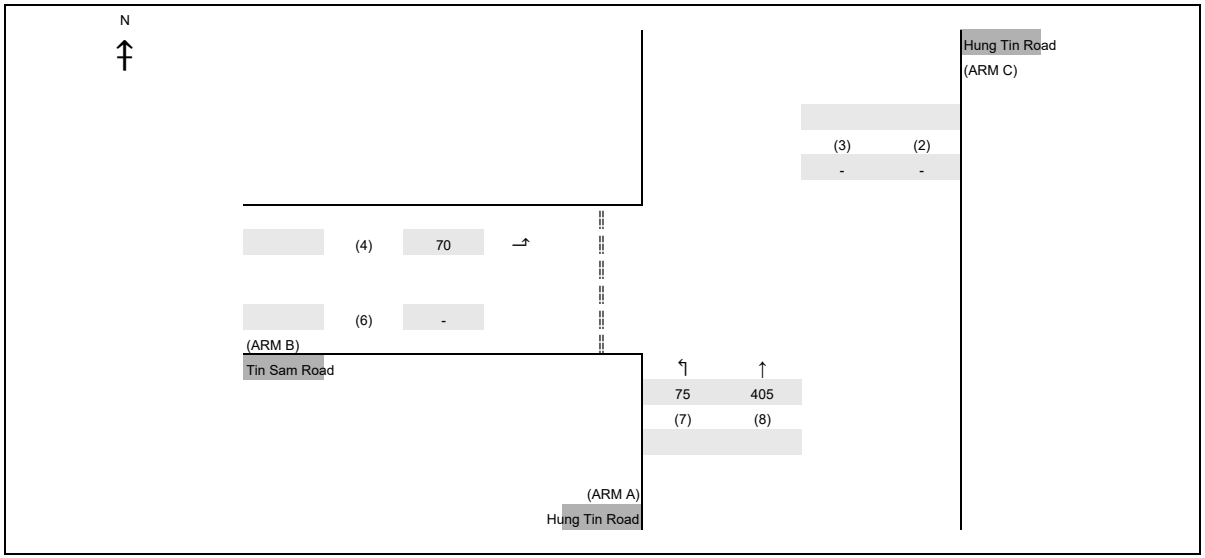
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1367
DFC c-b	=	0.0000
DFC c-a	=	0.0000
DFC b-ca	=	0.1367

TOTAL FLOW = 910 (PCU/HR)

CRITICAL DFC = 0.14

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION				
HSK Intensification Site		SHEET:	J9_PM	PROJECT NO:	304204
J9 - Tin Sam Road/ Hung Tin Road	Year 2038 Reference Case (PM Peak)	DATE:	31-Dec-25	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	75	(pcu/hr)
q a-c	=	405	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	0.00	(metres)
Vr c-b	=	0	(metres)
q c-a	=	0	(pcu/hr)
q c-b	=	0	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	7.30	(metres)
Vl b-a	=	150	(metres)
Vr b-a	=	150	(metres)
Vr b-c	=	150	(metres)
q b-a	=	0	(pcu/hr)
q b-c	=	70	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.675
E	=	1.379
F	=	0.586
Y	=	0.759

THE CAPACITY OF MOVEMENT :

Q b-a	=	342
Q b-c	=	862
Q c-b	=	359
Q b-ac	=	862
Q c-a	=	1800

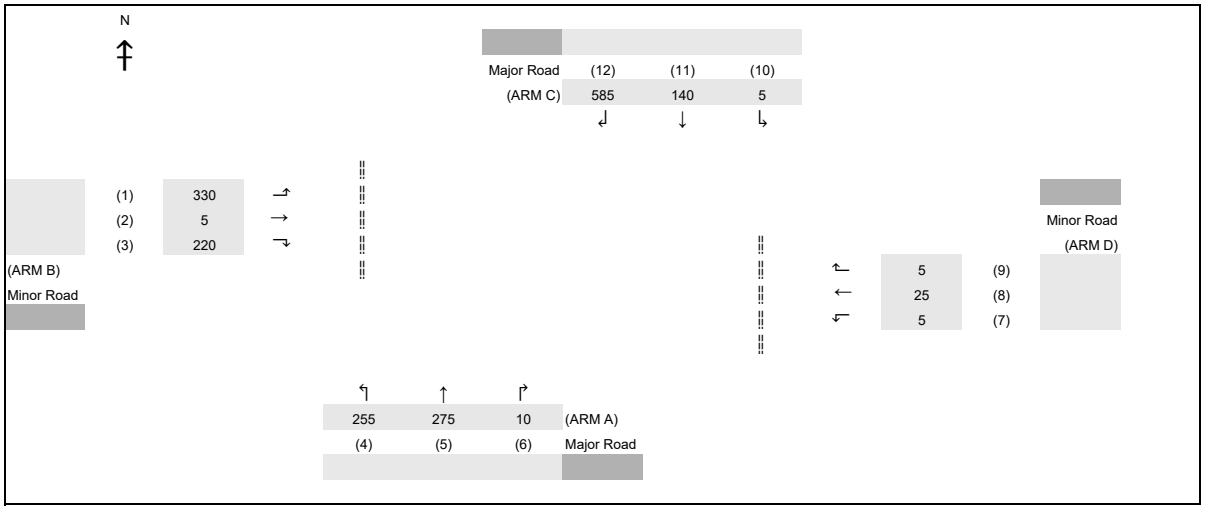
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.0812
DFC c-b	=	0.0000
DFC c-a	=	0.0000
DFC b-ca	=	0.0812

TOTAL FLOW = 550 (PCU/HR)

CRITICAL DFC = 0.08

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION				
HSK Intensification Site		SHEET:	J10_AM	PROJECT NO:	304204
J10 - Tin Ha Road/ Road L16/ Hung Leong Road	Year 2038 Reference Case (AM Peak)	DATE:	31-Dec-25	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
X a	=	STREAM-SPECIFIC (RIGHT TURN FROM A)
X b	=	STREAM-SPECIFIC (RIGHT TURN FROM B)
Z b	=	STREAM-SPECIFIC (LEFT TURN FROM B)
M b	=	STREAM-SPECIFIC (STRAIGHT AHEAD FROM B - LEFT LANE)
Y	=	(1-0.0345W)
r b-a	=	RATIO OF FLOW TO CAPACITY IN STREAM b-a

GEOMETRIC DETAILS:

GENERAL

W	=	6.50	(metres)				
W cr	=	0	(metres)	Y	=	0.77575	

MAJOR ROAD (ARM A)

W a-d	=	3.50	(metres)
Vr a-d	=	30	(metres)
q a-b	=	255	(pcu/hr)
q a-c	=	275	(pcu/hr)
q a-d	=	10	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	60	(metres)
q c-a	=	140	(pcu/hr)
q c-b	=	585	(pcu/hr)
q c-d	=	5	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.30	(metres)
W b-c	=	4.30	(metres)
Vl b-a	=	45	(metres)
Vr b-a	=	45	(metres)
Vr b-c	=	45	(metres)
q b-a	=	220	(pcu/hr)
q b-c	=	330	(pcu/hr)
q b-d	=	5	(pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	2.75	(metres)
W d-a	=	2.75	(metres)
Vl d-c	=	70	(metres)
Vr d-c	=	45	(metres)
Vr d-a	=	45	(metres)
q d-c	=	5	(pcu/hr)
q d-a	=	5	(pcu/hr)
q d-b	=	25	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.927	X a	=	0.906
X c	=	0.915	X d	=	0.813
Z b	=	0.989	Z d	=	0.854
M b	=	0.927	M d	=	0.813

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	1.11		r d-c	=	0.03	
ql b-d	=	5.00	(pcu/hr)	ql d-b	=	12.82	(pcu/hr)
qr b-d	=	0.00	(pcu/hr)	qr d-b	=	12.18	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	230	(pcu/hr)	Q d-c	=	198	(pcu/hr)
Q b-c	=	474	(pcu/hr)	Q d-a	=	598	(pcu/hr)
Q c-b	=	541	(pcu/hr)	Q a-d	=	424	(pcu/hr)
Ql b-d	=	238	(pcu/hr)	Ql d-b	=	263	(pcu/hr)
Qr b-d	=	238	(pcu/hr)	Qr d-b	=	263	(pcu/hr)

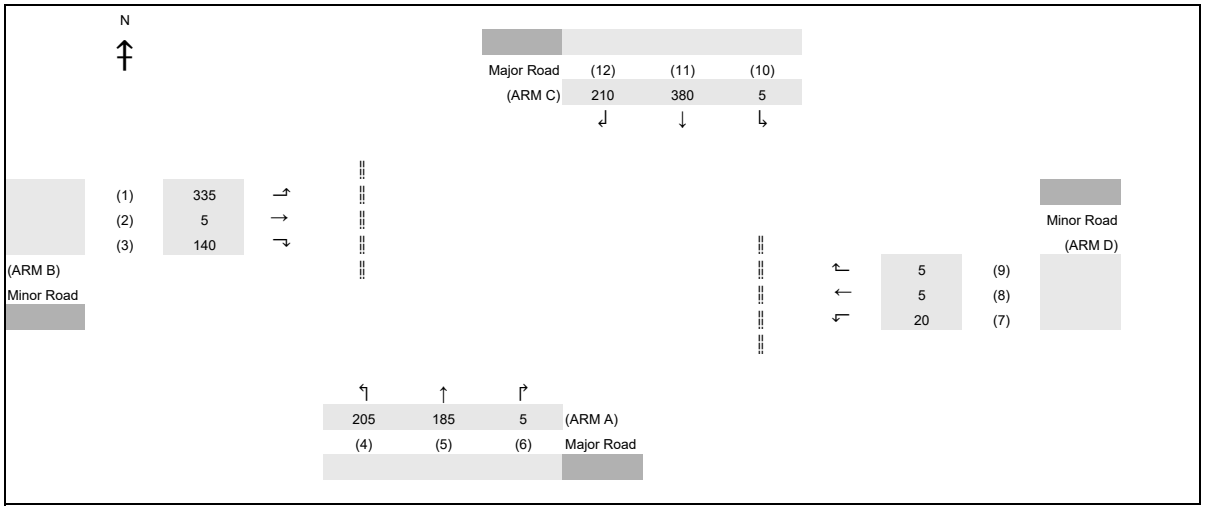
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.9565
DFC b-c	=	0.6962
DFC c-b	=	1.0813
DFCl b-d	=	0.0210
DFCr b-d	=	0.0000
DFC d-c	=	0.0253
DFC d-a	=	0.0084
DFC a-d	=	0.0236
DFCl d-b	=	0.0487
DFCr d-b	=	0.0463

TOTAL FLOW = 1860 (PCU/HR)

CRITICAL DFC = 1.08

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION				
HSK Intensification Site		SHEET:	J10_PM	PROJECT NO:	304204
J10 - Tin Ha Road/ Road L16/ Hung Leong Road	Year 2038 Reference Case (PM Peak)	DATE:	31-Dec-25	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
X a	=	STREAM-SPECIFIC (RIGHT TURN FROM A)
X b	=	STREAM-SPECIFIC (RIGHT TURN FROM B)
Z b	=	STREAM-SPECIFIC (LEFT TURN FROM B)
M b	=	STREAM-SPECIFIC (STRAIGHT AHEAD FROM B - LEFT LANE)
Y	=	(1-0.0345W)
r b-a	=	RATIO OF FLOW TO CAPACITY IN STREAM b-a

GEOMETRIC DETAILS:

GENERAL

W	=	6.50	(metres)				
W cr	=	0	(metres)	Y	=	0.77575	

MAJOR ROAD (ARM A)

W a-d	=	3.50	(metres)
Vr a-d	=	30	(metres)
q a-b	=	205	(pcu/hr)
q a-c	=	185	(pcu/hr)
q a-d	=	5	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	60	(metres)
q c-a	=	380	(pcu/hr)
q c-b	=	210	(pcu/hr)
q c-d	=	5	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.30	(metres)
W b-c	=	4.30	(metres)
Vl b-a	=	45	(metres)
Vr b-a	=	45	(metres)
Vr b-c	=	45	(metres)
q b-a	=	140	(pcu/hr)
q b-c	=	335	(pcu/hr)
q b-d	=	5	(pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	2.75	(metres)
W d-a	=	2.75	(metres)
Vl d-c	=	70	(metres)
Vr d-c	=	45	(metres)
Vr d-a	=	45	(metres)
q d-c	=	5	(pcu/hr)
q d-a	=	20	(pcu/hr)
q d-b	=	5	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.927	X a	=	0.906
X c	=	0.915	X d	=	0.813
Z b	=	0.989	Z d	=	0.854
M b	=	0.927	M d	=	0.813

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.56		r d-c	=	0.02		
ql b-d	=	3.89	(pcu/hr)	ql d-b	=	2.55	(pcu/hr)	
qr b-d	=	1.11	(pcu/hr)	qr d-b	=	2.45	(pcu/hr)	

CAPACITY OF MOVEMENT :

Q b-a	=	362	(pcu/hr)	Q d-c	=	251	(pcu/hr)	
Q b-c	=	570	(pcu/hr)	Q d-a	=	541	(pcu/hr)	
Q c-b	=	579	(pcu/hr)	Q a-d	=	500	(pcu/hr)	
Ql b-d	=	368	(pcu/hr)	Ql d-b	=	316	(pcu/hr)	
Qr b-d	=	368	(pcu/hr)	Qr d-b	=	316	(pcu/hr)	

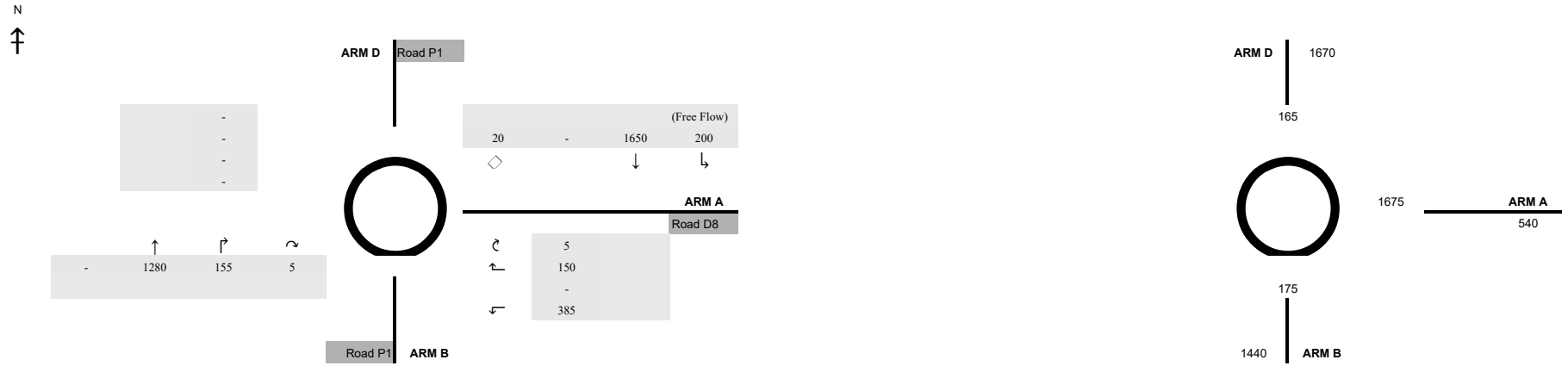
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.3867
DFC b-c	=	0.5877
DFC c-b	=	0.3627
DFCl b-d	=	0.0106
DFCr b-d	=	0.0030
DFC d-c	=	0.0199
DFC d-a	=	0.0370
DFC a-d	=	0.0100
DFCl d-b	=	0.0081
DFCr d-b	=	0.0078

TOTAL FLOW = 1500 (PCU/HR)

CRITICAL DFC = 0.59

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
HSK Intensification Site		SHEET: J11_AM	PROJECT NO: 304204
J11 - Road P1 and Road D8	Year 2038 Reference Case (AM Peak)	DATE: 31-Dec-25	FILENAME:

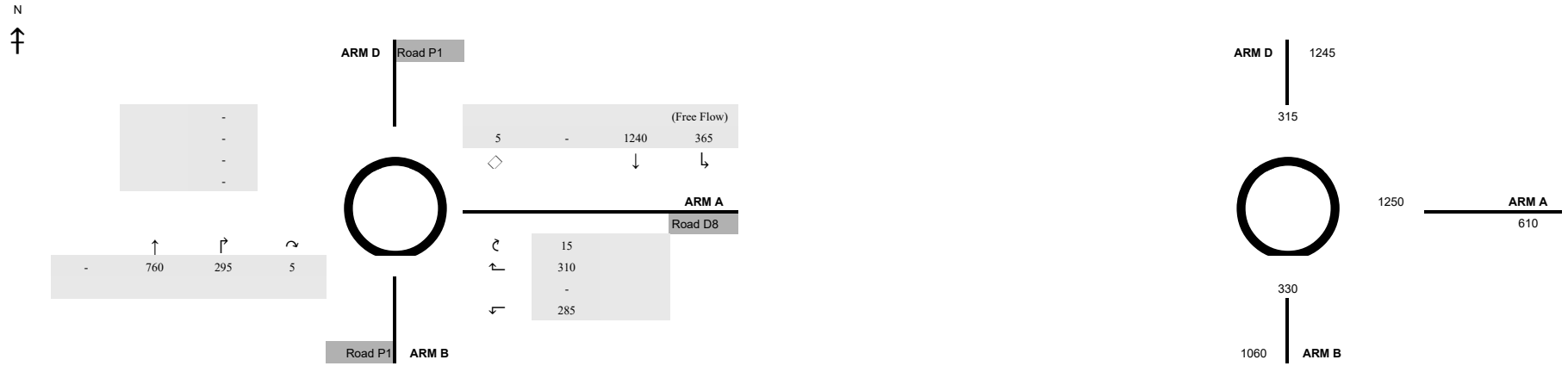


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	7.30		7.30
E	=	Entry width (m)	10.50	10.70		10.70
L	=	Effective length of flare (m)	5.5	9.2		11.5
R	=	Entry radius (m)	30	50		30
D	=	Inscribed circle diameter (m)	66	66		66
A	=	Entry angle (degree)	30	20		36
Q	=	Entry flow (pcu/h)	540	1440		1670
Qc	=	Circulating flow across entry (pcu/h)	1675	175		165
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.93	0.59		0.47
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.02	1.06		1.00
X2	=	V + ((E-V)/(1+2S))	8.42	8.86		9.05
M	=	EXP((D-60)/10)	1.82	1.82		1.82
F	=	303*X2	2551	2684		2741
Td	=	1+(0.5/(1+M))	1.18	1.18		1.18
Fc	=	0.21*Td(1+0.2*X2)	0.66	0.69		0.69
Qe	=	K(F-Fc*Qc)	1463	2728		2615
DFC	=	Design flow/Capacity = Q/Qe	0.37	0.53		0.64

Total In Sum = 3650 PCU

DFC of Critical Approach = 0.64

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
HSK Intensification Site		SHEET: J11_PM	PROJECT NO: 304204
J11 - Road P1 and Road D8	Year 2038 Reference Case (PM Peak)	DATE: 31-Dec-25	FILENAME:

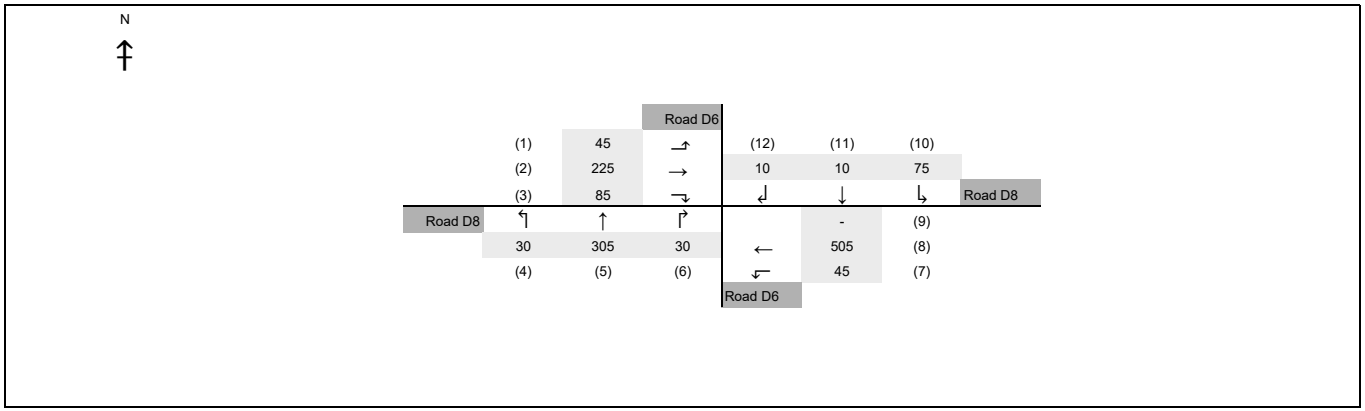


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	7.30		7.30
E	=	Entry width (m)	10.50	10.70		10.70
L	=	Effective length of flare (m)	5.5	9.2		11.5
R	=	Entry radius (m)	30	50		30
D	=	Inscribed circle diameter (m)	66	66		66
A	=	Entry angle (degree)	30	20		36
Q	=	Entry flow (pcu/h)	610	1060		1245
Qc	=	Circulating flow across entry (pcu/h)	1250	330		315
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.93	0.59		0.47
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.02	1.06		1.00
X2	=	V + ((E-V)/(1+2S))	8.42	8.86		9.05
M	=	EXP((D-60)/10)	1.82	1.82		1.82
F	=	303*X2	2551	2684		2741
Td	=	1+(0.5/(1+M))	1.18	1.18		1.18
Fc	=	0.21*Td(1+0.2*X2)	0.66	0.69		0.69
Qe	=	K(F-Fc*Qc)	1750	2615		2511
DFC	=	Design flow/Capacity = Q/Qe	0.35	0.41		0.50

Total In Sum = 2915 PCU

DFC of Critical Approach = 0.50

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J12_AM	PROJECT NO: 304204
J12 - Road D8/ Road D6	Year 2038 Reference Case (AM Peak)	DATE: 31-Dec-25	FILENAME:



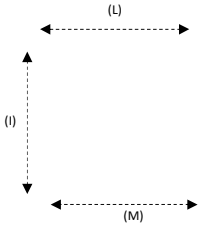
No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.297
Loss Time	L=	51 sec
Total Flow	=	1365 pcu
Co =(1.5*L+5)/(1-Y)	=	116 sec
Cm =L/(1-Y)	=	73 sec
Yult	=	0.518
R.C.ult =(Yult-Y)/Y*100%	=	74.1 %
Cp =0.9*L/(0.9-Y)	=	76.1 sec
Ymax =1-L/C	=	0.575
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	74.1 %

Stage 1 Int = 5

Stage 2 Int = 5

Stage 3 Int = 5

Stage 4 Int = 5



Stage 5 Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	L	21.00	19	5	8	22	5	8	OK
5	I	22.00	20	5	10	20	5	10	OK
5	M	21.00	19	5	8	22	5	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S5	16 35				
1,2	1	3.60	A	1	15		N	1975	45	181		226	0.20	1936		1600	3536	0.064	0.064	0	15	15	0.517	74
2,3	1	3.60	A	1	23			2115		44	85	129	0.66	2028		-	2028	0.064			15	15	0.514	19
7	2	3.40	D	1	16		N	782	45			45	1.00	715		-	715	0.063	0.121	0	15	28	0.270	6
8	2	3.40	D	2				4190		505		505	0.00	4190		-	4190	0.121			28	28	0.517	32
10	3	4.00	B	1	21		N	2015	45			45	1.00	1881		-	1881	0.024	0.024	0	6	6	0.517	8
10,11,12	3	4.00	B	1	42			2155	30	10	10	50	0.80	2095		-	2095	0.024			6	6	0.515	9
4,5	4	4.00	C	1	12.5		N	2015	30	145		175	0.17	1974		-	1974	0.089	0.089	0	21	21	0.516	24
5,6	4	4.00	C	1	33			2155		160	30	190	0.16	2140		-	2140	0.089			21	21	0.517	26
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
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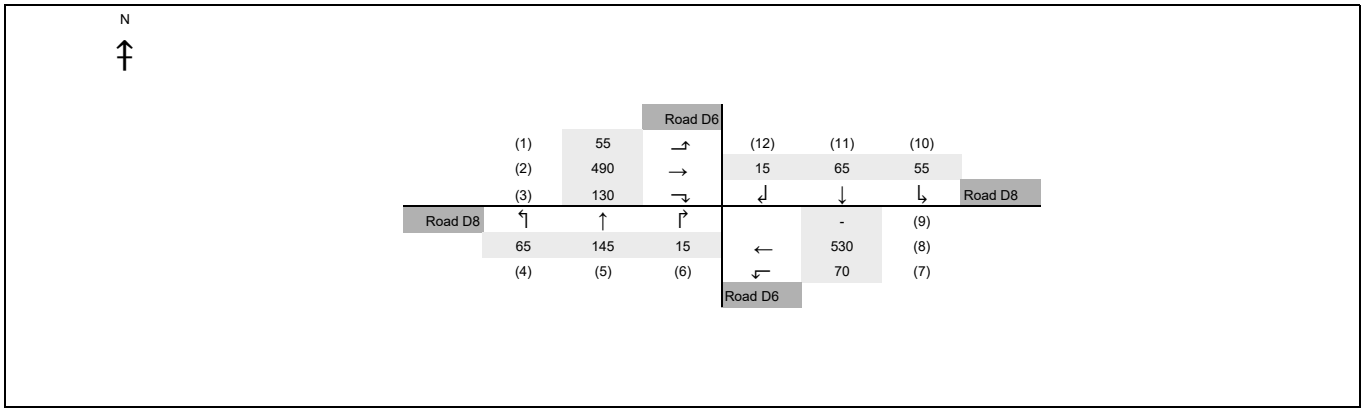
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J12_PM	PROJECT NO: 304204
J12 - Road D8/ Road D6	Year 2038 Reference Case (PM Peak)	DATE: 31-Dec-25	FILENAME:



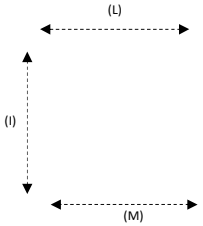
No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.358
Loss Time	L=	51 sec
Total Flow	=	1635 pcu
Co =(1.5*L+5)/(1-Y)	=	127 sec
Cm =L/(1-Y)	=	79 sec
Yult	=	0.518
R.C.ult =(Yult-Y)/Y*100%	=	44.5 %
Cp =0.9*L/(0.9-Y)	=	84.7 sec
Ymax =1-L/C	=	0.575
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	44.5 %

Stage 1	Int =	5

Stage 2	Int =	5

Stage 3	Int =	5

Stage 4	Int =	5



Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	L	21.00	19	5	8	22	5	8	OK
5	I	22.00	20	5	10	20	5	10	OK
5	M	21.00	19	5	8	22	5	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S5	16 35				
1,2	1	3.60	A	1	15		N	1975	55	336		391	0.14	1948		890	2838	0.138	0.138	0	27	27	0.621	51
2,3	1	3.60	A	1	23			2115		154	130	284	0.46	2054		-	2054	0.138			27	27	0.623	37
7	2	3.40	D	1	16		N	782	70			70	1.00	715		-	715	0.098	0.126	0	19	24	0.482	10
8	2	3.40	D	2				4190		530		530	0.00	4190		-	4190	0.126			24	24	0.623	35
10	3	4.00	B	1	21		N	2015	55			55	1.00	1881		-	1881	0.029	0.037	0	6	7	0.487	9
10,11,12	3	4.00	B	1	42			2155	0	65	15	80	0.19	2141		-	2141	0.037			7	7	0.623	14
4,5	4	4.00	C	1	12.5		N	2015	65	40		105	0.62	1876		-	1876	0.056	0.056	0	11	11	0.623	17
5,6	4	4.00	C	1	33			2155		105	15	120	0.13	2143		-	2143	0.056			11	11	0.623	19
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
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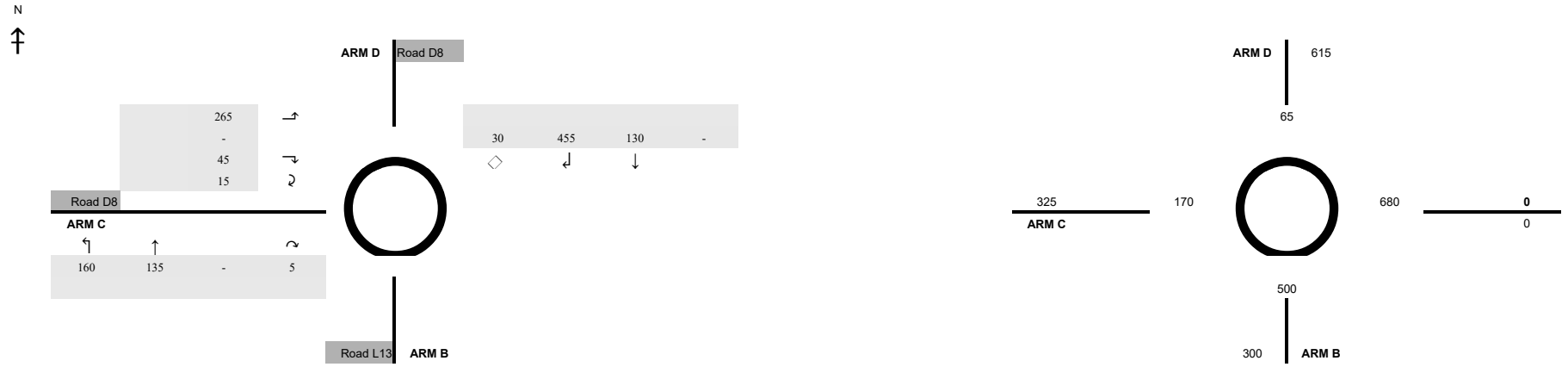
OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
HSK Intensification Site		SHEET: J13_AM	PROJECT NO: 304204
J13 - Road D8/ Road L13	Year 2038 Reference Case (AM Peak)	DATE: 31-Dec-25	FILENAME:

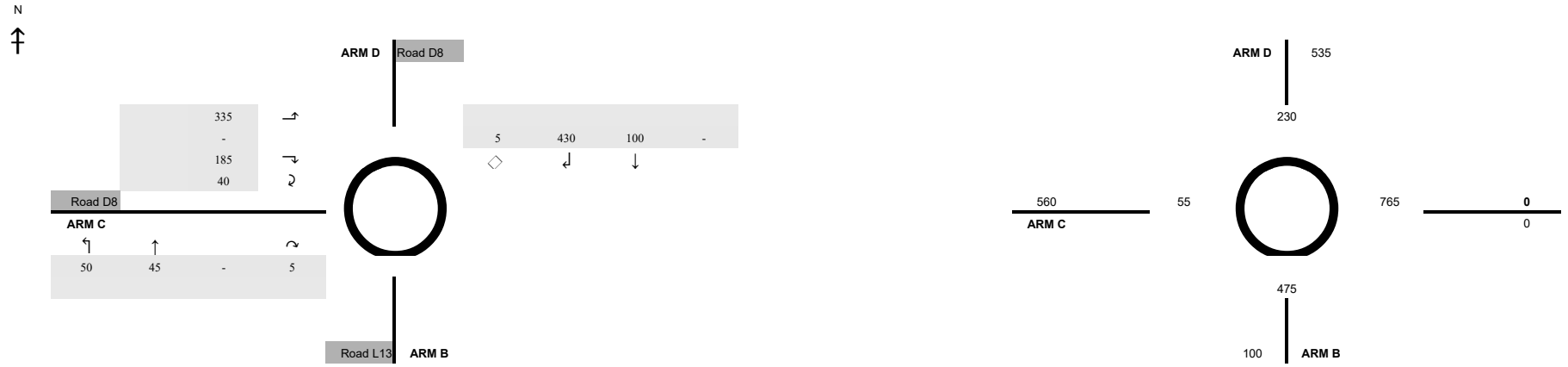


ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)		4.60	7.30	7.30
E	=	Entry width (m)		4.50	8.50	8.00
L	=	Effective length of flare (m)		6	5	1
R	=	Entry radius (m)		21	31	30
D	=	Inscribed circle diameter (m)		30	30	30
A	=	Entry angle (degree)		25	25	40
Q	=	Entry flow (pcu/h)	0	300	325	615
Qc	=	Circulating flow across entry (pcu/h)	680	500	170	65
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L		-0.03	0.38	1.12
K	=	1-0.00347(A-30)-0.978(1/R-0.05)		1.02	1.03	0.98
X2	=	V + ((E-V)/(1+2S))		4.49	7.98	7.52
M	=	EXP((D-60)/10)		0.05	0.05	0.05
F	=	303*X2		1362	2418	2277
Td	=	1+(0.5/(1+M))		1.48	1.48	1.48
Fc	=	0.21*Td(1+0.2*X2)		0.59	0.80	0.78
Qe	=	K(F-Fc*Qc)		1088	2360	2186
DFC	=	Design flow/Capacity = Q/Qe		0.28	0.14	0.28

Total In Sum = 1240 PCU

DFC of Critical Approach = 0.28

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
HSK Intensification Site		SHEET: J13_PM	PROJECT NO: 304204
J13 - Road D8/ Road L13	Year 2038 Reference Case (PM Peak)	DATE: 31-Dec-25	FILENAME:



ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)		4.60	7.30	7.30
E	=	Entry width (m)		4.50	8.50	8.00
L	=	Effective length of flare (m)		6	5	1
R	=	Entry radius (m)		21	31	30
D	=	Inscribed circle diameter (m)		30	30	30
A	=	Entry angle (degree)		25	25	40
Q	=	Entry flow (pcu/h)	0	100	560	535
Qc	=	Circulating flow across entry (pcu/h)	765	475	55	230
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L		-0.03	0.38	1.12
K	=	1-0.00347(A-30)-0.978(1/R-0.05)		1.02	1.03	0.98
X2	=	V + ((E-V)/(1+2S))		4.49	7.98	7.52
M	=	EXP((D-60)/10)		0.05	0.05	0.05
F	=	303*X2		1362	2418	2277
Td	=	1+(0.5/(1+M))		1.48	1.48	1.48
Fc	=	0.21*Td(1+0.2*X2)		0.59	0.80	0.78
Qe	=	K(F-Fc*Qc)		1103	2456	2060
DFC	=	Design flow/Capacity = Q/Qe		0.09	0.23	0.26

Total In Sum = 1195 PCU

DFC of Critical Approach = 0.26

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J14_AM	PROJECT NO: 304204
J14 - Road L15/ Road L12	Year 2038 Reference Case (AM Peak)	DATE: 31-Dec-25	FILENAME:

N

			Road L12				
	(1)	75	⮥	(12)	(11)	(10)	
	(2)	275	→	240	330	55	
	(3)	205	⮦	↲	↓	↳	Road L15
Road L15	↰	↑	↱	⮤	5	(9)	
	180	45	205	←	145	(8)	
	(4)	(5)	(6)	⮧	115	(7)	
				Road L12			

No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.487
Loss Time	L=	41 sec
Total Flow	=	1875 pcu
Co =(1.5*L+5)/(1-Y)	=	130 sec
Cm =L/(1-Y)	=	80 sec
Yult	=	0.593
R.C.ult =(Yult-Y)/Y*100%	=	21.6 %
Cp =0.9*L/(0.9-Y)	=	89.4 sec
Ymax =1-L/C	=	0.658
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	21.6 %

Stage 1	Int = 5	Stage 2	Int = 5	Stage 3	Int = 5	Stage 4	Int = 5	Stage 5	Int =
(1) (2) (3)		(4) (5) (6)		(9) (8) (7)		(12) (11) (10)		(C) (D) (B) (A)	

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	A	14.00	12	3	9	13	3	9	OK
5	B	15.50	13	3	9	13	3	9	OK
5	C	12.00	10	3	7	15	3	7	OK
5	D	12.00	10	3	6	16	3	6	OK
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			-	-			-	-	-
			-	-			-	-	-
			-	-			-	-	-
			-	-			-	-	-
			-	-			-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S5	16 25				
1,2,3	1	3.50	A	1	15		N	1965	75	275	0	350	0.21	1924		-	1924	0.182	0.182	0	29	29	0.740	46
3	1	4.00	A	1	28			2155			205	205	1.00	2045		-	2045	0.100			16	29	0.408	26
4,5	2	3.60	B	1	25		N	1975	180	0		180	1.00	1863		-	1863	0.097	0.097	0	16	16	0.740	29
5,6	2	3.60	B	1	20			2115		45	82	127	0.65	2017		-	2017	0.063			10	16	0.482	18
6	2	3.60	B	1	20			2115			123	123	1.00	1967		-	1967	0.063			10	16	0.479	18
7	3	3.60	C	1	15		N	1975	115			115	1.00	1795		-	1795	0.064	0.069	0	10	11	0.692	19
7,8,9	3	3.60	C	1	25			2115	0	145	0	145	0.00	2115		-	2115	0.069			11	11	0.740	25
9	3	3.60	C	1	25			2115			5	5	1.00	1995		-	1995	0.003			0	11	0.027	1
10	4	3.30	D	1	15		N	1945	55			55	1.00	1768		-	1768	0.031	0.140	0	5	23	0.164	7
10,11	4	3.30	D	1	20			2085	0	292		292	0.00	2085		-	2085	0.140			23	23	0.739	41
11,12	4	3.30	D	1	25			2085		38	240	278	0.86	1982		-	1982	0.140			23	23	0.740	40
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OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J14_PM	PROJECT NO: 304204
J14 - Road L15/ Road L12	Year 2038 Reference Case (PM Peak)	DATE: 31-Dec-25	FILENAME:

N

			Road L12				
	(1)	95	⮥	(12)	(11)	(10)	
	(2)	5	→	230	45	80	
	(3)	325	⮦	↲	↓	↳	Road L15
Road L15	↰	↑	↱	⮤	5	(9)	
	255	130	5	←	130	(8)	
	(4)	(5)	(6)	⮧	85	(7)	
				Road L12			

No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.426
Loss Time	L=	41 sec
Total Flow	=	1390 pcu
Co =(1.5*L+5)/(1-Y)	=	116 sec
Cm =L/(1-Y)	=	71 sec
Yult	=	0.593
R.C.ult =(Yult-Y)/Y*100%	=	39.0 %
Cp =0.9*L/(0.9-Y)	=	77.9 sec
Ymax =1-L/C	=	0.658
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	39.0 %

Stage 1	Int = 5	Stage 2	Int = 5	Stage 3	Int = 5	Stage 4	Int = 5	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	A	14.00	12	3	9	13	3	9	OK
5	B	15.50	13	3	9	13	3	9	OK
5	C	12.00	10	3	7	15	3	7	OK
5	D	12.00	10	3	6	16	3	6	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S5	16 25				
1,2,3	1	3.50	A	1	15		N	1965	95	5	98	198	0.97	1790		-	1790	0.111	0.111	0	20	21	0.645	28
3	1	4.00	A	1	28			2155			227	227	1.00	2045		-	2045	0.111			21	21	0.647	32
4,5	2	3.60	B	1	25		N	1975	255	0		255	1.00	1863		-	1863	0.137	0.137	0	25	25	0.647	34
5,6	2	3.60	B	1	20			2115		130	0	130	0.00	2115		-	2115	0.061			11	25	0.291	17
6	2	3.60	B	1	20			2115			5	5	1.00	1967		-	1967	0.003			0	25	0.012	1
7	3	3.60	C	1	15		N	1975	85			85	1.00	1795		-	1795	0.047	0.061	0	9	11	0.499	13
7,8,9	3	3.60	C	1	25			2115	0	130	0	130	0.00	2115		-	2115	0.061			11	11	0.647	21
9	3	3.60	C	1	25			2115			5	5	1.00	1995		-	1995	0.003			0	11	0.026	1
10	4	3.30	D	1	15		N	1945	58			58	1.00	1768		-	1768	0.033	0.117	0	6	22	0.182	8
10,11	4	3.30	D	1	20			2085	22	45		67	0.33	2035		-	2035	0.033			6	22	0.182	9
11,12	4	3.30	D	1	25			2085		0	230	230	1.00	1967		-	1967	0.117			22	22	0.647	32
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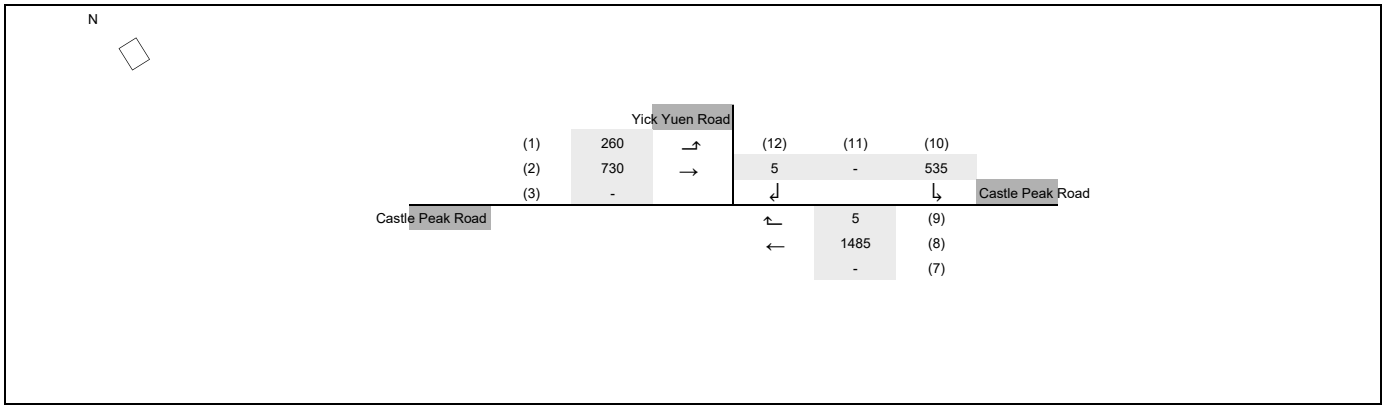
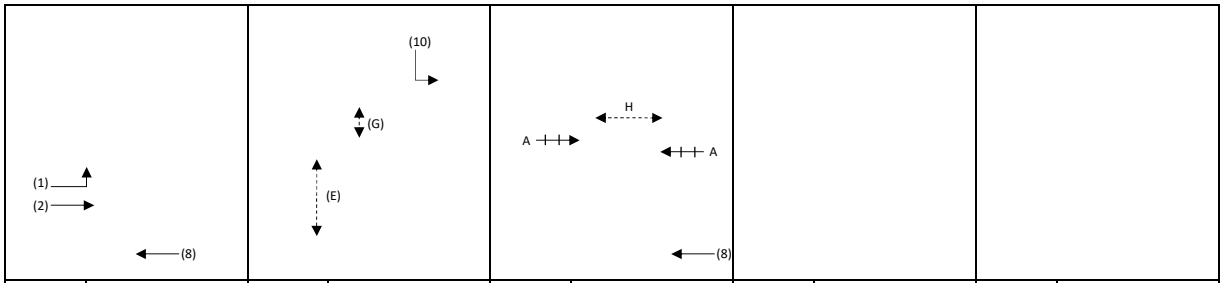
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J15_AM	PROJECT NO: 304204
J15 - Castle Peak Road/ Yick Yuen Road	Year 2038 Reference Case (AM Peak)	DATE: 31-Dec-25	FILENAME:



No. of Stages per Cycle	N=	3
No. of Stage Using for Calculation	N=	2
Cycle Time	C=	108 sec
Sum(y)	Y=	0.509
Loss Time	L=	10 sec
Total Flow	=	3010 pcu
Co =(1.5*L+5)/(1-Y)	=	41 sec
Cm =L/(1-Y)	=	20 sec
Yult	=	0.825
R.C.ult =(Yult-Y)/Y*100%	=	61.9 %
Cp =0.9*L/(0.9-Y)	=	23.0 sec
Ymax =1-L/C	=	0.907
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	60.3 %



Stage 1	Int = 6	Stage 2	Int = 6	Stage 3	Int =	Stage 4	Int =	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2	E	12.00	6	2	5	26	2	5	OK
2	G	10.00	5	3	9	21	3	9	OK
3	H	18.00	8	4	15	8	4	15	OK
3	A (LRT)		7	7	8	12	7	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
																				0				
1	1	3.50	A	1	15		N	1965	260			260	1.00	1786		-	1786	0.146			28	41	0.382	24
1,2	1	3.50	A	1	15			2105	0	365		365	0.00	2105		-	2105	0.173			33	41	0.455	34
2	1	3.50	A	1				2105		365		365	0.00	2105		-	2105	0.173			33	41	0.455	34
10	2	3.50	B	2	15		N	4070	535			535	1.00	3700		-	3700	0.145	0.145	0	28	28	0.561	15
8	3,1	3.50	C	2			N	4070		1485		1485	0.00	4070		-	4070	0.365	0.365	0	70	70	0.561	19
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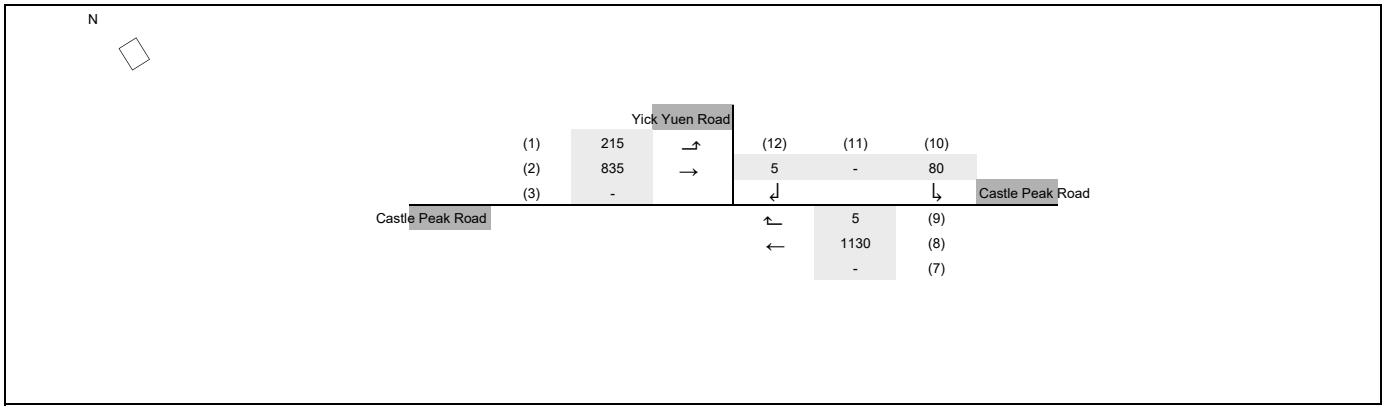
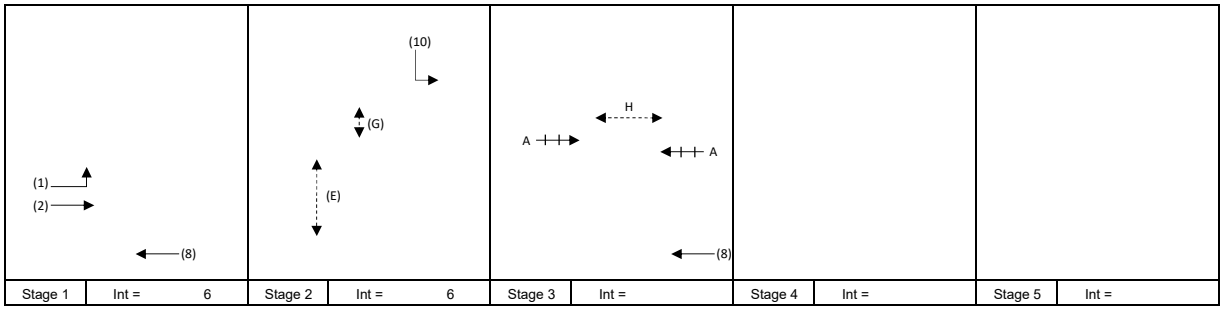
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J15_PM	PROJECT NO: 304204
J15 - Castle Peak Road/ Yick Yuen Road	Year 2038 Reference Case (PM Peak)	DATE: 31-Dec-25	FILENAME:



No. of Stages per Cycle	N=	3
No. of Stage Using for Calculation	N=	2
Cycle Time	C=	108 sec
Sum(y)	Y=	0.299
Loss Time	L=	23 sec
Total Flow	=	2260 pcu
Co =(1.5*L+5)/(1-Y)	=	56 sec
Cm =L/(1-Y)	=	33 sec
Yult	=	0.728
R.C.ult =(Yult-Y)/Y*100%	=	143.1 %
Cp =0.9*L/(0.9-Y)	=	34.5 sec
Ymax =1-L/C	=	0.787
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	136.7 %



Stage 1	Int = 6	Stage 2	Int = 6	Stage 3	Int =	Stage 4	Int =	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2	E	12.00	6	2	5	10	2	5	OK
2	G	10.00	5	3	9	5	3	9	OK
3	H	18.00	8	4	15	8	4	15	OK
3	A (LRT)		7	7	8	12	7	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
																				0				
1	1	3.50	A	1	15		N	1965	215			215	1.00	1786		-	1786	0.120			34	57	0.229	15
1,2	1	3.50	A	1	15			2105	0	418		418	0.00	2105		-	2105	0.199			56	57	0.377	30
2	1	3.50	A	1				2105		417		417	0.00	2105		-	2105	0.198			56	57	0.376	30
10	2	3.50	B	2	15		N	4070	80			80	1.00	3700		-	3700	0.022	0.022	6	6	12	0.192	3
8	3,1	3.50	C	2			N	4070		1130		1130	0.00	4070		-	4070	0.278	0.278	7	79	86	0.349	9
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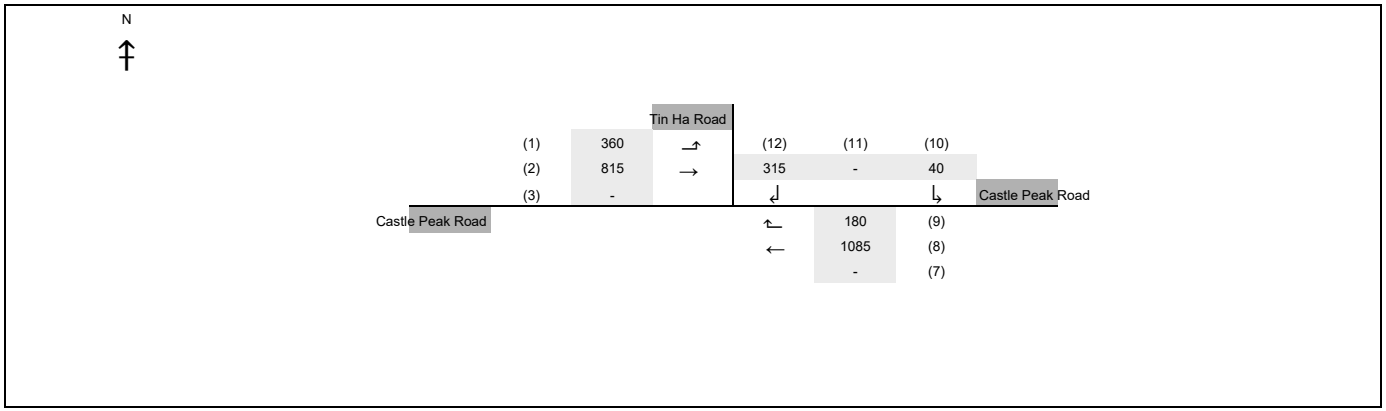
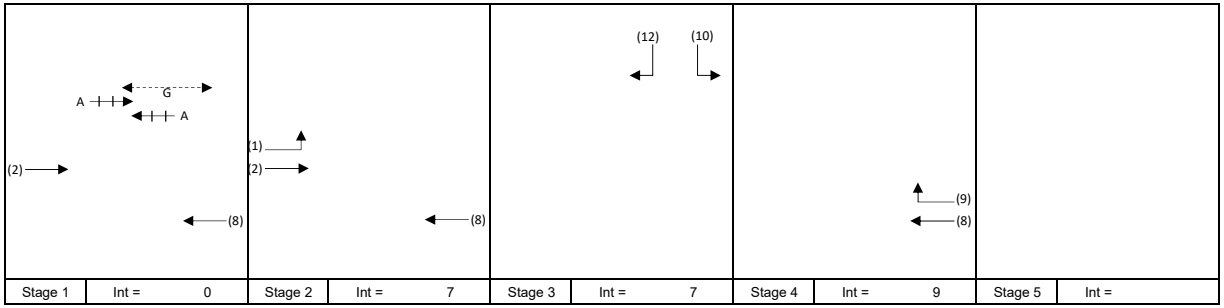
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J16_AM	PROJECT NO: 304204
J16 - Castle Peak Road/ Tin Ha Road	Year 2038 Reference Case (AM Peak)	DATE: 31-Dec-25	FILENAME:



No. of Stages per Cycle		N=	4
No. of Stage Using for Calculation		N=	3
Cycle Time		C=	128 sec
Sum(y)		Y=	0.401
Loss Time		L=	44 sec
Total Flow		=	2795 pcu
Co	=(1.5*L+5)/(1-Y)	=	118 sec
Cm	=L/(1-Y)	=	73 sec
Yult		=	0.570
R.C.ult	=(Yult-Y)/Y*100%	=	42.3 %
Cp	=0.9*L/(0.9-Y)	=	79.3 sec
Ymax	=1-L/C	=	0.656
R.C.(C)	=(0.9*Ymax-Y)/Y*100%	=	47.4 %



Stage 1	Int = 0	Stage 2	Int = 7	Stage 3	Int = 7	Stage 4	Int = 9	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	G	8.00	5	7	7	10	7	7	OK
1	A (LRT)		8	8	8	8	8	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
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Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				20				
																			S1	24				
2	1,2	3.20	D	3				6225		815		815	0.00	6225		-	6225	0.131			27	67	0.251	8
8	1,2,4	3.65	B	2			N	4100		1085		1085	0.00	4100		-	4100	0.265			55	91	0.370	14
1	2	3.20	E	1	12		N	1935	360			360	1.00	1720		-	1720	0.209	0.209	0	44	44	0.610	42
10,12	3	3.20	F	1	12		N	1935	40		128	168	1.00	1720		-	1720	0.098	0.098	0	20	21	0.608	25
12	3	3.20	F	1	17			2075			187	187	1.00	1907		-	1907	0.098			21	21	0.610	28
9	4	3.20	C	1	20			2075			180	180	1.00	1930		-	1930	0.093	0.093	0	20	20	0.610	27
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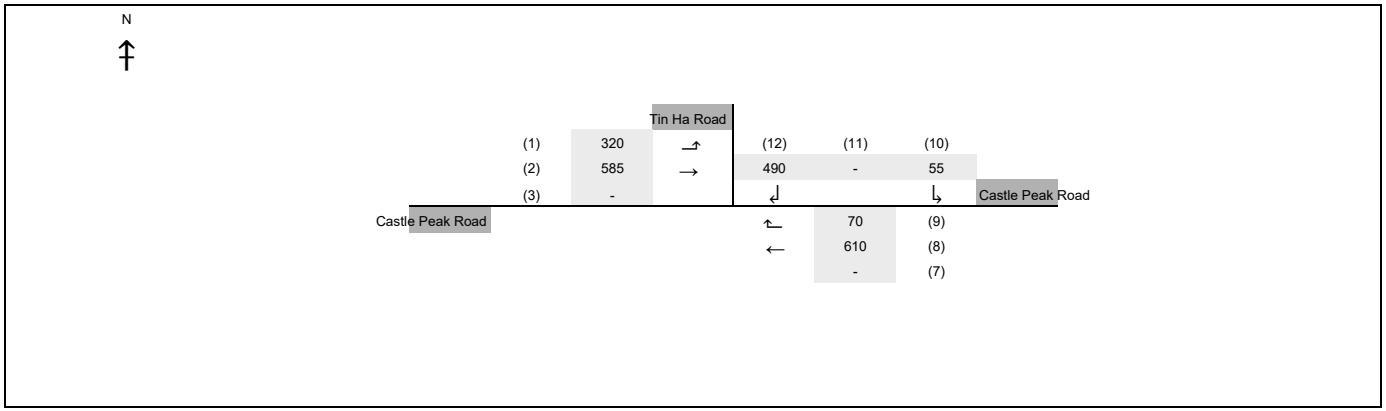
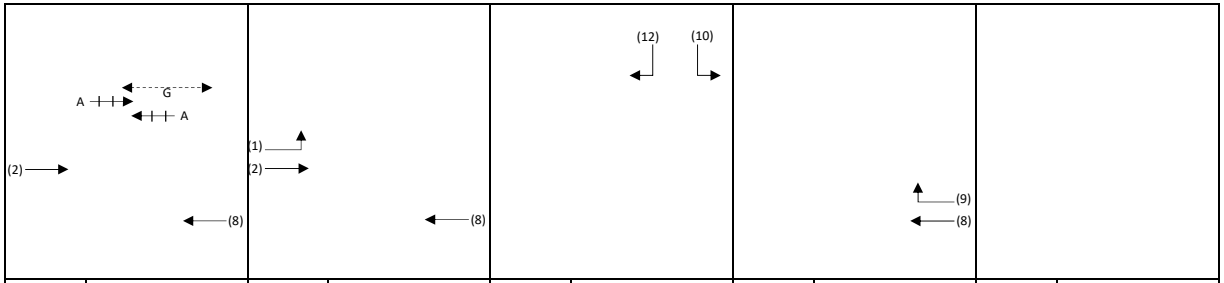
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J16_PM	PROJECT NO: 304204
J16 - Castle Peak Road/ Tin Ha Road	Year 2038 Reference Case (PM Peak)	DATE: 31-Dec-25	FILENAME:



No. of Stages per Cycle	N=	4
No. of Stage Using for Calculation	N=	3
Cycle Time	C=	128 sec
Sum(y)	Y=	0.373
Loss Time	L=	44 sec
Total Flow	=	2130 pcu
Co =(1.5*L+5)/(1-Y)	=	113 sec
Cm =L/(1-Y)	=	70 sec
Yult	=	0.570
R.C.ult =(Yult-Y)/Y*100%	=	52.9 %
Cp =0.9*L/(0.9-Y)	=	75.1 sec
Ymax =1-L/C	=	0.656
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	58.4 %



Stage 1	Int = 0	Stage 2	Int = 7	Stage 3	Int = 7	Stage 4	Int = 9	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	G	8.00	5	7	7	10	7	7	OK
1	A (LRT)		8	8	8	8	8	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
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			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S1	20 24				
2	1,2	3.20	D	3				6225		585		585	0.00	6225		-	6225	0.094			21	65	0.185	6
8	1,2,4	3.65	B	2			N	4100		610		610	0.00	4100		-	4100	0.149			34	78	0.244	11
1	2	3.20	E	1	12		N	1935	320			320	1.00	1720		-	1720	0.186	0.186	0	42	42	0.568	38
10,12	3	3.20	F	1	12		N	1935	55		203	258	1.00	1720		-	1720	0.150	0.151	0	34	34	0.566	34
12	3	3.20	F	1	17			2075			287	287	1.00	1907		-	1907	0.151			34	34	0.568	38
9	4	3.20	C	1	20			2075			70	70	1.00	1930		-	1930	0.036	0.036	0	8	8	0.568	12
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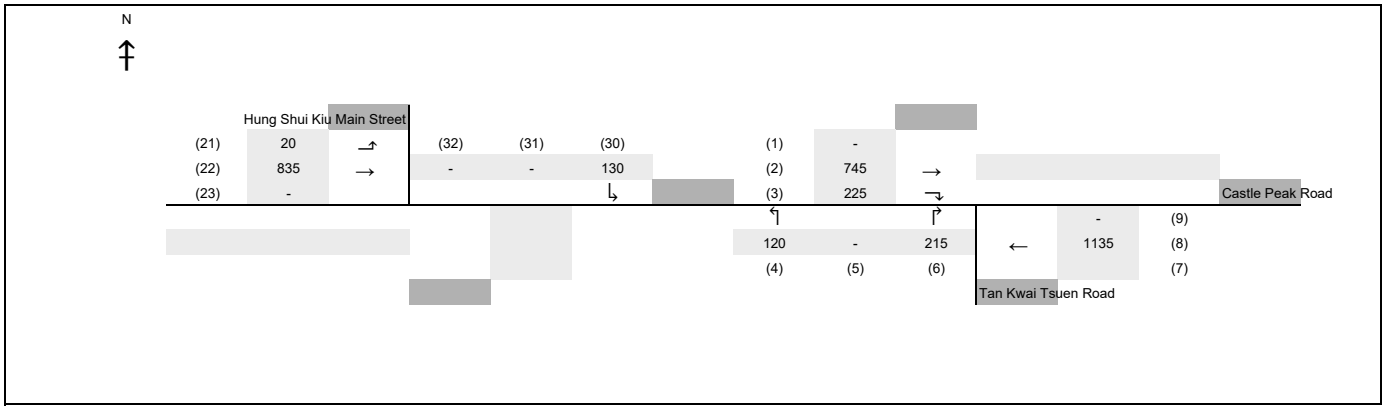
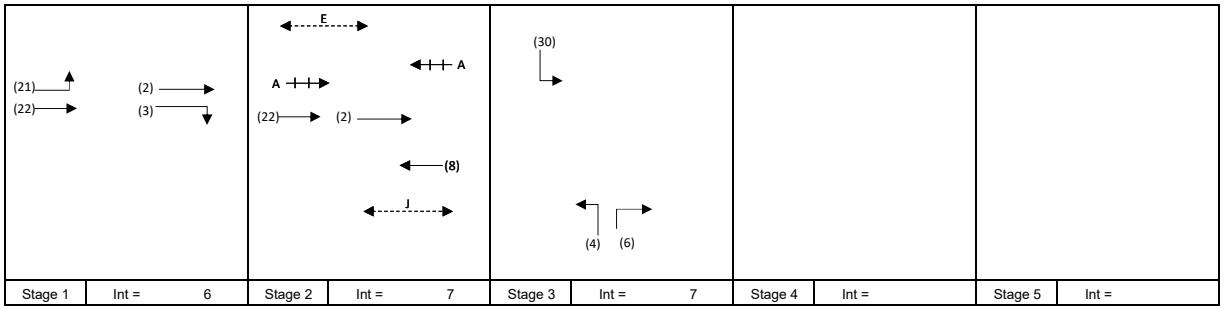
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J17_AM	PROJECT NO: 304204
J17 - Castle Peak Road/ Tan Kwai Tsuen Road/ Hung Shui Kiu Main Street	Year 2038 Reference Case (AM Peak)	DATE: 31-Dec-25	FILENAME:



No. of Stages per Cycle	N=	3
No. of Stage Using for Calculation	N=	3
Cycle Time	C=	120 sec
Sum(y)	Y=	0.561
Loss Time	L=	17 sec
Total Flow	=	3425 pcu
Co =(1.5*L+5)/(1-Y)	=	70 sec
Cm =L/(1-Y)	=	39 sec
Yult	=	0.773
R.C.ult =(Yult-Y)/Y*100%	=	37.6 %
Cp =0.9*L/(0.9-Y)	=	45.2 sec
Ymax =1-L/C	=	0.858
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	37.6 %



Stage 1	Int = 6	Stage 2	Int = 7	Stage 3	Int = 7	Stage 4	Int =	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2	J	7.00	5	2	6	47	2	6	OK
2	A (LRT)		6	6	6	43	6	6	OK
2	E	6.60	5	2	6	47	2	6	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				17				
																				0				
3	1	3.50	H	1	23			2105			225	225	1.00	1976		-	1976	0.114	0.114	0	21	21	0.654	32
21	1	3.70	B	1	7		N	1985	20			20	1.00	1635		-	1635	0.012			2	20	0.074	3
8	2	3.50	G	2				4210		1135		1135	0.00	4210		-	4210	0.270	0.270	0	49	49	0.654	28
2	1,2	3.50	I	2			N	4070		745		745	0.00	4070		-	4070	0.183			34	77	0.284	11
22	1,2	3.40	D	3				6285		835		835	0.00	6285		-	6285	0.133			24	75	0.212	6
30	3	3.60	C	1	14		N	1975	130			130	1.00	1784		-	1784	0.073	0.178	0	13	30	0.295	16
4,6	3	2.70	F	1	20			2025	120		215	335	1.00	1884		-	1884	0.178			33	33	0.654	41
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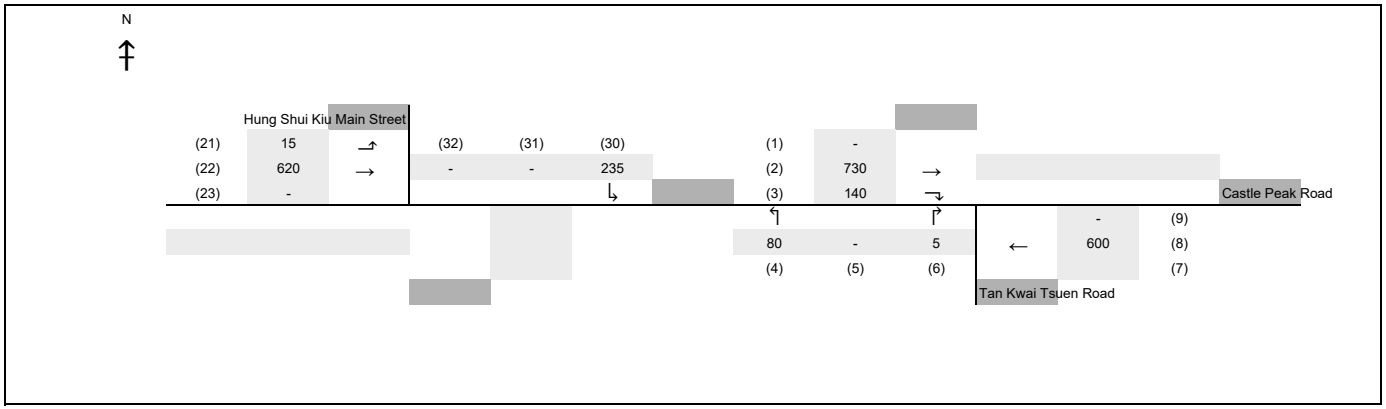
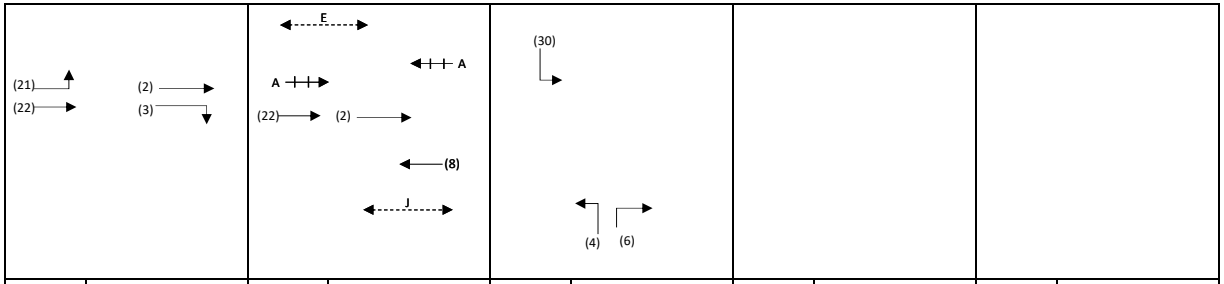
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J17_PM	PROJECT NO: 304204
J17 - Castle Peak Road/ Tan Kwai Tsuen Road/ Hung Shui Kiu Main Street	Year 2038 Reference Case (PM Peak)	DATE: 31-Dec-25	FILENAME:



No. of Stages per Cycle	N= 3
No. of Stage Using for Calculation	N= 3
Cycle Time	C= 120 sec
Sum(y)	Y= 0.345
Loss Time	L= 20 sec
Total Flow	= 2425 pcu
Co =(1.5*L+5)/(1-Y)	= 53 sec
Cm =L/(1-Y)	= 31 sec
Yult	= 0.750
R.C.ult =(Yult-Y)/Y*100%	= 117.3 %
Cp =0.9*L/(0.9-Y)	= 32.4 sec
Ymax =1-L/C	= 0.833
R.C.(C) =(0.9*Ymax-Y)/Y*100%	= 117.3 %



Stage 1	Int = 6	Stage 2	Int = 7	Stage 3	Int = 10	Stage 4	Int =	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2	J	7.00	5	2	6	39	2	6	OK
2	A (LRT)		6	6	6	35	6	6	OK
2	E	6.60	5	2	6	39	2	6	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				20				
																				0				
3	1	3.50	H	1	23			2105			140	140	1.00	1976		-	1976	0.071	0.071	0	21	21	0.414	19
21	1	3.70	B	1	7		N	1985	15			15	1.00	1635		-	1635	0.009			3	20	0.056	2
8	2	3.50	G	2				4210		600		600	0.00	4210		-	4210	0.143	0.143	0	41	41	0.414	16
2	1,2	3.50	I	2			N	4070		730		730	0.00	4070		-	4070	0.179			52	69	0.313	13
22	1,2	3.40	D	3				6285		620		620	0.00	6285		-	6285	0.099			29	67	0.177	5
30	3	3.60	C	1	14		N	1975	235			235	1.00	1784		-	1784	0.132	0.132	0	38	38	0.414	27
4,6	3	2.70	F	1	20			2025	80		5	85	1.00	1884		-	1884	0.045			13	41	0.132	9
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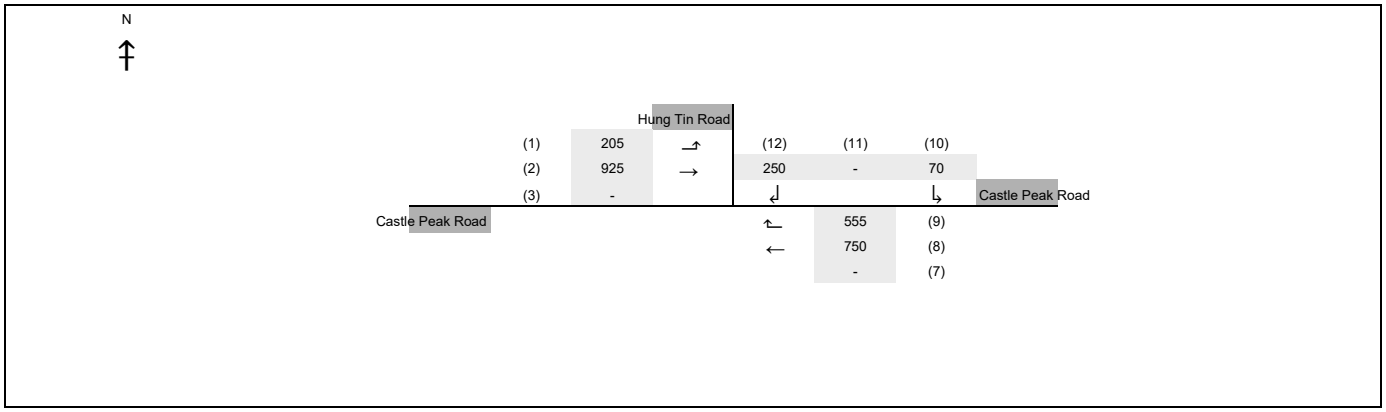
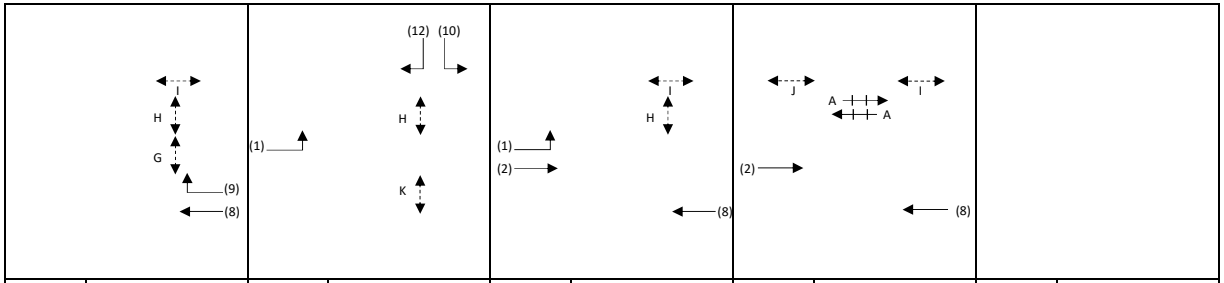
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J18_AM	PROJECT NO: 304204
J18 - Castle Peak Road/ Hung Tin Road	Year 2038 Reference Case (AM Peak)	DATE: 31-Dec-25	FILENAME:



No. of Stages per Cycle	N=	4
No. of Stage Using for Calculation	N=	3
Cycle Time	C=	90 sec
Sum(y)	Y=	0.563
Loss Time	L=	26 sec
Total Flow	=	2755 pcu
Co =(1.5*L+5)/(1-Y)	=	101 sec
Cm =L/(1-Y)	=	59 sec
Yult	=	0.705
R.C.ult =(Yult-Y)/Y*100%	=	25.3 %
Cp =0.9*L/(0.9-Y)	=	69.4 sec
Ymax =1-L/C	=	0.711
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	13.7 %



Stage 1	Int = 11	Stage 2	Int = 6	Stage 3	Int =	Stage 4	Int = 6	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	G	10.00	5	2	9	30	2	9	OK
1,2,3	H	10.00	5	3	9	48	3	9	OK
1,3,4	I	11.00	5	4	10	58	4	10	OK
4	J	14.00	6	5	12	13	5	12	OK
2	K	13.00	7	6	5	7	6	5	OK
4	A (LRT)		10	9	7	14	9	7	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				20				
																				0				
9	1	3.50	E	1	35			2105			555	555	1.00	2018		-	2018	0.275	0.275	0	31	31	0.791	49
8	1,3,4	3.20	D	2			N	4010		750		750	0.00	4010		-	4010	0.187			21	68	0.249	6
10	2	3.50	F	1	12		N	1965	70			70	1.00	1747		-	1747	0.040	0.065	6	5	13	0.270	7
10,12	2	3.50	F	1	15			2105	0		124	124	1.00	1914		-	1914	0.065			7	13	0.436	13
12	2	3.50	F	1	20			2105			126	126	1.00	1958		-	1958	0.064			7	13	0.433	13
1	2,3	3.20	C	1	18		N	1935	205			205	1.00	1786		-	1786	0.115			13	13	0.773	26
2	3,4	3.20	B	2				4150		925		925	0.00	4150		-	4150	0.223	0.223	0	25	25	0.791	22
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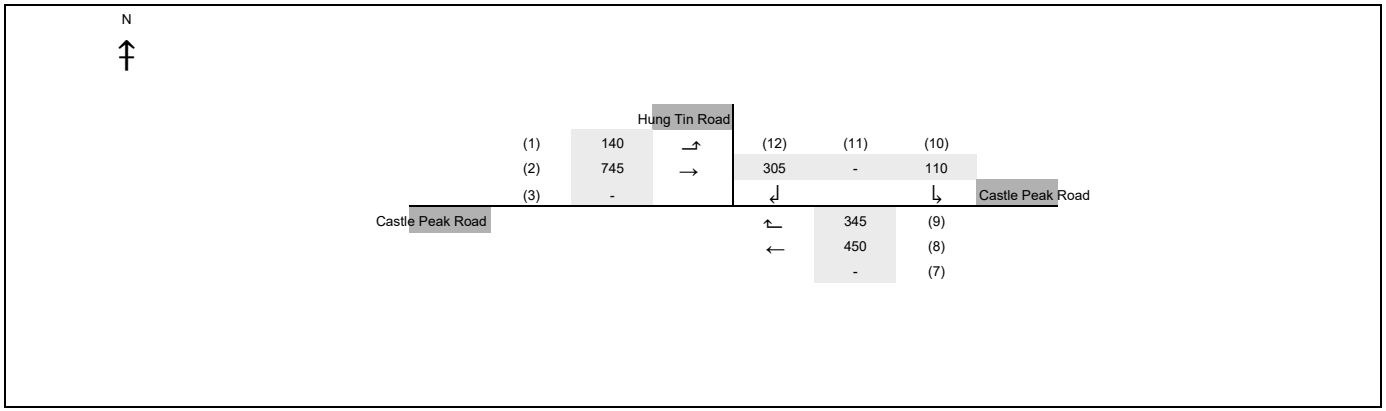
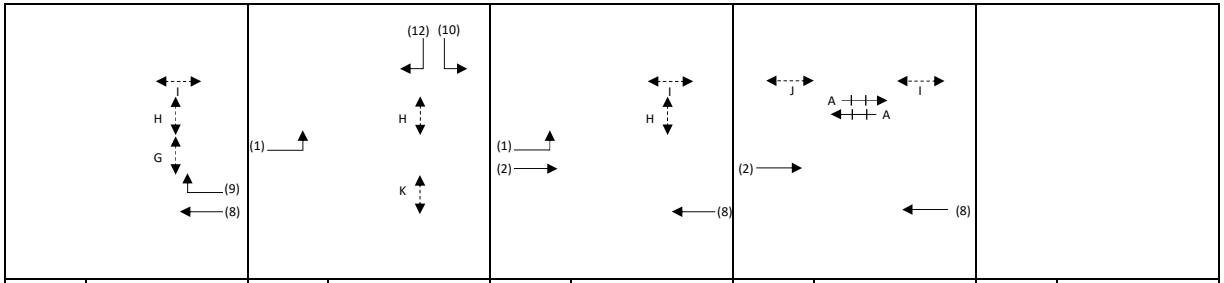
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J18_PM	PROJECT NO: 304204
J18 - Castle Peak Road/ Hung Tin Road	Year 2038 Reference Case (PM Peak)	DATE: 31-Dec-25	FILENAME:



No. of Stages per Cycle	N=	4
No. of Stage Using for Calculation	N=	3
Cycle Time	C=	90 sec
Sum(y)	Y=	0.429
Loss Time	L=	21 sec
Total Flow	=	2095 pcu
Co =(1.5*L+5)/(1-Y)	=	64 sec
Cm =L/(1-Y)	=	37 sec
Yult	=	0.743
R.C.ult =(Yult-Y)/Y*100%	=	72.9 %
Cp =0.9*L/(0.9-Y)	=	40.2 sec
Ymax =1-L/C	=	0.767
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	60.7 %



Stage 1	Int = 11	Stage 2	Int = 6	Stage 3	Int =	Stage 4	Int = 6	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	G	10.00	5	2	9	26	2	9	OK
1,2,3	H	10.00	5	3	9	44	3	9	OK
1,3,4	I	11.00	5	4	10	57	4	10	OK
4	J	14.00	6	5	12	17	5	12	OK
2	K	13.00	7	6	5	8	6	5	OK
4	A (LRT)		10	9	7	18	9	7	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				20				
																				0				
9	1	3.50	E	1	35			2105			345	345	1.00	2018		-	2018	0.171	0.171	0	27	27	0.560	30
8	1,3,4	3.20	D	2			N	4010		450		450	0.00	4010		-	4010	0.112			18	67	0.150	4
10	2	3.50	F	1	12		N	1965	110			110	1.00	1747		-	1747	0.063	0.079	1	10	14	0.414	12
10,12	2	3.50	F	1	15			2105	0		151	151	1.00	1914		-	1914	0.079			13	14	0.519	16
12	2	3.50	F	1	20			2105			154	154	1.00	1958		-	1958	0.079			13	14	0.517	16
1	2,3	3.20	C	1	18		N	1935	140			140	1.00	1786		-	1786	0.078			13	14	0.516	15
2	3,4	3.20	B	2				4150		745		745	0.00	4150		-	4150	0.180	0.180	0	29	29	0.560	16
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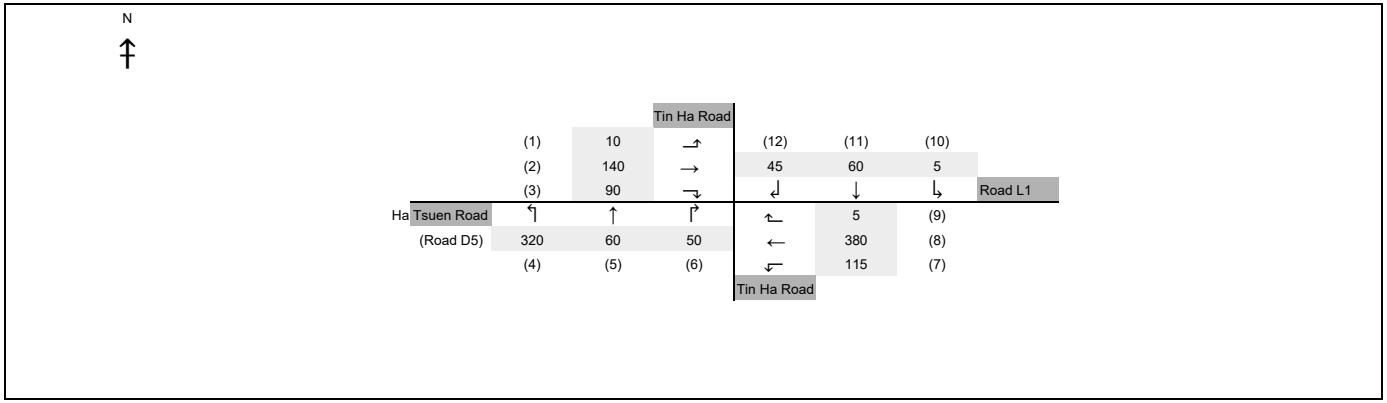
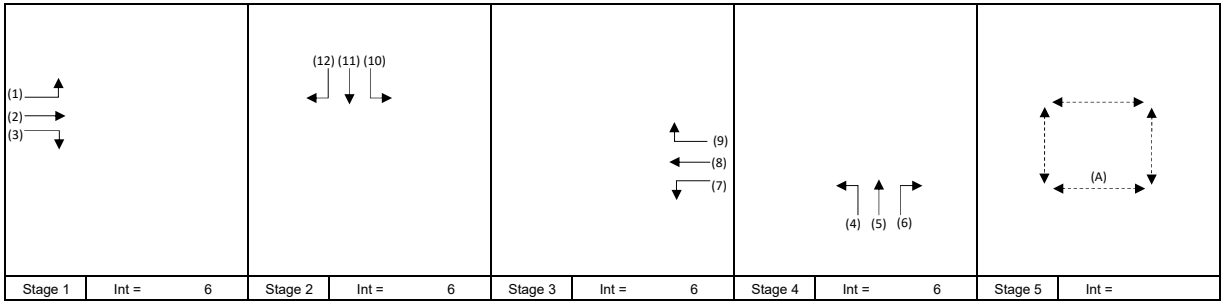
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J1_AM	PROJECT NO: 304204
J1 - Ha Tsuen Road/ Tin Ha Road	Year 2038 Design Case (AM Peak)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.466
Loss Time	L=	38 sec
Total Flow	=	1280 pcu
Co =(1.5*L+5)/(1-Y)	=	116 sec
Cm =L/(1-Y)	=	71 sec
Yult	=	0.615
R.C.ult =(Yult-Y)/Y*100%	=	31.9 %
Cp =0.9*L/(0.9-Y)	=	78.8 sec
Ymax =1-L/C	=	0.683
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	31.9 %



Stage 1	Int = 6	Stage 2	Int = 6	Stage 3	Int = 6	Stage 4	Int = 6	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	A	18.00	9	2	7	9	2	7	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S5	20 18				
1,2	1	3.65	A	1	18		N	1980	10	113		123	0.08	1967		-	1967	0.063	0.063	0	11	11	0.682	20
2,3	1	3.65	A	1	20		N	1980		27	90	117	0.77	1872		0	1872	0.063			11	11	0.682	0
10,11,12	2	3.60	B	1	15		N	1975	5	60	45	110	0.45	1889		-	1889	0.058	0.058	0	10	10	0.682	19
7,8	3	3.65	C	1	18		N	1980	115	122		237	0.49	1903		-	1903	0.125	0.125	0	22	22	0.682	33
8,9	3	3.65	C	1	20			2120		258	5	263	0.02	2117		-	2117	0.124			22	22	0.680	37
4,5,6	4	5.00	D	1	15		N	2115	320	60	50	430	0.86	1947		-	1947	0.221	0.221	0	39	39	0.682	48
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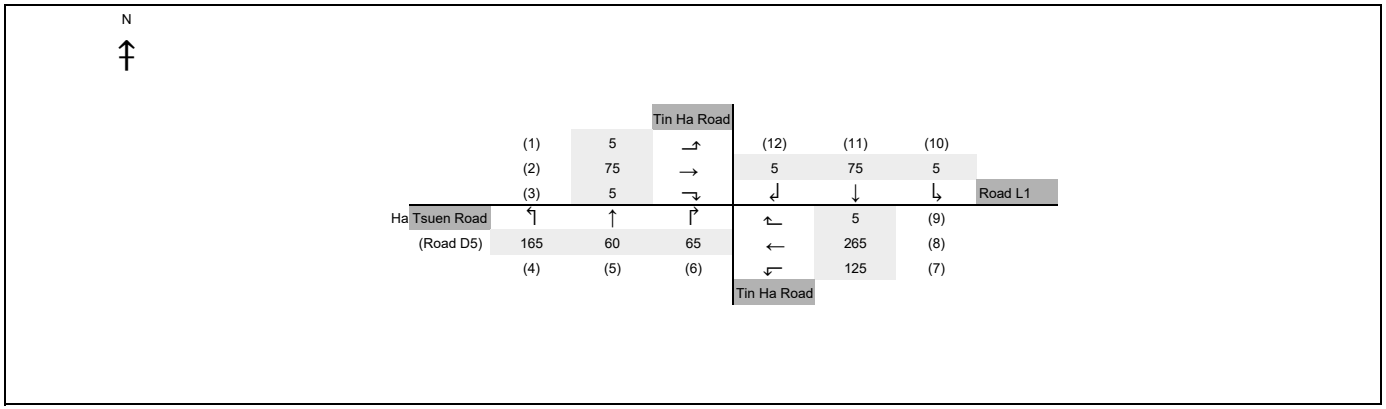
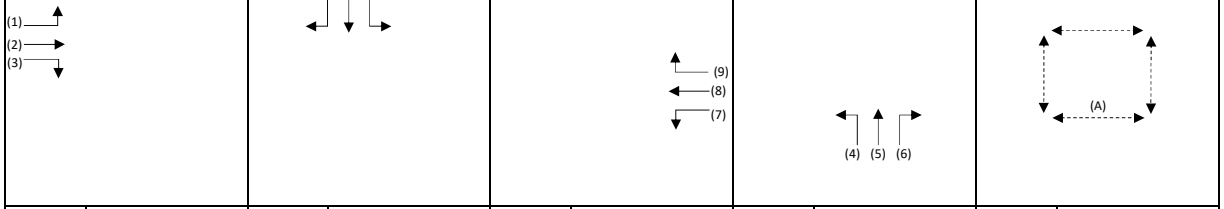
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J1_PM	PROJECT NO: 304204
J1 - Ha Tsuen Road/ Tin Ha Road	Year 2038 Design Case (PM Peak)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N= 5
No. of Stage Using for Calculation	N= 4
Cycle Time	C= 120 sec
Sum(y)	Y= 0.303
Loss Time	L= 38 sec
Total Flow	= 855 pcu
Co =(1.5*L+5)/(1-Y)	= 89 sec
Cm =L/(1-Y)	= 55 sec
Yult	= 0.615
R.C.ult =(Yult-Y)/Y*100%	= 102.7 %
Cp =0.9*L/(0.9-Y)	= 57.3 sec
Ymax =1-L/C	= 0.683
R.C.(C) =(0.9*Ymax-Y)/Y*100%	= 102.7 %

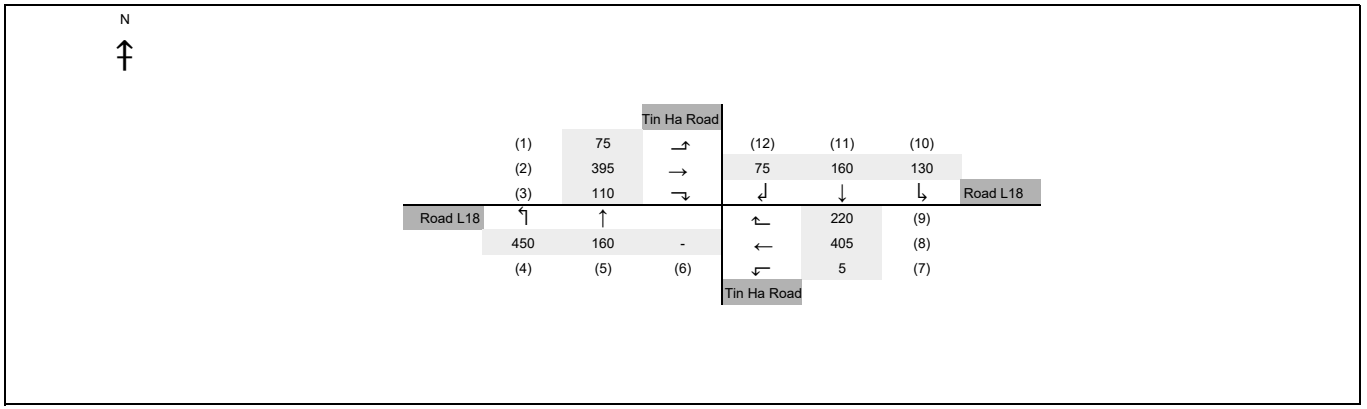


Stage 1	Int = 6	Stage 2	Int = 6	Stage 3	Int = 6	Stage 4	Int = 6	Stage 5	Int =

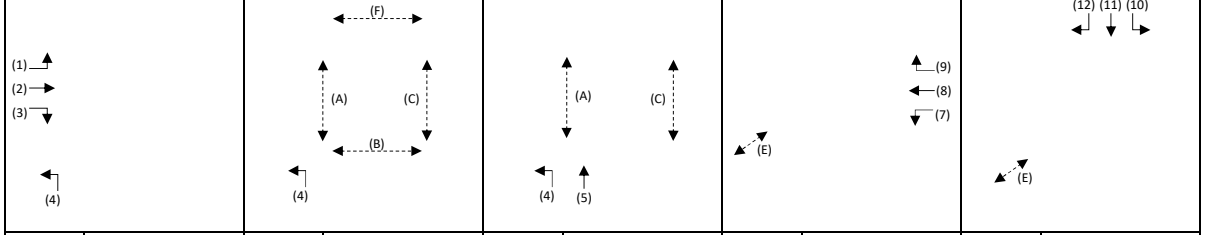
Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	A	18.00	9	2	7	9	2	7	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S5	20 18				
1,2	1	3.65	A	1	18		N	1980	5	38		43	0.12	1961		-	1961	0.022	0.022	0	6	6	0.444	7
2,3	1	3.65	A	1	20		N	1980		37	5	42	0.12	1962		-	1962	0.021			6	6	0.433	7
10,11,12	2	3.60	B	1	15		N	1975	5	75	5	85	0.12	1952		-	1952	0.044	0.044	0	12	12	0.444	13
7,8	3	3.65	C	1	18			2120	125	74		199	0.63	2015		-	2015	0.099	0.099	0	27	27	0.442	26
8,9	3	3.65	C	1	20		N	1980		191	5	196	0.03	1976		-	1976	0.099			27	27	0.444	25
4,5,6	4	5.00	D	1	15			2255	165	60	65	290	0.79	2089		-	2089	0.139	0.139	0	38	38	0.444	33
								-				-	-	-		-	-	-			-		-	-

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J2_AM	PROJECT NO: 304204
J2 - Road L18/ Tin Ha Road	Year 2038 Design Case (AM Peak)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N= 5
No. of Stage Using for Calculation	N= 3
Cycle Time	C= 120 sec
Sum(y)	Y= 0.507
Loss Time	L= 31 sec
Total Flow	= 2185 pcu
Co =(1.5*L+5)/(1-Y)	= 105 sec
Cm =L/(1-Y)	= 63 sec
Yult	= 0.668
R.C.ult =(Yult-Y)/Y*100%	= 31.6 %
Cp =0.9*L/(0.9-Y)	= 71.0 sec
Ymax =1-L/C	= 0.742
R.C.(C) =(0.9*Ymax-Y)/Y*100%	= 31.6 %



Stage 1	Int =	Stage 2	Int =	Stage 3	Int = 5	Stage 4	Int = 5	Stage 5	Int = 5

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2,3	A	11.00	10	0	8	29	0	8	OK
2	B	10.00	9	0	7	11	0	7	OK
2,3	C	11.00	10	0	8	29	0	8	OK
4,5	E	5.50	5	0	5	48	0	5	OK
2	F	11.00	10	0	8	10	0	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				120				
1,2	1	3.50	A	1	15		N	1965	75	206		281	0.27	1914		-	1914	0.147			26	26	0.678	37
2,3	1	3.50	A	1	15			2105		189	110	299	0.37	2030		-	2030	0.147			26	26	0.680	39
4	1,2,3	3.50	B	1	15		N	1965	450			450	1.00	1786		-	1786	0.252	0.252	19	44	63	0.478	36
5	3	3.50	E	1			N	1965		160		160	0.00	1965		-	1965	0.081			14	15	0.643	24
7,8	4	3.50	C	1	15		N	1965	5	310		315	0.02	1962		-	1962	0.161	0.161	0	28	28	0.684	40
8,9	4	3.50	C	1	15			2105		95	220	315	0.70	1968		-	1968	0.160			28	28	0.682	40
10,11	5	3.50	D	1	15		N	1965	130	43		173	0.75	1828		-	1828	0.095	0.095	0	17	17	0.683	26
11,12	5	3.50	D	1	15			2105		117	75	192	0.39	2026		-	2026	0.095			17	17	0.684	29
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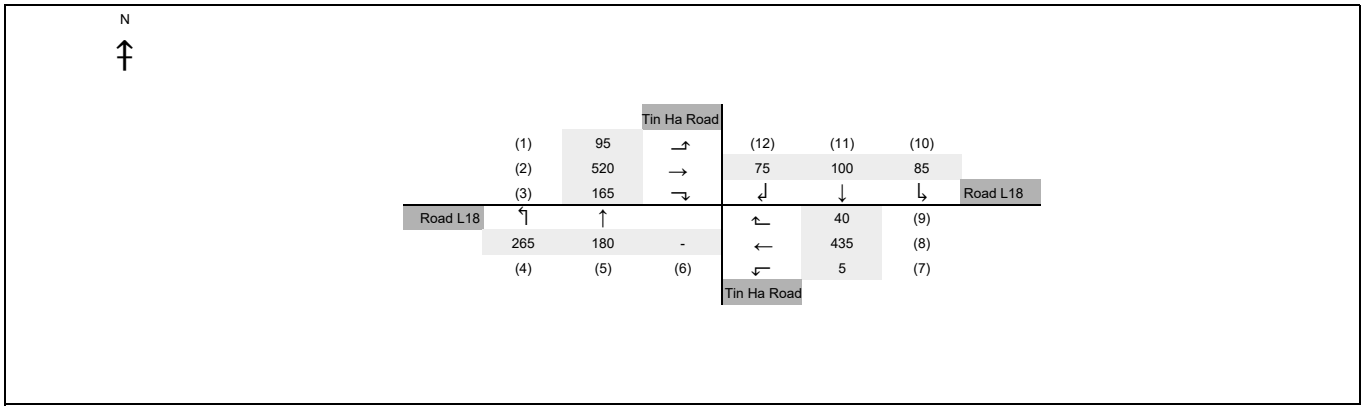
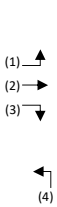
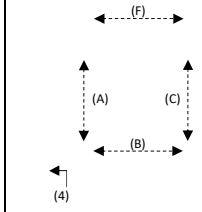
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J2_PM	PROJECT NO: 304204
J2 - Road L18/ Tin Ha Road	Year 2038 Design Case (PM Peak)	DATE: 08-Jan-26	FILENAME:



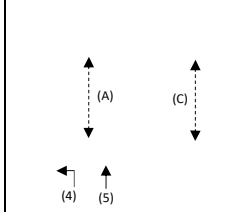
No. of Stages per Cycle	N= 5
No. of Stage Using for Calculation	N= 4
Cycle Time	C= 120 sec
Sum(y)	Y= 0.477
Loss Time	L= 34 sec
Total Flow	= 1965 pcu
Co =(1.5*L+5)/(1-Y)	= 107 sec
Cm =L/(1-Y)	= 65 sec
Yult	= 0.645
R.C.ult =(Yult-Y)/Y*100%	= 35.2 %
Cp =0.9*L/(0.9-Y)	= 72.3 sec
Ymax =1-L/C	= 0.717
R.C.(C) =(0.9*Ymax-Y)/Y*100%	= 35.2 %



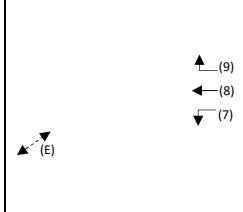
Stage 1 Int = 5



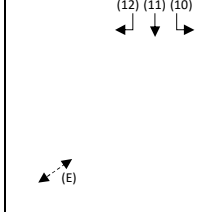
Stage 2 Int =



Stage 3 Int = 5



Stage 4 Int = 5



Stage 5 Int = 5

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2,3	A	11.00	10	0	8	31	0	8	OK
2	B	10.00	9	0	7	11	0	7	OK
2,3	C	11.00	10	0	8	31	0	8	OK
4,5	E	5.50	5	0	5	37	0	5	OK
2	F	11.00	10	0	8	10	0	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S2	16 18				
1,2	1	3.50	A	1	15		N	1965	95	285		380	0.25	1917		-	1917	0.198	0.198	0	36	36	0.666	44
2,3	1	3.50	A	1	15			2105		235	165	400	0.41	2022		-	2022	0.198			36	36	0.664	47
4	1,2,3	3.50	B	1	15		N	1965	265			265	1.00	1786		-	1786	0.148			27	74	0.240	17
5	3	3.50	E	1			N	1965		180		180	0.00	1965		-	1965	0.092	0.092	0	17	17	0.666	27
7,8	4	3.50	C	1	15		N	1965	5	228		233	0.02	1961		-	1961	0.119	0.119	0	21	21	0.663	32
8,9	4	3.50	C	1	15			2105		207	40	247	0.16	2071		-	2071	0.119			21	21	0.666	34
10,11	5	3.50	D	1	15		N	1965	85	40		125	0.68	1840		-	1840	0.068	0.068	0	12	12	0.666	20
11,12	5	3.50	D	1	15			2105		60	75	135	0.56	1994		-	1994	0.068			12	12	0.663	22
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
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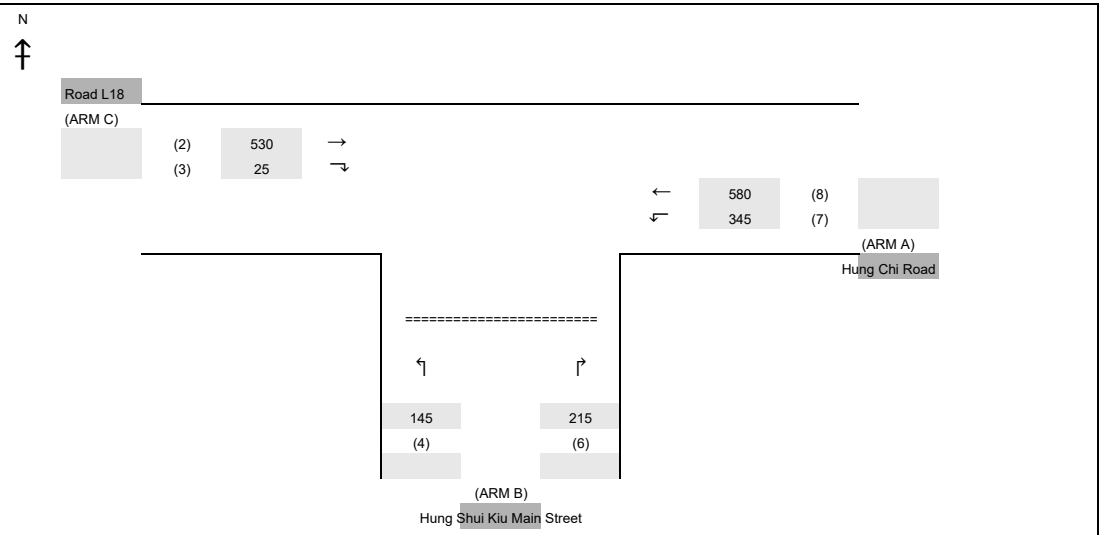
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION				
HSK Intensification Site		SHEET:	J3_AM	PROJECT NO:	304204
J3 - Hung Shui Kiu Main Street/ Hung Chi Road	Year 2038 Design Case (AM Peak)	DATE:	08-Jan-26	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.30	(metres)
W cr	=	0	(metres)
q a-b	=	345	(pcu/hr)
q a-c	=	580	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.10	(metres)
Vr c-b	=	21	(metres)
q c-a	=	530	(pcu/hr)
q c-b	=	25	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.90	(metres)
W b-c	=	4.90	(metres)
Vl b-a	=	82	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	80	(metres)
q b-a	=	215	(pcu/hr)
q b-c	=	145	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.033
E	=	1.077
F	=	1.035
Y	=	0.645

THE CAPACITY OF MOVEMENT :

Q b-a	=	385
Q b-c	=	621
Q c-b	=	546
Q b-ac	=	455
Q c-a	=	1718

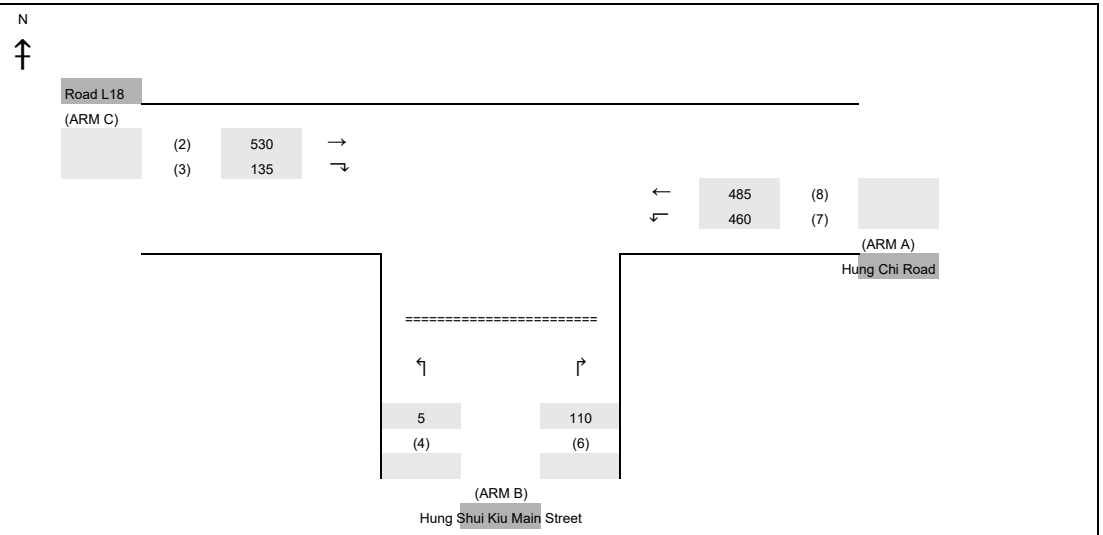
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.5584
DFC b-c	=	0.2335
DFC c-b	=	0.0458
DFC c-a	=	0.3086
DFC b-ca	=	0.7919

TOTAL FLOW = 1840 (PCU/HR)

CRITICAL DFC = 0.79

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION				
HSK Intensification Site		SHEET:	J3_PM	PROJECT NO:	304204
J3 - Hung Shui Kiu Main Street/ Hung Chi Road	Year 2038 Design Case (PM Peak)	DATE:	08-Jan-26	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.30	(metres)
W cr	=	0	(metres)
q a-b	=	460	(pcu/hr)
q a-c	=	485	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.10	(metres)
Vr c-b	=	21	(metres)
q c-a	=	530	(pcu/hr)
q c-b	=	135	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.90	(metres)
W b-c	=	4.90	(metres)
Vl b-a	=	82	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	80	(metres)
q b-a	=	110	(pcu/hr)
q b-c	=	5	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.033
E	=	1.077
F	=	1.035
Y	=	0.645

THE CAPACITY OF MOVEMENT :

Q b-a	=	359
Q b-c	=	634
Q c-b	=	542
Q b-ac	=	366
Q c-a	=	1352

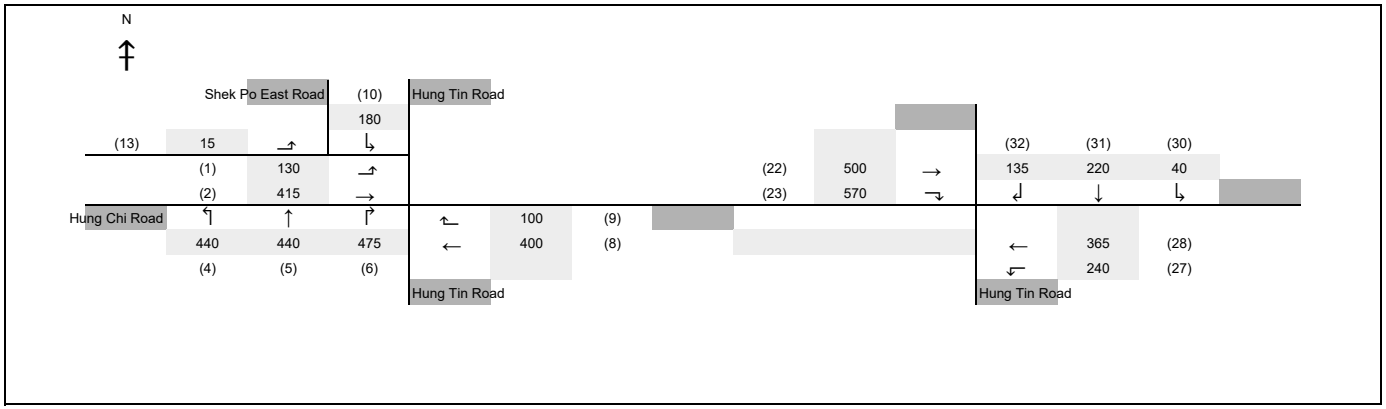
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.3064
DFC b-c	=	0.0079
DFC c-b	=	0.2491
DFC c-a	=	0.3921
DFC b-ca	=	0.3143

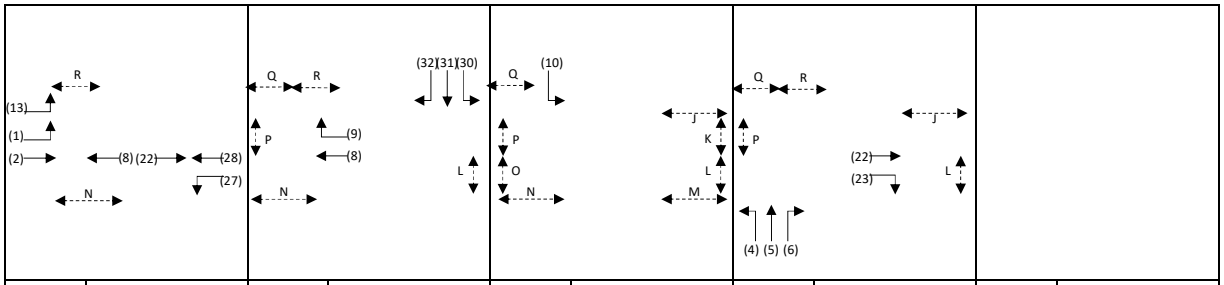
TOTAL FLOW = 1725 (PCU/HR)

CRITICAL DFC = 0.39

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J4_AM	PROJECT NO: 304204
J4 - Hung Tin Road/ Hung Chi Road	Year 2038 Design Case (AM Peak)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N=	4
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.576
Loss Time	L=	24 sec
Total Flow	=	4665 pcu
Co =(1.5*L+5)/(1-Y)	=	97 sec
Cm =L/(1-Y)	=	57 sec
Yult	=	0.720
R.C.ult =(Yult-Y)/Y*100%	=	25.0 %
Cp =0.9*L/(0.9-Y)	=	66.6 sec
Ymax =1-L/C	=	0.800
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	25.0 %

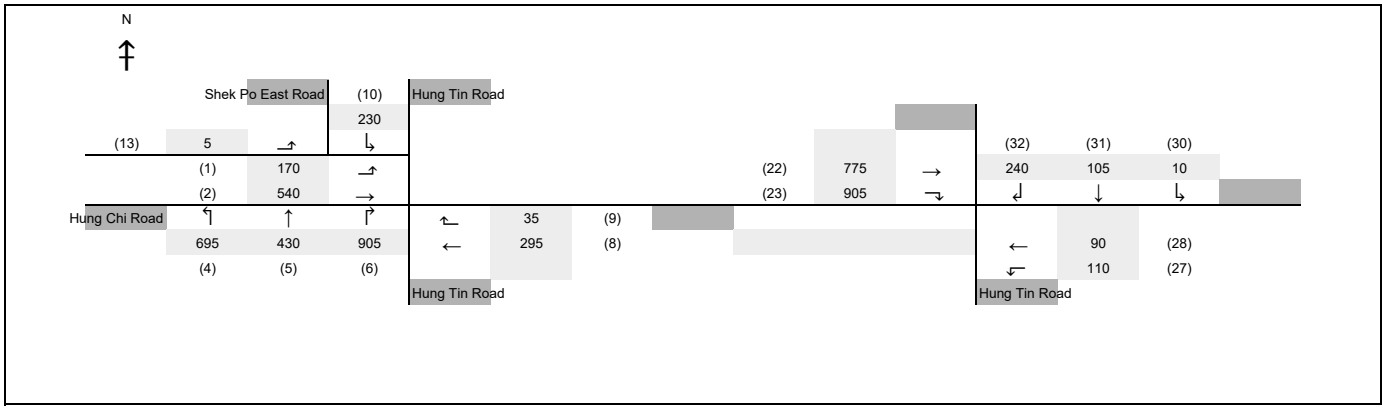


Stage 1	Int = 6	Stage 2	Int = 6	Stage 3	Int = 9	Stage 4	Int = 5	Stage 5	Int =

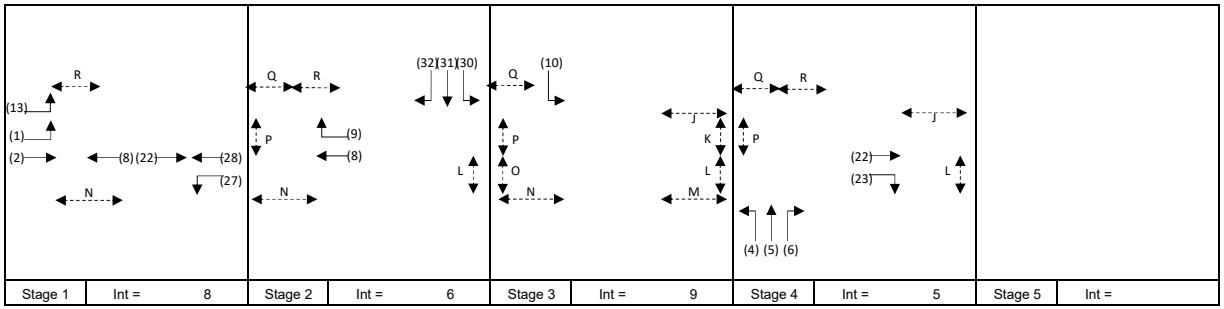
Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3,4	J	15.00	7	2	10	58	2	10	OK
3	K	9.00	6	3	6	17	3	6	OK
2,3,4	L	8.00	6	1	6	79	1	6	OK
3	M	13.00	7	4	14	8	4	14	OK
1,2,3	N	23.00	7	3	10	63	3	10	OK
3	O	8.00	6	3	6	17	3	6	OK
2,3,4	P	10.00	7	1	9	76	1	9	OK
2,3,4	Q	6.00	5	2	5	79	2	5	OK
1,2,4	R	6.00	5	2	5	87	2	5	OK
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				220				
22	1,4	3.50	A	1			N	1965		500		500	0.00	1965		-	1965	0.254			42	74	0.413	32
8	1,2	3.50	E	1			N	1965		400		400	0.00	1965		-	1965	0.204			34	43	0.565	43
28	1	3.50	D	1	15			2105		365		365	0.00	2105		-	2105	0.173	0.173	0	29	29	0.720	47
27	1	3.50	D	1	12		N	1965	240			240	1.00	1747		-	1747	0.137			23	29	0.570	30
13	1	3.30	H	1	60		N	1945	15			15	1.00	1898		-	1898	0.008			1	27	0.035	2
1,2	1	3.30	H	1	20		N	1945	130	37		167	0.78	1838		-	1838	0.091			15	27	0.405	22
2	1	3.30	H	2				4170		378		378	0.00	4170		-	4170	0.091			15	27	0.404	12
9	2	3.50	F	1	25			2105			100	100	1.00	1986		-	1986	0.050	0.068	0	8	11	0.533	15
30,31	2	3.50	C	1	10		N	1965	40	82		122	0.33	1873		-	1873	0.065			11	11	0.690	20
31	2	3.50	C	1				2105		138		138	0.00	2105		-	2105	0.066			11	11	0.694	23
32	2	3.50	C	1	25			2105			135	135	1.00	1986		-	1986	0.068			11	11	0.720	23
10	3	3.50	I	1	15			2105	180			180	1.00	1914		-	1914	0.094	0.094	2	16	18	0.638	26
4,5	4	3.50	G	1	10			2105	440	0		440	1.00	1830		-	1830	0.240	0.240	0	40	40	0.720	50
5,6	4	3.50	G	1	30			2105		440	29	469	0.06	2099		-	2099	0.223			37	40	0.669	52
6	4	3.50	G	1	28			2105			446	446	1.00	1998		-	1998	0.223			37	40	0.668	50
23	4	3.50	B	2	25			4210			570	570	1.00	3972		-	3972	0.144			24	40	0.430	16
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J4_PM	PROJECT NO: 304204
J4 - Hung Tin Road/ Hung Chi Road	Year 2038 Design Case (PM Peak)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N=	4
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.739
Loss Time	L=	26 sec
Total Flow	=	5540 pcu
Co =(1.5*L+5)/(1-Y)	=	169 sec
Cm =L/(1-Y)	=	100 sec
Yult	=	0.705
R.C.ult =(Yult-Y)/Y*100%	=	-4.6 %
Cp =0.9*L/(0.9-Y)	=	145.3 sec
Ymax =1-L/C	=	0.783
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	-4.6 %

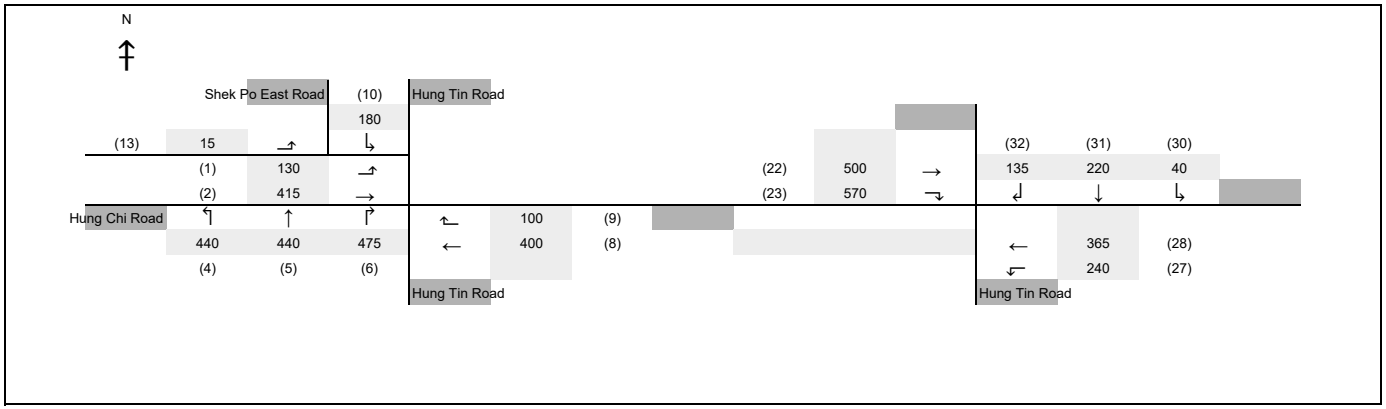


Stage 1	Int = 8	Stage 2	Int = 6	Stage 3	Int = 9	Stage 4	Int = 5	Stage 5	Int =

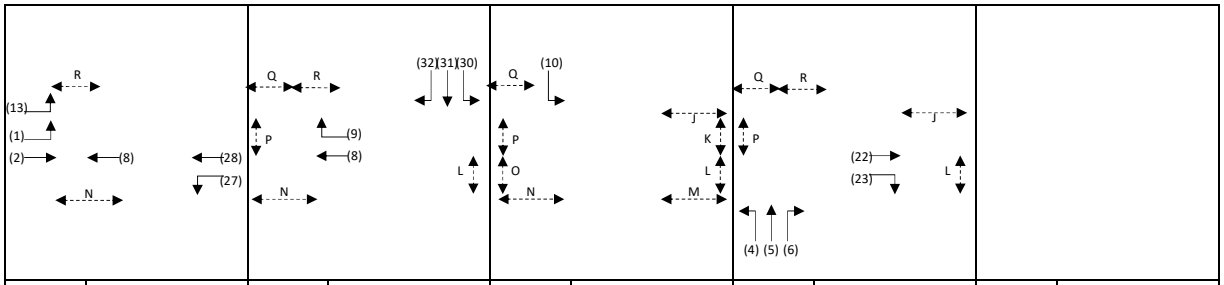
Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3,4	J	15.00	7	2	10	66	2	10	OK
3	K	9.00	6	3	6	16	3	6	OK
2,3,4	L	8.00	6	1	6	91	1	6	OK
3	M	13.00	7	4	14	7	4	14	OK
1,2,3	N	23.00	7	3	10	55	3	10	OK
3	O	8.00	6	3	6	16	3	6	OK
2,3,4	P	10.00	7	1	9	88	1	9	OK
2,3,4	Q	6.00	5	2	5	91	2	5	OK
1,2,4	R	6.00	5	2	5	88	2	5	OK
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				24 0				
22	1,4	3.50	A	1			N	1965		775		775	0.00	1965		-	1965	0.394			50	70	0.673	53
8	1,2	3.50	E	1			N	1965		295		295	0.00	1965		-	1965	0.150			19	35	0.509	35
28	1	3.50	D	1	15			2105		90		90	0.00	2105		-	2105	0.043	0.118	0	5	17	0.301	13
27	1	3.50	D	1	12		N	1965	110			110	1.00	1747		-	1747	0.063			8	17	0.444	16
13	1	3.30	H	1	60		N	1945	5			5	1.00	1898		-	1898	0.003			0	15	0.021	1
1,2	1	3.30	H	1	20		N	1945	170	47		217	0.78	1837		-	1837	0.118			15	15	0.943	72
2	1	3.30	H	2				4170		493		493	0.00	4170		-	4170	0.118			15	15	0.943	28
9	2	3.50	F	1	25			2105			35	35	1.00	1986		-	1986	0.018	0.121	0	2	15	0.138	5
30,31	2	3.50	C	1	10		N	1965	10	45		55	0.18	1913		-	1913	0.029			4	15	0.224	8
31	2	3.50	C	1				2105		60		60	0.00	2105		-	2105	0.029			4	15	0.222	9
32	2	3.50	C	1	25			2105			240	240	1.00	1986		-	1986	0.121			15	15	0.943	76
10	3	3.50	I	1	15			2105	230			230	1.00	1914		-	1914	0.120	0.120	2	15	17	0.834	41
4,5	4	3.50	G	1	10			2105	695	0		695	1.00	1830		-	1830	0.380	0.380	0	48	48	0.943	107
5,6	4	3.50	G	1	30			2105		430	249	679	0.37	2067		-	2067	0.328			42	48	0.816	73
6	4	3.50	G	1	28			2105			656	656	1.00	1998		-	1998	0.328			42	48	0.816	71
23	4	3.50	B	2	25			4210			905	905	1.00	3972		-	3972	0.228			29	48	0.566	23
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J4_imp_AM	PROJECT NO: 304204
J4 - Hung Tin Road/ Hung Chi Road	Year 2038 Design Case (AM Peak) (Improvement)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N= 4
No. of Stage Using for Calculation	N= 4
Cycle Time	C= 120 sec
Sum(y)	Y= 0.493
Loss Time	L= 22 sec
Total Flow	= 4665 pcu
Co =(1.5*L+5)/(1-Y)	= 75 sec
Cm =L/(1-Y)	= 43 sec
Yult	= 0.735
R.C.ult =(Yult-Y)/Y*100%	= 49.1 %
Cp =0.9*L/(0.9-Y)	= 48.7 sec
Ymax =1-L/C	= 0.817
R.C.(C) =(0.9*Ymax-Y)/Y*100%	= 49.1 %

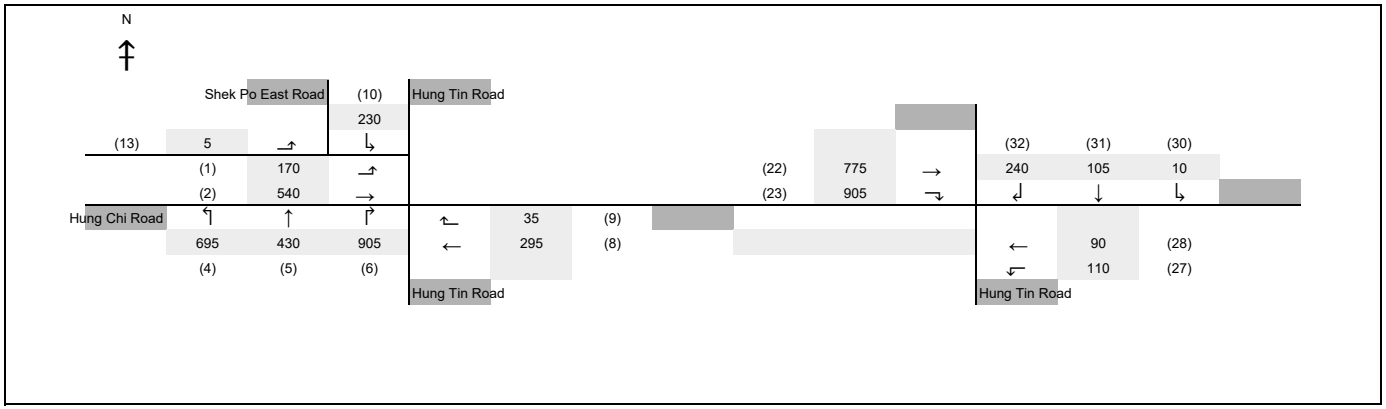


Stage 1	Int = 6	Stage 2	Int = 6	Stage 3	Int = 9	Stage 4	Int = 5	Stage 5	Int =

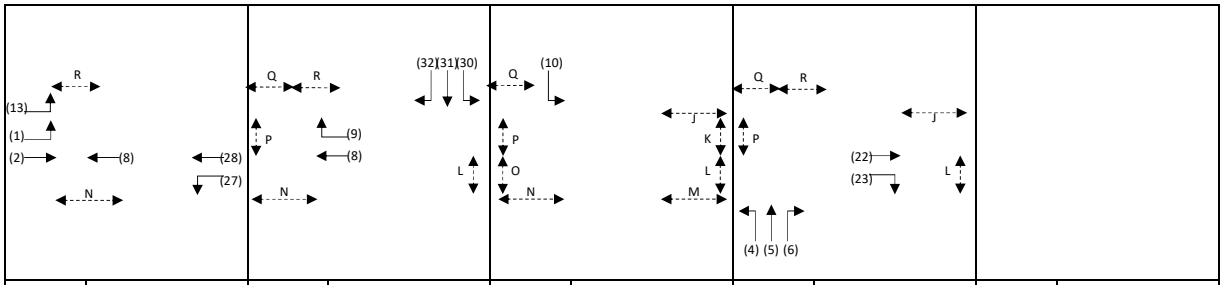
Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3,4	J	15.00	7	2	10	54	2	10	OK
3	K	9.00	6	3	6	18	3	6	OK
2,3,4	L	8.00	6	1	6	78	1	6	OK
3	M	13.00	7	4	14	9	4	14	OK
1,2,3	N	23.00	7	3	10	67	3	10	OK
3	O	8.00	6	3	6	18	3	6	OK
2,3,4	P	10.00	7	1	9	75	1	9	OK
2,3,4	Q	6.00	5	2	5	78	2	5	OK
1,2,4	R	6.00	5	2	5	86	2	5	OK
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				22 0				
8	1,2	3.50	E	1			N	1965		400		400	0.00	1965		-	1965	0.204			40	47	0.523	41
27,28	1	3.50	D	1	20		N	1965	240	43		283	0.85	1847		-	1847	0.153	0.153	0	30	30	0.604	35
28	1	3.50	D	1	20			2105		322		322	0.00	2105		-	2105	0.153			30	30	0.603	40
13	1	3.30	H	1	60		N	1945	15			15	1.00	1898		-	1898	0.008			2	28	0.033	2
1,2	1	3.30	H	1	20		N	1945	130	37		167	0.78	1838		-	1838	0.091			18	28	0.383	21
2	1	3.30	H	2				4170		378		378	0.00	4170		-	4170	0.091			18	28	0.382	12
9	2	3.50	F	1	25			2105			100	100	1.00	1986		-	1986	0.050	0.067	0	10	13	0.456	15
30,31	2	3.50	C	1	15		N	1965	40	87		127	0.31	1905		-	1905	0.067			13	13	0.604	20
31,32	2	3.50	C	1	20			2105		133	6	139	0.04	2098		-	2098	0.066			13	13	0.600	21
32	2	3.50	C	1	20			2105			129	129	1.00	1958		-	1958	0.066			13	13	0.597	20
10	3	3.50	I	1	15			2105	180			180	1.00	1914		-	1914	0.094	0.094	0	19	19	0.604	26
4	4	3.50	G	1	15		N	1965	310			310	1.00	1786		-	1786	0.174	0.179	0	34	36	0.585	36
4,5	4	3.50	G	1	15			2105	130	222		352	0.37	2030		-	2030	0.173			34	36	0.584	41
5,6	4	3.50	G	1	20			2105		218	136	354	0.38	2046		-	2046	0.173			34	36	0.583	41
6	4	3.50	G	1	20			2105			339	339	1.00	1958		-	1958	0.173			34	36	0.583	40
22	4	3.50	A	1			N	1965		352		352	0.00	1965		-	1965	0.179			36	36	0.604	41
22,23	4	3.50	A	1	25			2105		148	215	363	0.59	2033		-	2033	0.179			35	36	0.602	43
23	4	3.50	A	1	25			2105			355	355	1.00	1986		-	1986	0.179			36	36	0.602	42
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J4_imp_PM	PROJECT NO: 304204
J4 - Hung Tin Road/ Hung Chi Road	Year 2038 Design Case (PM Peak) (Improvement)	DATE: 08-Jan-26	FILENAME:



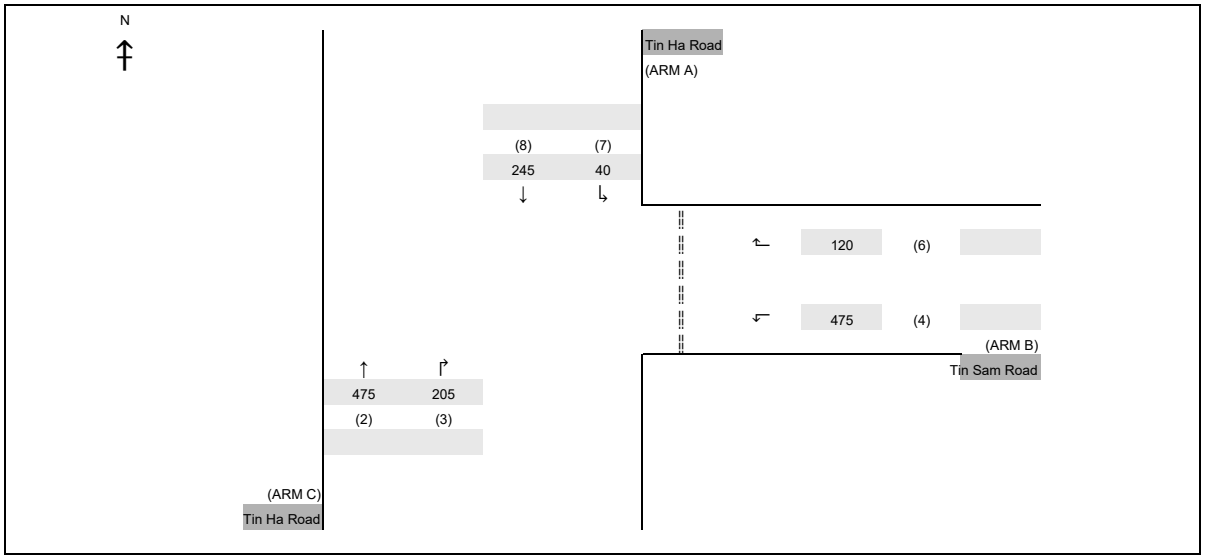
No. of Stages per Cycle	N=	4
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.581
Loss Time	L=	24 sec
Total Flow	=	5540 pcu
Co =(1.5*L+5)/(1-Y)	=	98 sec
Cm =L/(1-Y)	=	57 sec
Yult	=	0.720
R.C.ult =(Yult-Y)/Y*100%	=	24.0 %
Cp =0.9*L/(0.9-Y)	=	67.6 sec
Ymax =1-L/C	=	0.800
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	24.0 %



Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
3,4	J	15.00	7	2	10	66	2	10	OK
3	K	9.00	6	3	6	19	3	6	OK
2,3,4	L	8.00	6	1	6	86	1	6	OK
3	M	13.00	7	4	14	10	4	14	OK
1,2,3	N	23.00	7	3	10	57	3	10	OK
3	O	8.00	6	3	6	19	3	6	OK
2,3,4	P	10.00	7	1	9	83	1	9	OK
2,3,4	Q	6.00	5	2	5	86	2	5	OK
1,2,4	R	6.00	5	2	5	85	2	5	OK
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				24 0				
8	1,2	3.50	E	1			N	1965		295		295	0.00	1965		-	1965	0.150			25	35	0.520	35
27,28	1	3.50	D	1	20		N	1965	110	0		110	1.00	1828		-	1828	0.060	0.118	0	10	22	0.335	15
28	1	3.50	D	1	20			2105		90		90	0.00	2105		-	2105	0.043			7	22	0.238	12
13	1	3.30	H	1	60		N	1945	5			5	1.00	1898		-	1898	0.003			0	20	0.016	1
1,2	1	3.30	H	1	20		N	1945	170	47		217	0.78	1837		-	1837	0.118			20	20	0.725	32
2	1	3.30	H	2				4170		493		493	0.00	4170		-	4170	0.118			20	20	0.726	17
9	2	3.50	F	1	25			2105			35	35	1.00	1986		-	1986	0.018	0.061	0	3	10	0.209	5
30,31	2	3.50	C	1	15		N	1965	10	105		115	0.09	1948		-	1948	0.059			10	10	0.699	20
31,32	2	3.50	C	1	20			2105		0	120	120	1.00	1958		-	1958	0.061			10	10	0.726	21
32	2	3.50	C	1	20			2105			120	120	1.00	1958		-	1958	0.061			10	10	0.726	21
10	3	3.50	I	1	15			2105	230			230	1.00	1914		-	1914	0.120	0.120	0	20	20	0.726	34
4	4	3.50	G	1	15		N	1965	469			469	1.00	1786		-	1786	0.263	0.281	0	43	46	0.678	48
4,5	4	3.50	G	1	15			2105	226	303		529	0.43	2019		-	2019	0.262			43	46	0.677	54
5,6	4	3.50	G	1	20			2105		127	394	521	0.76	1992		-	1992	0.262			43	46	0.676	53
6	4	3.50	G	1	20			2105			511	511	1.00	1958		-	1958	0.261			43	46	0.674	52
22	4	3.50	A	1			N	1965		552		552	0.00	1965		-	1965	0.281			46	46	0.726	57
22,23	4	3.50	A	1	25			2105		223	347	570	0.61	2031		-	2031	0.281			46	46	0.725	59
23	4	3.50	A	1	25			2105			558	558	1.00	1986		-	1986	0.281			46	46	0.726	58
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
HSK Intensification Site		SHEET: J5_AM	PROJECT NO: 304204
J5 - Tin Ha Road/ Hung Shui Kiu Tin Sam Road	Year 2038 Design Case (AM Peak)	DATE: 08-Jan-26	FILENAME:



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	11.50	(metres)
W cr	=	0	(metres)
q a-b	=	40	(pcu/hr)
q a-c	=	245	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.40	(metres)
Vr c-b	=	100	(metres)
q c-a	=	475	(pcu/hr)
q c-b	=	205	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	6.00	(metres)
W b-c	=	6.00	(metres)
Vl b-a	=	45	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	50	(metres)
q b-a	=	120	(pcu/hr)
q b-c	=	475	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.103
E	=	1.144
F	=	0.959
Y	=	0.603

THE CAPACITY OF MOVEMENT :

Q b-a	=	485
Q b-c	=	787
Q c-b	=	654
Q b-ac	=	699
Q c-a	=	1236

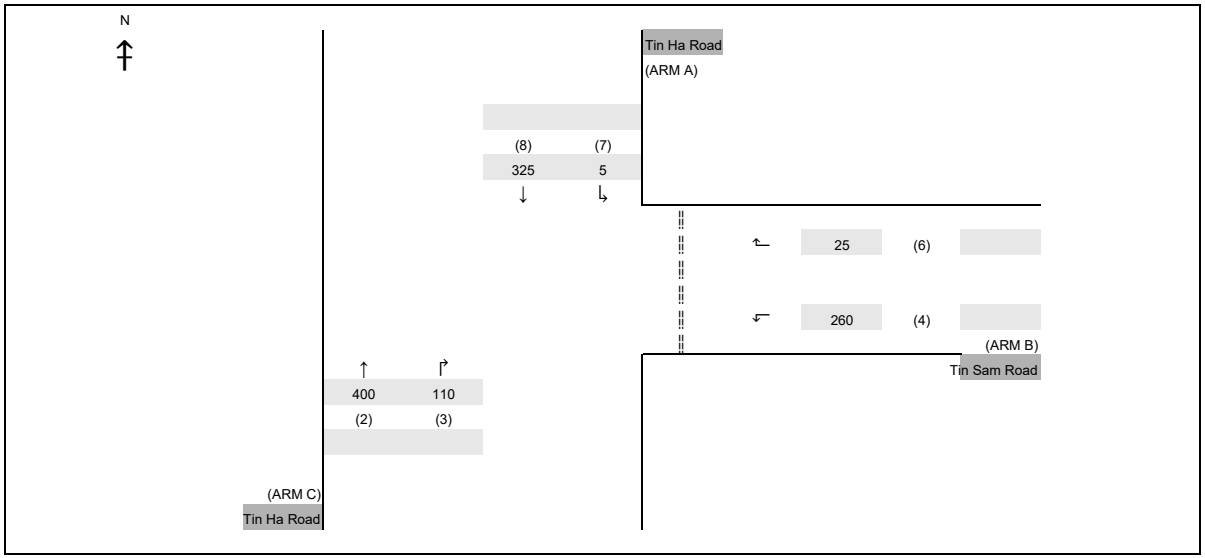
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.2474
DFC b-c	=	0.6036
DFC c-b	=	0.3135
DFC c-a	=	0.3844
DFC b-ca	=	0.8510

TOTAL FLOW = 1560 (PCU/HR)

CRITICAL DFC = 0.60

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION				
HSK Intensification Site		SHEET:	J5_PM	PROJECT NO:	304204
J5 - Tin Ha Road/ Hung Shui Kiu Tin Sam Road	Year 2038 Design Case (PM Peak)	DATE:	08-Jan-26	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	11.50	(metres)
W cr	=	0	(metres)
q a-b	=	5	(pcu/hr)
q a-c	=	325	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.40	(metres)
Vr c-b	=	100	(metres)
q c-a	=	400	(pcu/hr)
q c-b	=	110	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	6.00	(metres)
W b-c	=	6.00	(metres)
Vl b-a	=	45	(metres)
Vr b-a	=	80	(metres)
Vr b-c	=	50	(metres)
q b-a	=	25	(pcu/hr)
q b-c	=	260	(pcu/hr)

GEOMETRIC FACTORS :

D	=	1.103
E	=	1.144
F	=	0.959
Y	=	0.603

THE CAPACITY OF MOVEMENT :

Q b-a	=	513
Q b-c	=	770
Q c-b	=	645
Q b-ac	=	738
Q c-a	=	1493

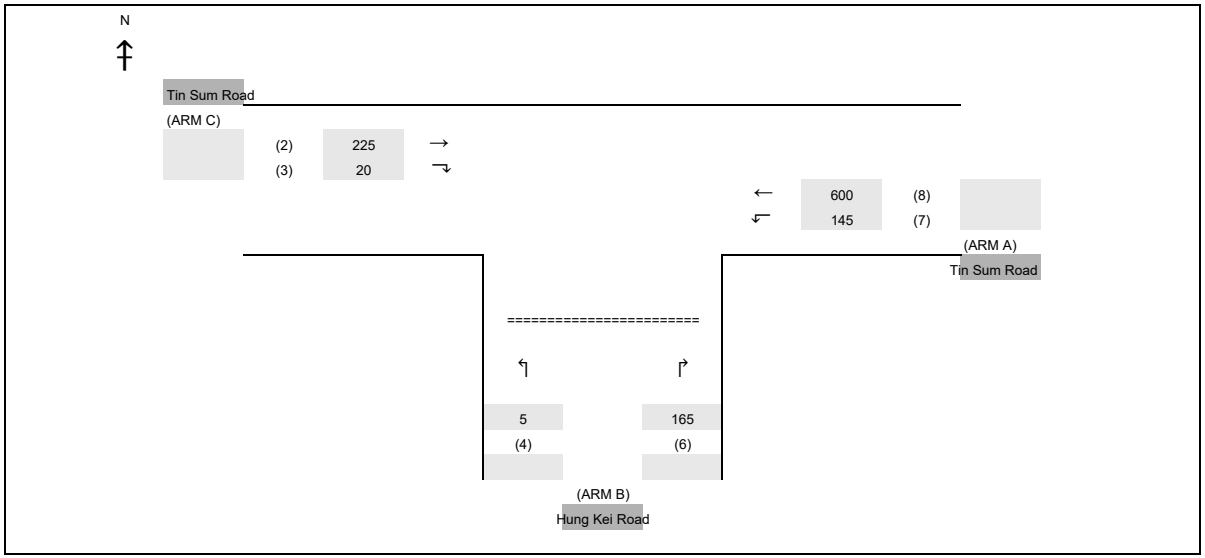
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0487
DFC b-c	=	0.3377
DFC c-b	=	0.1705
DFC c-a	=	0.2679
DFC b-ca	=	0.3864

TOTAL FLOW = 1125 (PCU/HR)

CRITICAL DFC = 0.34

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
HSK Intensification Site		SHEET: J6_AM	PROJECT NO: 304204
J6 - Hung Kei Road/ Hung Shui Kiu Tin Sam Road	Year 2038 Design Case (AM Peak)	DATE: 08-Jan-26	FILENAME:



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0	(metres)
q a-b	=	145	(pcu/hr)
q a-c	=	600	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.00	(metres)
Vr c-b	=	80	(metres)
q c-a	=	225	(pcu/hr)
q c-b	=	20	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.00	(metres)
W b-c	=	3.00	(metres)
Vl b-a	=	60	(metres)
Vr b-a	=	75	(metres)
Vr b-c	=	75	(metres)
q b-a	=	165	(pcu/hr)
q b-c	=	5	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.852
E	=	0.901
F	=	0.905
Y	=	0.655

THE CAPACITY OF MOVEMENT :

Q b-a	=	366
Q b-c	=	530
Q c-b	=	514
Q b-ac	=	369
Q c-a	=	1730

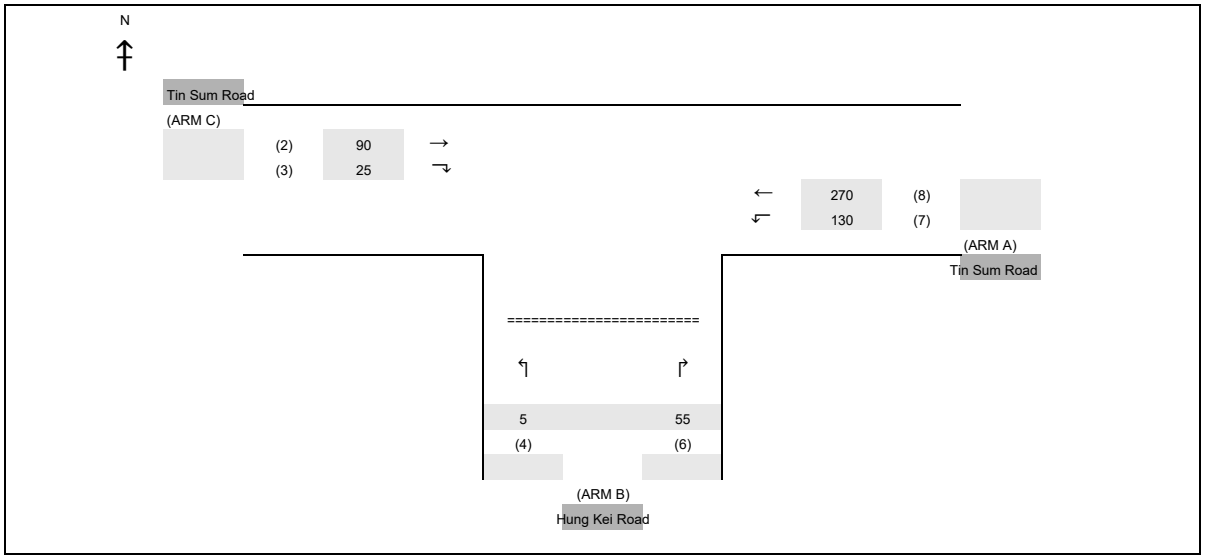
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.4508
DFC b-c	=	0.0094
DFC c-b	=	0.0389
DFC c-a	=	0.1301
DFC b-ca	=	0.4603

TOTAL FLOW = 1160 (PCU/HR)

CRITICAL DFC = 0.46

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION				
HSK Intensification Site		SHEET:	J6_PM	PROJECT NO:	304204
J6 - Hung Kei Road/ Hung Shui Kiu Tin Sam Road	Year 2038 Design Case (PM Peak)	DATE:	08-Jan-26	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0	(metres)
q a-b	=	130	(pcu/hr)
q a-c	=	270	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.00	(metres)
Vr c-b	=	80	(metres)
q c-a	=	90	(pcu/hr)
q c-b	=	25	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	3.00	(metres)
W b-c	=	3.00	(metres)
Vl b-a	=	60	(metres)
Vr b-a	=	75	(metres)
Vr b-c	=	75	(metres)
q b-a	=	55	(pcu/hr)
q b-c	=	5	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.852
E	=	0.901
F	=	0.905
Y	=	0.655

THE CAPACITY OF MOVEMENT :

Q b-a	=	450
Q b-c	=	602
Q c-b	=	588
Q b-ac	=	460
Q c-a	=	1723

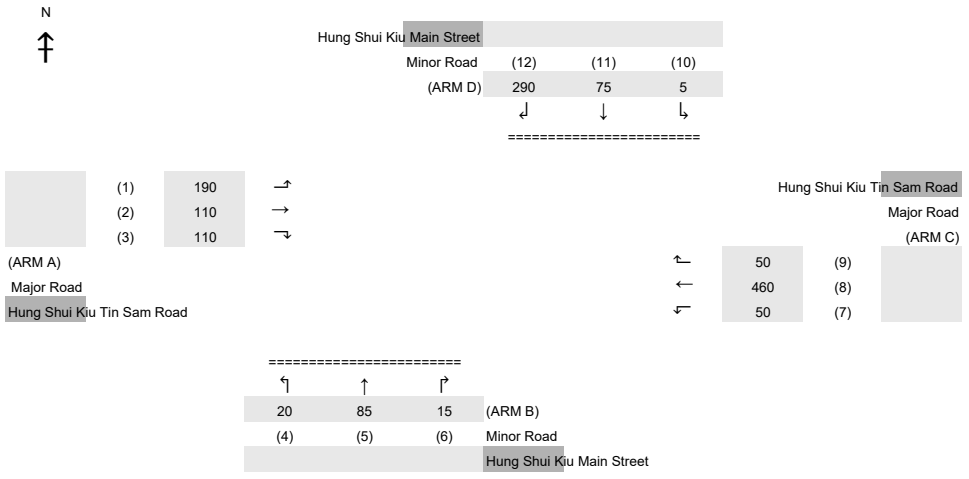
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.1222
DFC b-c	=	0.0083
DFC c-b	=	0.0425
DFC c-a	=	0.0522
DFC b-ca	=	0.1305

TOTAL FLOW = 575 (PCU/HR)

CRITICAL DFC = 0.13

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
HSK Intensification Site		SHEET: J7_AM	PROJECT NO: 304204
J7 - Hung Shui Kiu Tin Sam Road/ Hung Shui Kiu Main Street	Year 2038 Design Case (AM Peak)	DATE: 8-Jan-26	FILENAME:



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
X a	=	STREAM-SPECIFIC (RIGHT TURN FROM A)
X b	=	STREAM-SPECIFIC (RIGHT TURN FROM B)
Z b	=	STREAM-SPECIFIC (LEFT TURN FROM B)
M b	=	STREAM-SPECIFIC (STRAIGHT AHEAD FROM B - LEFT LANE)
Y	=	(1-0.0345W)
r b-a	=	RATIO OF FLOW TO CAPACITY IN STREAM b-a

GEOMETRIC DETAILS:

GENERAL

W	=	10.00	(metres)				
W cr	=	0	(metres)	Y	=	0.655	

MAJOR ROAD (ARM A)

W a-d	=	5.00	(metres)
Vr a-d	=	40	(metres)
q a-b	=	190	(pcu/hr)
q a-c	=	110	(pcu/hr)
q a-d	=	110	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.00	(metres)
Vr c-b	=	40	(metres)
q c-a	=	460	(pcu/hr)
q c-b	=	50	(pcu/hr)
q c-d	=	50	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.00	(metres)
W b-c	=	4.00	(metres)
Vl b-a	=	45	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	50	(metres)
q b-a	=	290	(pcu/hr)
q b-c	=	5	(pcu/hr)
q b-d	=	75	(pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	4.00	(metres)
W d-a	=	4.00	(metres)
Vl d-c	=	45	(metres)
Vr d-c	=	50	(metres)
Vr d-a	=	50	(metres)
q d-c	=	15	(pcu/hr)
q d-a	=	20	(pcu/hr)
q d-b	=	85	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.907	X a	=	1.046
X c	=	1.046	X d	=	0.907
Z b	=	0.968	Z d	=	0.968
M b	=	0.907	M d	=	0.907

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.81		r d-c	=	0.04	
ql b-d	=	68.05	(pcu/hr)	ql d-b	=	44.29	(pcu/hr)
qr b-d	=	6.95	(pcu/hr)	qr d-b	=	40.71	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	402	(pcu/hr)	Q d-c	=	356	(pcu/hr)
Q b-c	=	540	(pcu/hr)	Q d-a	=	604	(pcu/hr)
Q c-b	=	665	(pcu/hr)	Q a-d	=	634	(pcu/hr)
Ql b-d	=	420	(pcu/hr)	Ql d-b	=	379	(pcu/hr)
Qr b-d	=	420	(pcu/hr)	Qr d-b	=	379	(pcu/hr)

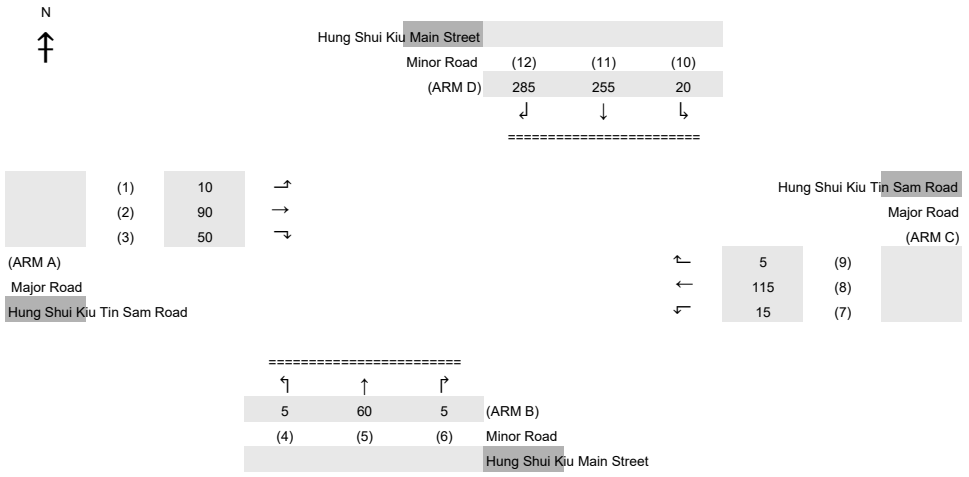
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.7214
DFC b-c	=	0.0093
DFC c-b	=	0.0752
DFCl b-d	=	0.1620
DFCr b-d	=	0.0166
DFC d-c	=	0.0421
DFC d-a	=	0.0331
DFC a-d	=	0.1735
DFCl d-b	=	0.1169
DFCr d-b	=	0.1074

TOTAL FLOW = 1460 (PCU/HR)

CRITICAL DFC = 0.72

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
HSK Intensification Site		SHEET: J7_PM	PROJECT NO: 304204
J7 - Hung Shui Kiu Tin Sam Road/ Hung Shui Kiu Main Street	Year 2038 Design Case (PM Peak)	DATE: 8-Jan-26	FILENAME:



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
X a	=	STREAM-SPECIFIC (RIGHT TURN FROM A)
X b	=	STREAM-SPECIFIC (RIGHT TURN FROM B)
Z b	=	STREAM-SPECIFIC (LEFT TURN FROM B)
M b	=	STREAM-SPECIFIC (STRAIGHT AHEAD FROM B - LEFT LANE)
Y	=	(1-0.0345W)
r b-a	=	RATIO OF FLOW TO CAPACITY IN STREAM b-a

GEOMETRIC DETAILS:

GENERAL

W	=	10.00	(metres)				
W cr	=	0	(metres)	Y	=	0.655	

MAJOR ROAD (ARM A)

W a-d	=	5.00	(metres)
Vr a-d	=	40	(metres)
q a-b	=	10	(pcu/hr)
q a-c	=	90	(pcu/hr)
q a-d	=	50	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	5.00	(metres)
Vr c-b	=	40	(metres)
q c-a	=	115	(pcu/hr)
q c-b	=	5	(pcu/hr)
q c-d	=	15	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.00	(metres)
W b-c	=	4.00	(metres)
Vl b-a	=	45	(metres)
Vr b-a	=	50	(metres)
Vr b-c	=	50	(metres)
q b-a	=	285	(pcu/hr)
q b-c	=	20	(pcu/hr)
q b-d	=	255	(pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	4.00	(metres)
W d-a	=	4.00	(metres)
Vl d-c	=	45	(metres)
Vr d-c	=	50	(metres)
Vr d-a	=	50	(metres)
q d-c	=	5	(pcu/hr)
q d-a	=	5	(pcu/hr)
q d-b	=	60	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.907	X a	=	1.046
X c	=	1.046	X d	=	0.907
Z b	=	0.968	Z d	=	0.968
M b	=	0.907	M d	=	0.907

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.67		r d-c	=	0.01		
ql b-d	=	213.40	(pcu/hr)	ql d-b	=	30.35	(pcu/hr)	
qr b-d	=	41.60	(pcu/hr)	qr d-b	=	29.65	(pcu/hr)	

CAPACITY OF MOVEMENT :

Q b-a	=	506	(pcu/hr)	Q d-c	=	423	(pcu/hr)	
Q b-c	=	582	(pcu/hr)	Q d-a	=	691	(pcu/hr)	
Q c-b	=	736	(pcu/hr)	Q a-d	=	745	(pcu/hr)	
Ql b-d	=	518	(pcu/hr)	Ql d-b	=	512	(pcu/hr)	
Qr b-d	=	518	(pcu/hr)	Qr d-b	=	512	(pcu/hr)	

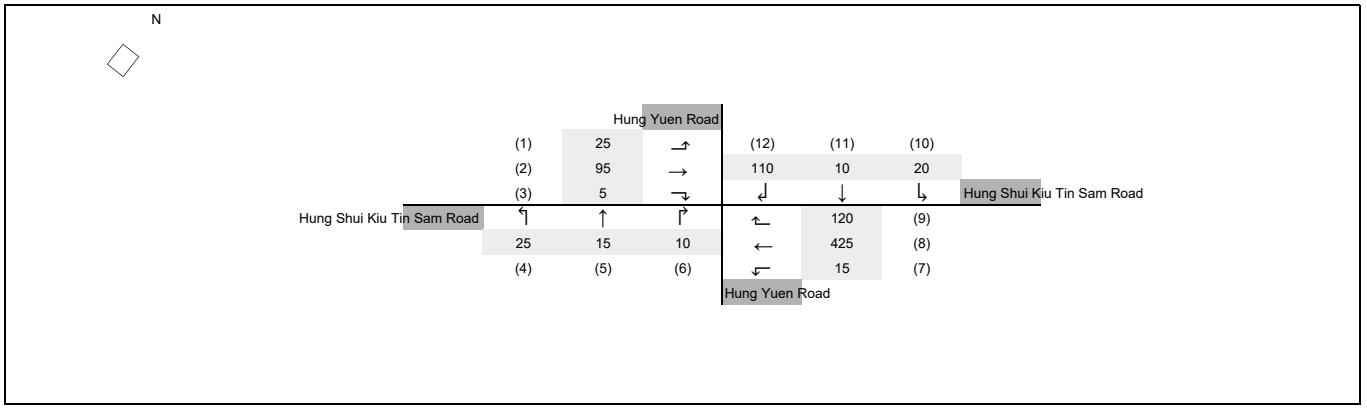
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.5632
DFC b-c	=	0.0344
DFC c-b	=	0.0068
DFCl b-d	=	0.4120
DFCr b-d	=	0.0803
DFC d-c	=	0.0118
DFC d-a	=	0.0072
DFC a-d	=	0.0671
DFCl d-b	=	0.0593
DFCr d-b	=	0.0579

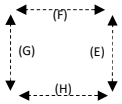
TOTAL FLOW = 915 (PCU/HR)

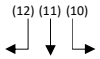
CRITICAL DFC = 0.56

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J8_AM	PROJECT NO: 304204
J8 - Tin Sam Road/ Hung Yuen Road	Year 2038 Design Case (AM Peak)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.395
Loss Time	L=	43 sec
Total Flow	=	875 pcu
Co =(1.5*L+5)/(1-Y)	=	115 sec
Cm =L/(1-Y)	=	71 sec
Yult	=	0.578
R.C.ult =(Yult-Y)/Y*100%	=	46.2 %
Cp =0.9*L/(0.9-Y)	=	76.6 sec
Ymax =1-L/C	=	0.642
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	46.2 %



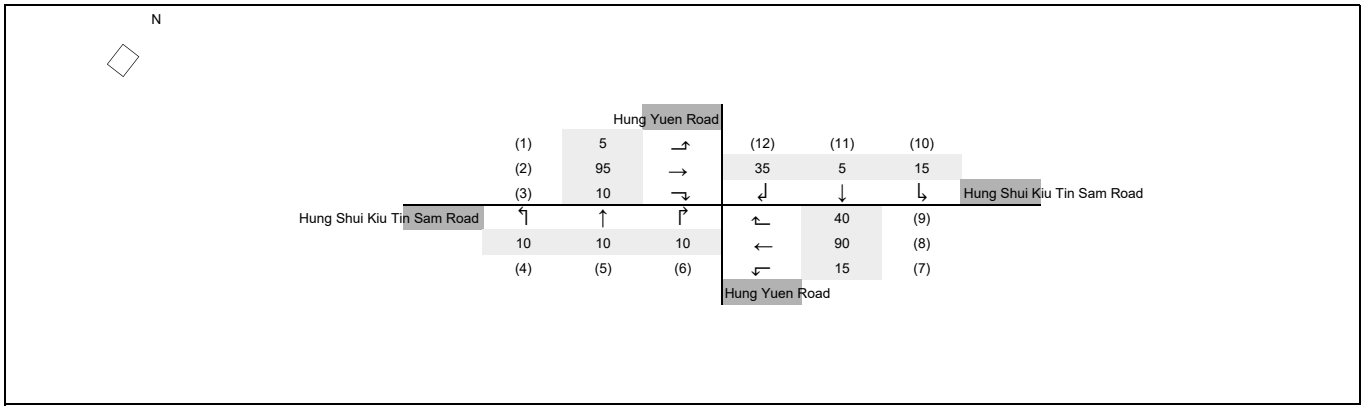


Stage 1	Int = 5	Stage 2	Int =	Stage 3	Int = 5	Stage 4	Int = 5	Stage 5	Int = 6

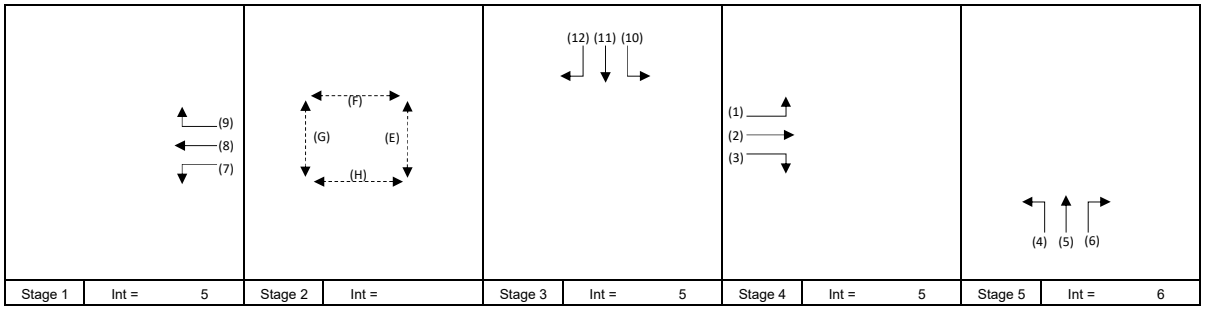
Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2	E	10.00	9	3	8	15	3	8	OK
2	F	9.00	9	10	7	9	10	7	OK
2	G	7.00	7	7	6	13	7	6	OK
2	H	7.00	8	6	6	14	6	6	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S2	17 26				
7,8	1	3.50	A	1	15		N	1965	15	425		440	0.03	1958		-	1958	0.225	0.225	0	44	44	0.615	47
9	1	3.50	A	1	15			2105			120	120	1.00	1914		-	1914	0.063			12	44	0.172	13
10,11,12	3	3.50	B	1	15		N	1965	20	10	110	140	0.93	1798		-	1798	0.078	0.078	0	15	15	0.615	21
1,2,3	4	3.50	C	1	15		N	1965	25	95	5	125	0.24	1919		-	1919	0.065	0.065	0	13	13	0.615	19
4,5,6	5	3.50	D	1	15		N	1965	25	15	10	50	0.70	1836		-	1836	0.027	0.027	0	5	5	0.615	9
								-				-	-	-		-	-	-			-		-	-

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J8_PM	PROJECT NO: 304204
J8 - Tin Sam Road/ Hung Yuen Road	Year 2038 Design Case (PM Peak)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.158
Loss Time	L=	43 sec
Total Flow	=	340 pcu
Co =(1.5*L+5)/(1-Y)	=	83 sec
Cm =L/(1-Y)	=	51 sec
Yult	=	0.578
R.C.ult =(Yult-Y)/Y*100%	=	266.1 %
Cp =0.9*L/(0.9-Y)	=	52.1 sec
Ymax =1-L/C	=	0.642
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	266.1 %

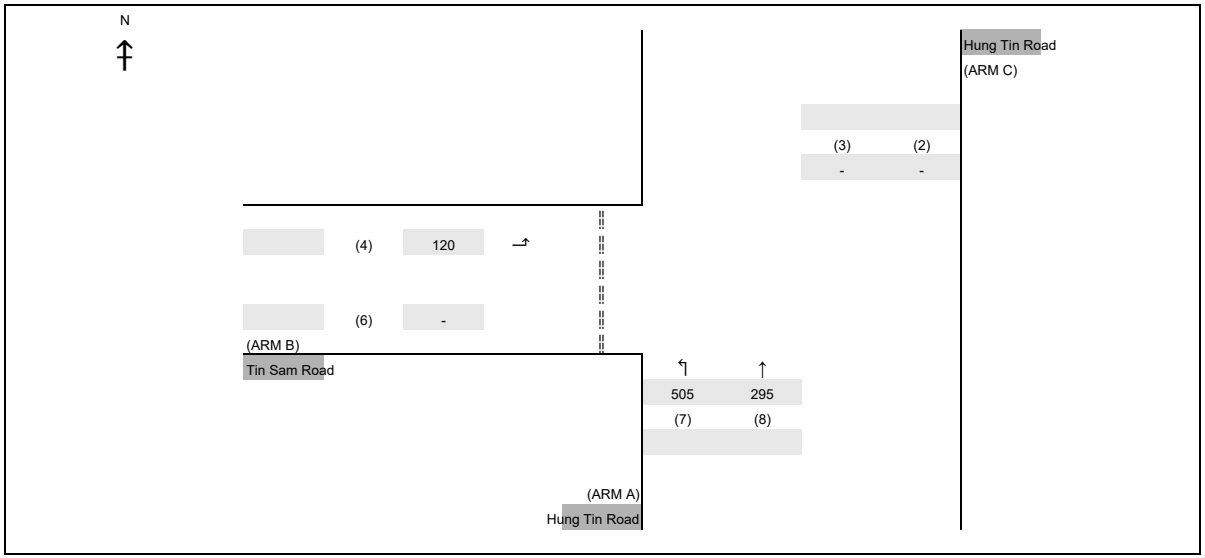


Stage 1	Int = 5	Stage 2	Int =	Stage 3	Int = 5	Stage 4	Int = 5	Stage 5	Int = 6

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2	E	10.00	9	3	8	15	3	8	OK
2	F	9.00	9	10	7	9	10	7	OK
2	G	7.00	7	7	6	13	7	6	OK
2	H	7.00	8	6	6	14	6	6	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S2	17 26				
7,8	1	3.50	A	1	15		N	1965	15	90		105	0.14	1937		-	1937	0.054	0.054	0	26	26	0.246	14
9	1	3.50	A	1	15			2105			40	40	1.00	1914		-	1914	0.021			10	26	0.095	5
10,11,12	3	3.50	B	1	15		N	1965	15	5	35	55	0.91	1801		-	1801	0.031	0.031	0	15	15	0.246	8
1,2,3	4	3.50	C	1	15		N	1965	5	95	10	110	0.14	1939		-	1939	0.057	0.057	0	28	28	0.246	14
4,5,6	5	3.50	D	1	15		N	1965	10	10	10	30	0.67	1842		-	1842	0.016	0.016	0	8	8	0.246	5
								-				-	-	-		-	-	-			-		-	-

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
HSK Intensification Site		SHEET: J9_AM	PROJECT NO: 304204
J9 - Tin Sam Road/ Hung Tin Road	Year 2038 Design Case (AM Peak)	DATE: 8-Jan-26	FILENAME:



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	505	(pcu/hr)
q a-c	=	295	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	0.00	(metres)
Vr c-b	=	0	(metres)
q c-a	=	0	(pcu/hr)
q c-b	=	0	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	7.30	(metres)
Vl b-a	=	150	(metres)
Vr b-a	=	150	(metres)
Vr b-c	=	150	(metres)
q b-a	=	0	(pcu/hr)
q b-c	=	120	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.675
E	=	1.379
F	=	0.586
Y	=	0.759

THE CAPACITY OF MOVEMENT :

Q b-a	=	331
Q b-c	=	839
Q c-b	=	307
Q b-ac	=	839
Q c-a	=	1800

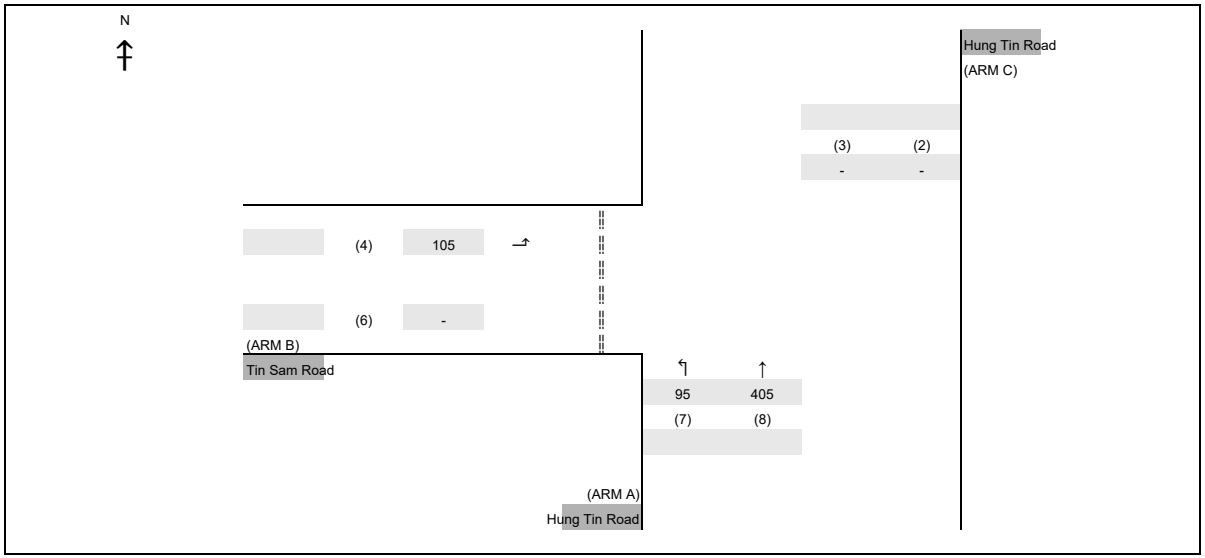
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1430
DFC c-b	=	0.0000
DFC c-a	=	0.0000
DFC b-ca	=	0.1430

TOTAL FLOW = 920 (PCU/HR)

CRITICAL DFC = 0.14

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION		
HSK Intensification Site		SHEET: J9_PM	PROJECT NO: 304204
J9 - Tin Sam Road/ Hung Tin Road	Year 2038 Design Case (PM Peak)	DATE: 8-Jan-26	FILENAME:



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH (6-20m) (minor road turn left only, 2W)
W cr	=	CENTRAL RESERVE WIDTH (0m, 1.2-9m)
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a (0m, 2.2-5m)
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c (2.2-5m)
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b (0m, 2.2-5m)
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a (0-250m)
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a (0-250)
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c (0-250)
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b (0-250)
D	=	STREAM-SPECIFIC B-A
E	=	STREAM-SPECIFIC B-C
F	=	STREAM-SPECIFIC C-B
Y	=	(1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	7.00	(metres)
W cr	=	0	(metres)
q a-b	=	95	(pcu/hr)
q a-c	=	405	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	0.00	(metres)
Vr c-b	=	0	(metres)
q c-a	=	0	(pcu/hr)
q c-b	=	0	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	7.30	(metres)
Vl b-a	=	150	(metres)
Vr b-a	=	150	(metres)
Vr b-c	=	150	(metres)
q b-a	=	0	(pcu/hr)
q b-c	=	105	(pcu/hr)

GEOMETRIC FACTORS :

D	=	0.675
E	=	1.379
F	=	0.586
Y	=	0.759

THE CAPACITY OF MOVEMENT :

Q b-a	=	341
Q b-c	=	859
Q c-b	=	356
Q b-ac	=	859
Q c-a	=	1800

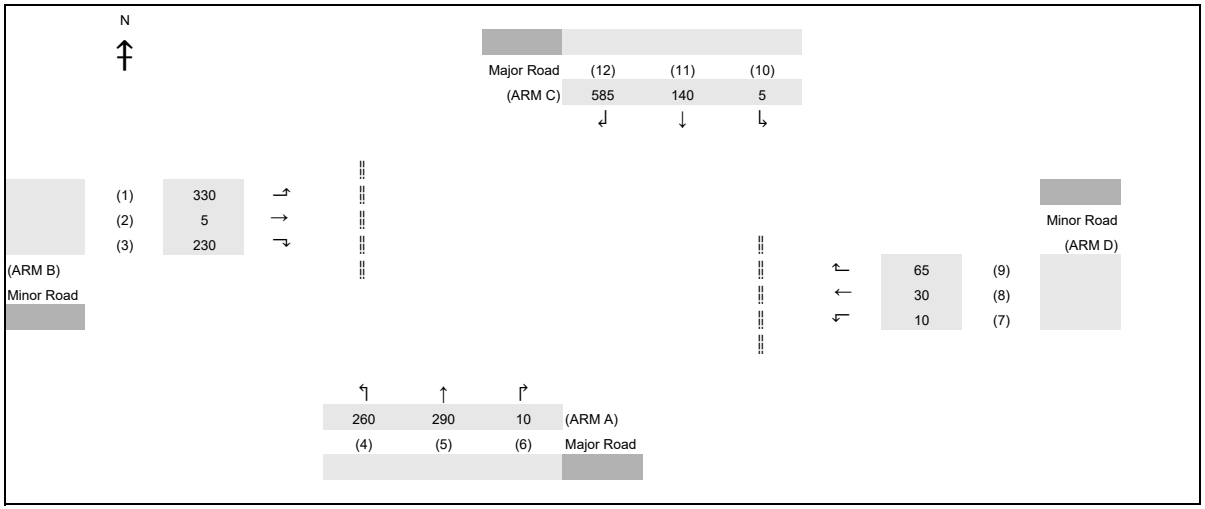
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.0000
DFC b-c	=	0.1222
DFC c-b	=	0.0000
DFC c-a	=	0.0000
DFC b-ca	=	0.1222

TOTAL FLOW = 605 (PCU/HR)

CRITICAL DFC = 0.12

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION				
HSK Intensification Site		SHEET:	J10_AM	PROJECT NO:	304204
J10 - Tin Ha Road/ Road L16/ Hung Leong Road	Year 2038 Design Case (AM Peak)	DATE:	08-Jan-26	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
X a	=	STREAM-SPECIFIC (RIGHT TURN FROM A)
X b	=	STREAM-SPECIFIC (RIGHT TURN FROM B)
Z b	=	STREAM-SPECIFIC (LEFT TURN FROM B)
M b	=	STREAM-SPECIFIC (STRAIGHT AHEAD FROM B - LEFT LANE)
Y	=	(1-0.0345W)
r b-a	=	RATIO OF FLOW TO CAPACITY IN STREAM b-a

GEOMETRIC DETAILS:

GENERAL

W	=	6.50	(metres)		
W cr	=	0	(metres)	Y =	0.77575

MAJOR ROAD (ARM A)

W a-d	=	3.50	(metres)
Vr a-d	=	30	(metres)
q a-b	=	260	(pcu/hr)
q a-c	=	290	(pcu/hr)
q a-d	=	10	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	60	(metres)
q c-a	=	140	(pcu/hr)
q c-b	=	585	(pcu/hr)
q c-d	=	5	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.30	(metres)
W b-c	=	4.30	(metres)
Vl b-a	=	45	(metres)
Vr b-a	=	45	(metres)
Vr b-c	=	45	(metres)
q b-a	=	230	(pcu/hr)
q b-c	=	330	(pcu/hr)
q b-d	=	5	(pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	2.75	(metres)
W d-a	=	2.75	(metres)
Vl d-c	=	70	(metres)
Vr d-c	=	45	(metres)
Vr d-a	=	45	(metres)
q d-c	=	65	(pcu/hr)
q d-a	=	10	(pcu/hr)
q d-b	=	30	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.927	X a	=	0.906
X c	=	0.915	X d	=	0.813
Z b	=	0.989	Z d	=	0.854
M b	=	0.927	M d	=	0.813

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	1.19		r d-c	=	0.34	
ql b-d	=	5.00	(pcu/hr)	ql d-b	=	20.03	(pcu/hr)
qr b-d	=	0.00	(pcu/hr)	qr d-b	=	9.97	(pcu/hr)

CAPACITY OF MOVEMENT :

Q b-a	=	215	(pcu/hr)	Q d-c	=	194	(pcu/hr)
Q b-c	=	471	(pcu/hr)	Q d-a	=	551	(pcu/hr)
Q c-b	=	536	(pcu/hr)	Q a-d	=	424	(pcu/hr)
Ql b-d	=	233	(pcu/hr)	Ql d-b	=	260	(pcu/hr)
Qr b-d	=	233	(pcu/hr)	Qr d-b	=	260	(pcu/hr)

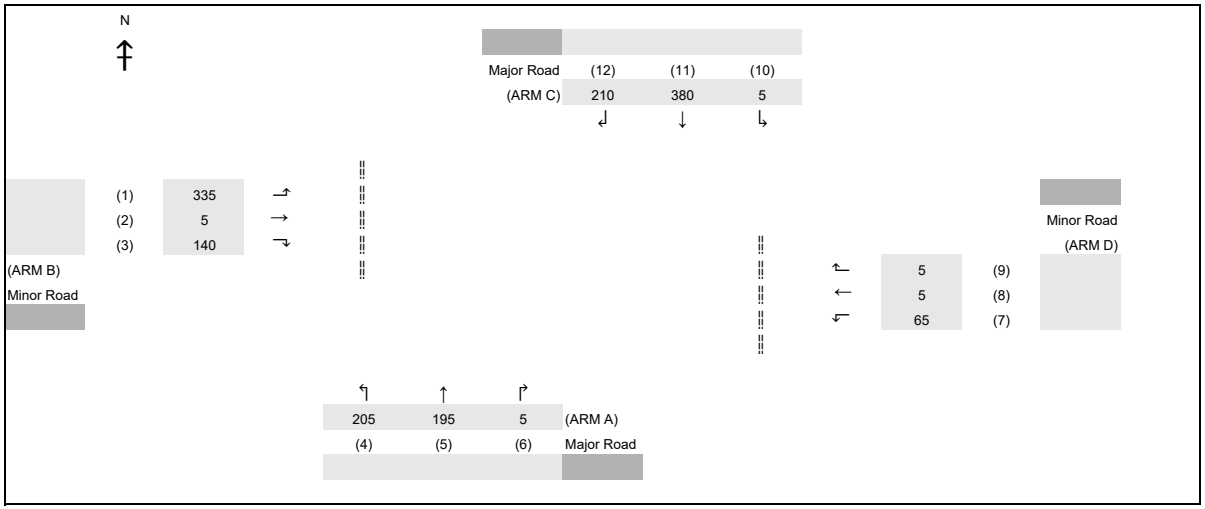
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	1.0698
DFC b-c	=	0.7006
DFC c-b	=	1.0914
DFCl b-d	=	0.0215
DFCr b-d	=	0.0000
DFC d-c	=	0.3351
DFC d-a	=	0.0181
DFC a-d	=	0.0236
DFCl d-b	=	0.0770
DFCr d-b	=	0.0384

TOTAL FLOW = 1960 (PCU/HR)

CRITICAL DFC = 1.09

OVE ARUP & PARTNERS	PRIORITY JUNCTION CALCULATION				
HSK Intensification Site		SHEET:	J10_PM	PROJECT NO:	304204
J10 - Tin Ha Road/ Road L16/ Hung Leong Road	Year 2038 Design Case (PM Peak)	DATE:	08-Jan-26	FILENAME:	



NOTES : (GEOMETRIC INPUT DATA)

W	=	MAJOR ROAD WIDTH
W cr	=	CENTRAL RESERVE WIDTH
W b-a	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-a
W b-c	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM b-c
W c-b	=	LANE WIDTH AVAILABLE TO VEHICLE WAITING IN STREAM c-b
Vl b-a	=	VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
Vr b-a	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
Vr b-c	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
Vr c-b	=	VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
X a	=	STREAM-SPECIFIC (RIGHT TURN FROM A)
X b	=	STREAM-SPECIFIC (RIGHT TURN FROM B)
Z b	=	STREAM-SPECIFIC (LEFT TURN FROM B)
M b	=	STREAM-SPECIFIC (STRAIGHT AHEAD FROM B - LEFT LANE)
Y	=	(1-0.0345W)
r b-a	=	RATIO OF FLOW TO CAPACITY IN STREAM b-a

GEOMETRIC DETAILS:

GENERAL

W	=	6.50	(metres)				
W cr	=	0	(metres)	Y	=	0.77575	

MAJOR ROAD (ARM A)

W a-d	=	3.50	(metres)
Vr a-d	=	30	(metres)
q a-b	=	205	(pcu/hr)
q a-c	=	195	(pcu/hr)
q a-d	=	5	(pcu/hr)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	60	(metres)
q c-a	=	380	(pcu/hr)
q c-b	=	210	(pcu/hr)
q c-d	=	5	(pcu/hr)

MINOR ROAD (ARM B)

W b-a	=	4.30	(metres)
W b-c	=	4.30	(metres)
Vl b-a	=	45	(metres)
Vr b-a	=	45	(metres)
Vr b-c	=	45	(metres)
q b-a	=	140	(pcu/hr)
q b-c	=	335	(pcu/hr)
q b-d	=	5	(pcu/hr)

MINOR ROAD (ARM D)

W d-c	=	2.75	(metres)
W d-a	=	2.75	(metres)
Vl d-c	=	70	(metres)
Vr d-c	=	45	(metres)
Vr d-a	=	45	(metres)
q d-c	=	5	(pcu/hr)
q d-a	=	65	(pcu/hr)
q d-b	=	5	(pcu/hr)

GEOMETRIC FACTORS :

X b	=	0.927	X a	=	0.906
X c	=	0.915	X d	=	0.813
Z b	=	0.989	Z d	=	0.854
M b	=	0.927	M d	=	0.813

PROPORTION OF MINOR STRAIGHT AHEAD TRAFFIC :

r b-a	=	0.56		r d-c	=	0.02		
ql b-d	=	3.90	(pcu/hr)	ql d-b	=	2.55	(pcu/hr)	
qr b-d	=	1.10	(pcu/hr)	qr d-b	=	2.45	(pcu/hr)	

CAPACITY OF MOVEMENT :

Q b-a	=	348	(pcu/hr)	Q d-c	=	250	(pcu/hr)	
Q b-c	=	568	(pcu/hr)	Q d-a	=	541	(pcu/hr)	
Q c-b	=	576	(pcu/hr)	Q a-d	=	500	(pcu/hr)	
Ql b-d	=	366	(pcu/hr)	Ql d-b	=	314	(pcu/hr)	
Qr b-d	=	366	(pcu/hr)	Qr d-b	=	314	(pcu/hr)	

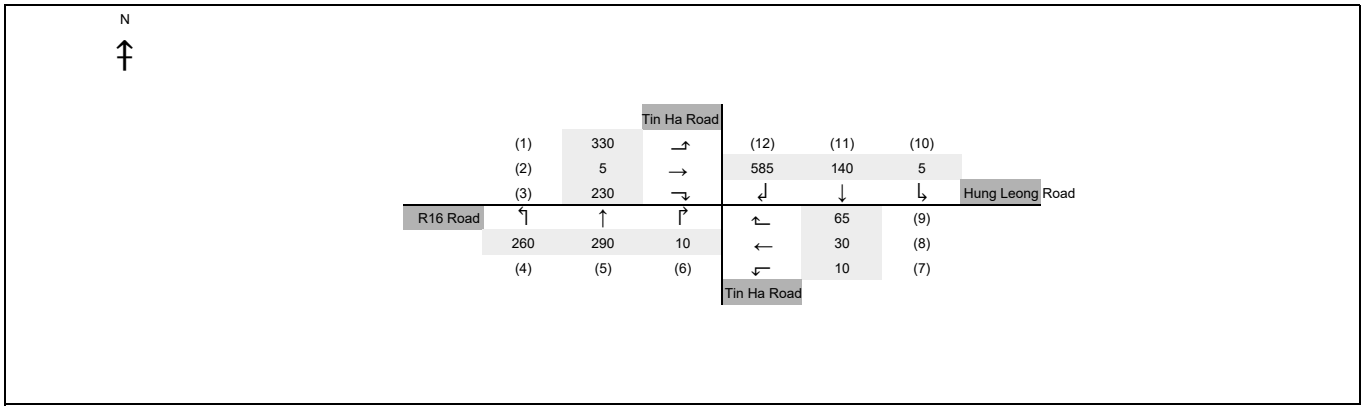
COMPARISION OF DESIGN FLOW TO CAPACITY:

DFC b-a	=	0.4023
DFC b-c	=	0.5898
DFC c-b	=	0.3646
DFCl b-d	=	0.0107
DFCr b-d	=	0.0030
DFC d-c	=	0.0200
DFC d-a	=	0.1201
DFC a-d	=	0.0100
DFCl d-b	=	0.0081
DFCr d-b	=	0.0078

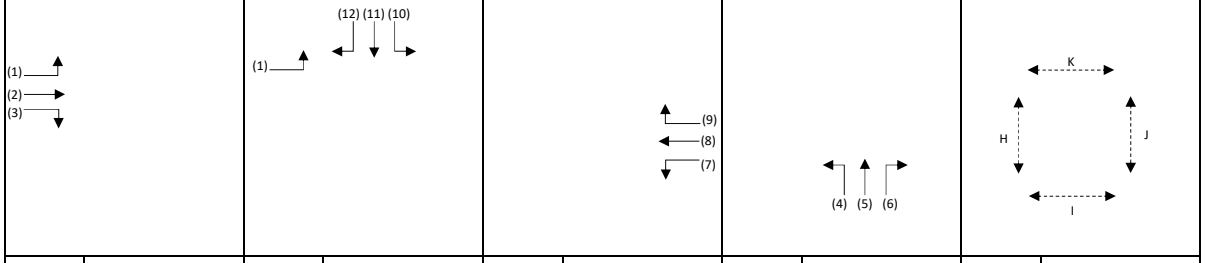
TOTAL FLOW = 1555 (PCU/HR)

CRITICAL DFC = 0.59

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J10__imp__AM	PROJECT NO: 304204
J10 - Tin Ha Road/ Road L16/ Hung Leong Road	Year 2038 Design Case (AM Peak) (Improvement)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N= 5
No. of Stage Using for Calculation	N= 4
Cycle Time	C= 120 sec
Sum(y)	Y= 0.512
Loss Time	L= 39 sec
Total Flow	= 1960 pcu
Co =(1.5*L+5)/(1-Y)	= 130 sec
Cm =L/(1-Y)	= 80 sec
Yult	= 0.608
R.C.ult =(Yult-Y)/Y*100%	= 18.6 %
Cp =0.9*L/(0.9-Y)	= 90.5 sec
Ymax =1-L/C	= 0.675
R.C.(C) =(0.9*Ymax-Y)/Y*100%	= 18.6 %



Stage 1	Int = 5	Stage 2	Int = 5	Stage 3	Int = 5	Stage 4	Int = 5	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	I	15.00	12	3	6	13	3	6	OK
5	J	8.00	7	3	3	16	3	3	OK
5	K	13.00	10	3	5	14	3	5	OK
5	H	18.00	13	3	6	13	3	6	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S5	16 22				
2,3	1	3.40	A	1	18			2095		5	230	235	0.98	1937		-	1937	0.121	0.121	0	19	19	0.759	36
1	1,2	3.40	E	1	12		N	1955	330			330	1.00	1738		-	1738	0.190			30	54	0.420	30
12	2	3.65	B	1	20			2120			375	375	1.00	1972		-	1972	0.190	0.190	1	30	31	0.735	48
10,11,12	2	3.65	B	1	15		N	1980	5	140	210	355	0.61	1867		-	1867	0.190			30	31	0.735	45
7,8,9	3	3.65	C	1	17		N	1980	10	30	65	105	0.71	1863		-	1863	0.056	0.056	0	9	9	0.759	20
4	4	3.65	D	1	15		N	1980	260			260	1.00	1800		-	1800	0.144	0.144	0	23	23	0.759	38
5,6	4	3.65	D	1	17			2120		290	10	300	0.03	2114		-	2114	0.142			22	23	0.746	43
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
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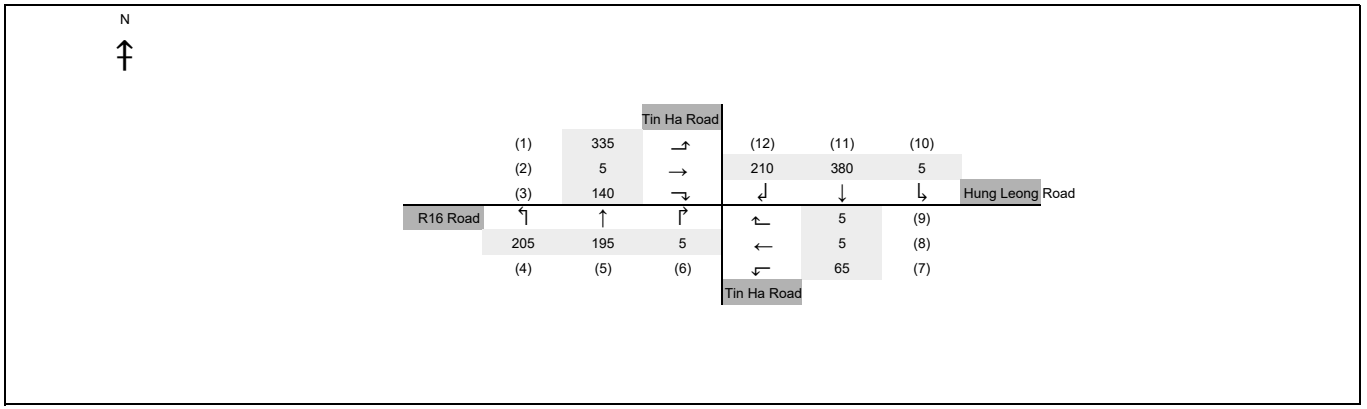
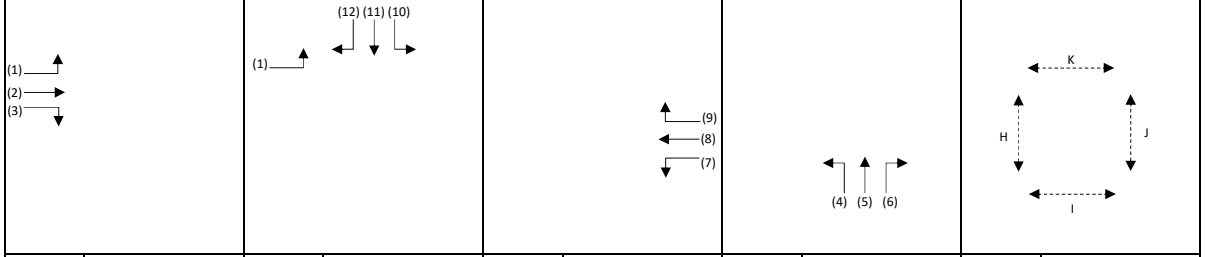
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J10__imp__PM	PROJECT NO: 304204
J10 - Tin Ha Road/ Road L16/ Hung Leong Road	Year 2038 Design Case (PM Peak) (Improvement)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N= 5
No. of Stage Using for Calculation	N= 4
Cycle Time	C= 120 sec
Sum(y)	Y= 0.424
Loss Time	L= 39 sec
Total Flow	= 1555 pcu
Co =(1.5*L+5)/(1-Y)	= 110 sec
Cm =L/(1-Y)	= 68 sec
Yult	= 0.608
R.C.ult =(Yult-Y)/Y*100%	= 43.2 %
Cp =0.9*L/(0.9-Y)	= 73.8 sec
Ymax =1-L/C	= 0.675
R.C.(C) =(0.9*Ymax-Y)/Y*100%	= 43.2 %



Stage 1	Int = 5	Stage 2	Int = 5	Stage 3	Int = 5	Stage 4	Int = 5	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	I	15.00	12	3	6	14	3	6	OK
5	J	8.00	7	3	3	17	3	3	OK
5	K	13.00	10	3	5	15	3	5	OK
5	H	18.00	14	3	6	14	3	6	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S5	16 23				
2,3	1	3.40	A	1	18			2095		5	140	145	0.97	1939		-	1939	0.075	0.075	0	14	14	0.629	22
1	1,2	3.40	E	1	12		N	1955	335			335	1.00	1738		-	1738	0.193			37	55	0.417	30
12	2	3.65	B	1	20			2120			210	210	1.00	1972		-	1972	0.106	0.195	0	20	37	0.344	24
10,11,12	2	3.65	B	1	15		N	1980	5	380	0	385	0.01	1977		-	1977	0.195			37	37	0.629	44
7,8,9	3	3.65	C	1	17		N	1980	65	5	5	75	0.93	1829		-	1829	0.041	0.041	0	8	8	0.629	13
4	4	3.65	D	1	15		N	1980	205			205	1.00	1800		-	1800	0.114	0.114	0	22	22	0.629	28
5,6	4	3.65	D	1	17			2120		195	5	200	0.03	2115		-	2115	0.095			18	22	0.522	27
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
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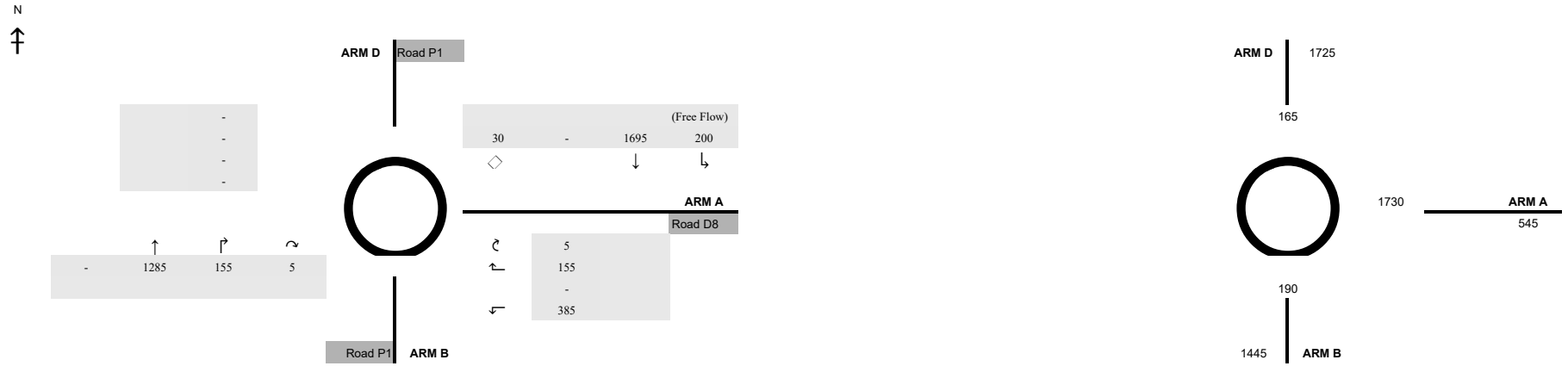
OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
HSK Intensification Site		SHEET: J11_AM	PROJECT NO: 304204
J11 - Road P1 and Road D8	Year 2038 Design Case (AM Peak)	DATE: 08-Jan-26	FILENAME:

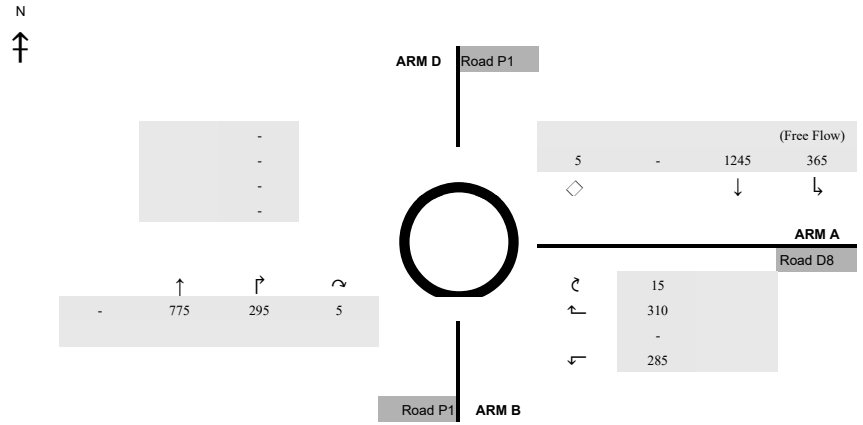


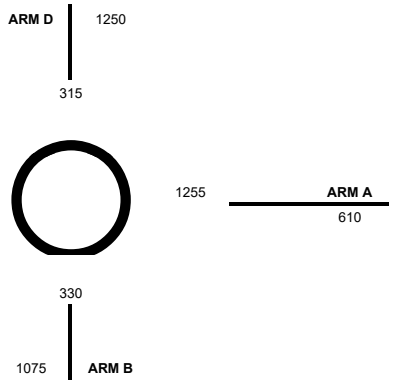
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	7.30		7.30
E	=	Entry width (m)	10.50	10.70		10.70
L	=	Effective length of flare (m)	5.5	9.2		11.5
R	=	Entry radius (m)	30	50		30
D	=	Inscribed circle diameter (m)	66	66		66
A	=	Entry angle (degree)	30	20		36
Q	=	Entry flow (pcu/h)	545	1445		1725
Qc	=	Circulating flow across entry (pcu/h)	1730	190		165
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.93	0.59		0.47
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.02	1.06		1.00
X2	=	V + ((E-V)/(1+2S))	8.42	8.86		9.05
M	=	EXP((D-60)/10)	1.82	1.82		1.82
F	=	303*X2	2551	2684		2741
Td	=	1+(0.5/(1+M))	1.18	1.18		1.18
Fc	=	0.21*Td(1+0.2*X2)	0.66	0.69		0.69
Qe	=	K(F-Fc*Qc)	1426	2717		2615
DFC	=	Design flow/Capacity = Q/Qe	0.38	0.53		0.66

Total In Sum = 3715 PCU

DFC of Critical Approach = 0.66

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
HSK Intensification Site		SHEET: J11_PM	PROJECT NO: 304204
J11 - Road P1 and Road D8	Year 2038 Design Case (PM Peak)	DATE: 08-Jan-26	FILENAME:





ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)	7.30	7.30		7.30
E	=	Entry width (m)	10.50	10.70		10.70
L	=	Effective length of flare (m)	5.5	9.2		11.5
R	=	Entry radius (m)	30	50		30
D	=	Inscribed circle diameter (m)	66	66		66
A	=	Entry angle (degree)	30	20		36
Q	=	Entry flow (pcu/h)	610	1075		1250
Qc	=	Circulating flow across entry (pcu/h)	1255	330		315
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L	0.93	0.59		0.47
K	=	1-0.00347(A-30)-0.978(1/R-0.05)	1.02	1.06		1.00
X2	=	V + ((E-V)/(1+2S))	8.42	8.86		9.05
M	=	EXP((D-60)/10)	1.82	1.82		1.82
F	=	303*X2	2551	2684		2741
Td	=	1+(0.5/(1+M))	1.18	1.18		1.18
Fc	=	0.21*Td(1+0.2*X2)	0.66	0.69		0.69
Qe	=	K(F-Fc*Qc)	1746	2615		2511
DFC	=	Design flow/Capacity = Q/Qe	0.35	0.41		0.50

Total In Sum = 2935 PCU

DFC of Critical Approach = 0.50

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J12_AM	PROJECT NO: 304204
J12 - Road D8/ Road D6	Year 2038 Design Case (AM Peak)	DATE: 08-Jan-26	FILENAME:

N

			Road D6				
	(1)	45	⮥	(12)	(11)	(10)	
	(2)	225	→	10	10	75	
	(3)	85	⮦	↲	↓	↳	Road D8
Road D8	↰	↑	↱		-	(9)	
	30	305	30	←	505	(8)	
	(4)	(5)	(6)	⮨	45	(7)	
				Road D6			

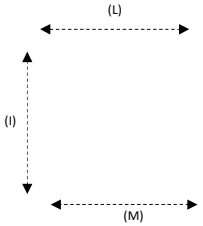
No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.297
Loss Time	L=	51 sec
Total Flow	=	1365 pcu
Co =(1.5*L+5)/(1-Y)	=	116 sec
Cm =L/(1-Y)	=	73 sec
Yult	=	0.518
R.C.ult =(Yult-Y)/Y*100%	=	74.1 %
Cp =0.9*L/(0.9-Y)	=	76.1 sec
Ymax =1-L/C	=	0.575
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	74.1 %

Stage 1	Int =	5

Stage 2	Int =	5

Stage 3	Int =	5

Stage 4	Int =	5



Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	L	21.00	19	5	8	22	5	8	OK
5	I	22.00	20	5	10	20	5	10	OK
5	M	21.00	19	5	8	22	5	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S5	16 35				
1,2	1	3.60	A	1	15		N	1975	45	181		226	0.20	1936		1600	3536	0.064	0.064	0	15	15	0.517	74
2,3	1	3.60	A	1	23			2115		44	85	129	0.66	2028		-	2028	0.064			15	15	0.514	19
7	2	3.40	D	1	16		N	782	45			45	1.00	715		-	715	0.063	0.121	0	15	28	0.270	6
8	2	3.40	D	2				4190		505		505	0.00	4190		-	4190	0.121			28	28	0.517	32
10	3	4.00	B	1	21		N	2015	45			45	1.00	1881		-	1881	0.024	0.024	0	6	6	0.517	8
10,11,12	3	4.00	B	1	42			2155	30	10	10	50	0.80	2095		-	2095	0.024			6	6	0.515	9
4,5	4	4.00	C	1	12.5		N	2015	30	145		175	0.17	1974		-	1974	0.089	0.089	0	21	21	0.516	24
5,6	4	4.00	C	1	33			2155		160	30	190	0.16	2140		-	2140	0.089			21	21	0.517	26
								-				-	-	-		-	-	-			-		-	-
								-				-	-	-		-	-	-			-		-	-
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OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J12_PM	PROJECT NO: 304204
J12 - Road D8/ Road D6	Year 2038 Design Case (PM Peak)	DATE: 08-Jan-26	FILENAME:

N

			Road D6				
	(1)	55	⮥	(12)	(11)	(10)	
	(2)	490	→	15	65	55	
	(3)	130	⮦	↲	↓	↳	Road D8
Road D8	↰	↑	↱		-	(9)	
	65	145	15	←	530	(8)	
	(4)	(5)	(6)	⮨	70	(7)	
				Road D6			

No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.358
Loss Time	L=	51 sec
Total Flow	=	1635 pcu
Co =(1.5*L+5)/(1-Y)	=	127 sec
Cm =L/(1-Y)	=	79 sec
Yult	=	0.518
R.C.ult =(Yult-Y)/Y*100%	=	44.5 %
Cp =0.9*L/(0.9-Y)	=	84.7 sec
Ymax =1-L/C	=	0.575
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	44.5 %

Stage 1	Int = 5	Stage 2	Int = 5	Stage 3	Int = 5	Stage 4	Int = 5	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	L	21.00	19	5	8	22	5	8	OK
5	I	22.00	20	5	10	20	5	10	OK
5	M	21.00	19	5	8	22	5	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S5	16 35				
1,2	1	3.60	A	1	15		N	1975	55	336		391	0.14	1948		890	2838	0.138	0.138	0	27	27	0.621	51
2,3	1	3.60	A	1	23			2115		154	130	284	0.46	2054		-	2054	0.138			27	27	0.623	37
7	2	3.40	D	1	16		N	782	70			70	1.00	715		-	715	0.098	0.126	0	19	24	0.482	10
8	2	3.40	D	2				4190		530		530	0.00	4190		-	4190	0.126			24	24	0.623	35
10	3	4.00	B	1	21		N	2015	55			55	1.00	1881		-	1881	0.029	0.037	0	6	7	0.487	9
10,11,12	3	4.00	B	1	42			2155	0	65	15	80	0.19	2141		-	2141	0.037			7	7	0.623	14
4,5	4	4.00	C	1	12.5		N	2015	65	40		105	0.62	1876		-	1876	0.056	0.056	0	11	11	0.623	17
5,6	4	4.00	C	1	33			2155		105	15	120	0.13	2143		-	2143	0.056			11	11	0.623	19
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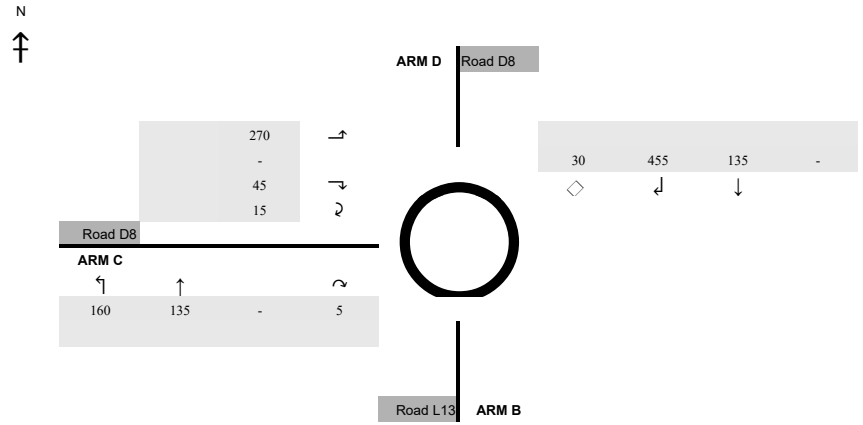
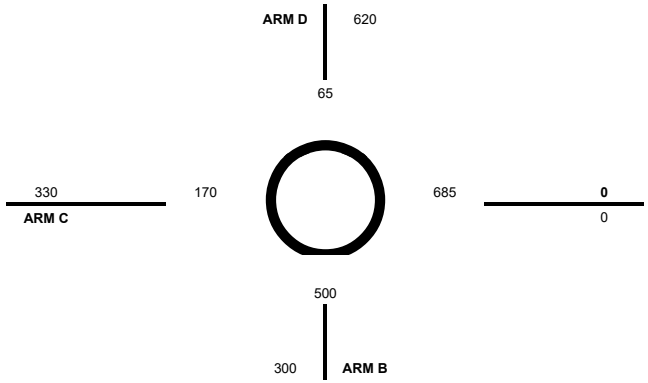
OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
HSK Intensification Site		SHEET: J13_AM	PROJECT NO: 304204
J13 - Road D8/ Road L13	Year 2038 Design Case (AM Peak)	DATE: 08-Jan-26	FILENAME:



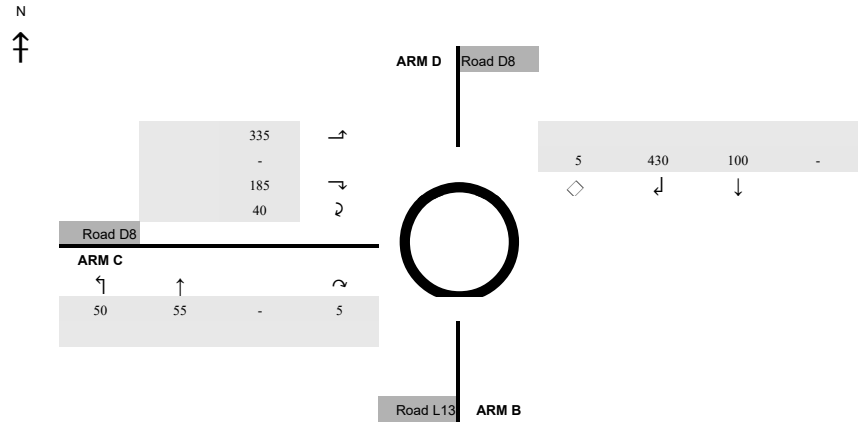


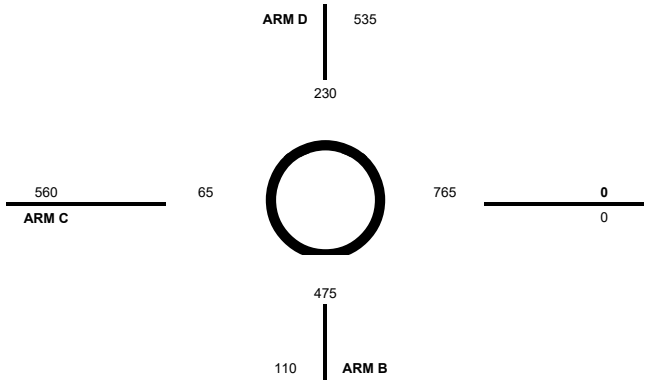
ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)		4.60	7.30	7.30
E	=	Entry width (m)		4.50	8.50	8.00
L	=	Effective length of flare (m)		6	5	1
R	=	Entry radius (m)		21	31	30
D	=	Inscribed circle diameter (m)		30	30	30
A	=	Entry angle (degree)		25	25	40
Q	=	Entry flow (pcu/h)	0	300	330	620
Qc	=	Circulating flow across entry (pcu/h)	685	500	170	65
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L		-0.03	0.38	1.12
K	=	1-0.00347(A-30)-0.978(1/R-0.05)		1.02	1.03	0.98
X2	=	V + ((E-V)/(1+2S))		4.49	7.98	7.52
M	=	EXP((D-60)/10)		0.05	0.05	0.05
F	=	303*X2		1362	2418	2277
Td	=	1+(0.5/(1+M))		1.48	1.48	1.48
Fc	=	0.21*Td(1+0.2*X2)		0.59	0.80	0.78
Qe	=	K(F-Fc*Qc)		1088	2360	2186
DFC	=	Design flow/Capacity = Q/Qe		0.28	0.14	0.28

Total In Sum = 1250 PCU

DFC of Critical Approach = 0.28

OVE ARUP & PARTNERS	ROUNDABOUT CALCULATION		
HSK Intensification Site		SHEET: J13_PM	PROJECT NO: 304204
J13 - Road D8/ Road L13	Year 2038 Design Case (PM Peak)	DATE: 08-Jan-26	FILENAME:





ARM			A	B	C	D
INPUT PARAMETERS:						
V	=	Approach half width (m)		4.60	7.30	7.30
E	=	Entry width (m)		4.50	8.50	8.00
L	=	Effective length of flare (m)		6	5	1
R	=	Entry radius (m)		21	31	30
D	=	Inscribed circle diameter (m)		30	30	30
A	=	Entry angle (degree)		25	25	40
Q	=	Entry flow (pcu/h)	0	110	560	535
Qc	=	Circulating flow across entry (pcu/h)	765	475	65	230
OUTPUT PARAMETERS:						
S	=	Sharpness of flare = 1.6(E-V)/L		-0.03	0.38	1.12
K	=	1-0.00347(A-30)-0.978(1/R-0.05)		1.02	1.03	0.98
X2	=	V + ((E-V)/(1+2S))		4.49	7.98	7.52
M	=	EXP((D-60)/10)		0.05	0.05	0.05
F	=	303*X2		1362	2418	2277
Td	=	1+(0.5/(1+M))		1.48	1.48	1.48
Fc	=	0.21*Td(1+0.2*X2)		0.59	0.80	0.78
Qe	=	K(F-Fc*Qc)		1103	2447	2060
DFC	=	Design flow/Capacity = Q/Qe		0.10	0.23	0.26

Total In Sum = 1205 PCU

DFC of Critical Approach = 0.26

OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J14_AM	PROJECT NO: 304204
J14 - Road L15/ Road L12	Year 2038 Design Case (AM Peak)	DATE: 08-Jan-26	FILENAME:

N

			Road L12				
	(1)	75	⮥	(12)	(11)	(10)	
	(2)	280	→	240	330	55	
	(3)	205	⮦	↲	↓	↳	Road L15
Road L15	↰	↑	↱	⮢	5	(9)	
	180	45	205	←	145	(8)	
	(4)	(5)	(6)	⮤	115	(7)	
				Road L12			

No. of Stages per Cycle		N=	5
No. of Stage Using for Calculation		N=	4
Cycle Time		C=	120 sec
Sum(y)		Y=	0.490
Loss Time		L=	41 sec
Total Flow		=	1880 pcu
Co	=(1.5*L+5)/(1-Y)	=	130 sec
Cm	=L/(1-Y)	=	80 sec
Yult		=	0.593
R.C.ult	=(Yult-Y)/Y*100%	=	20.9 %
Cp	=0.9*L/(0.9-Y)	=	90.0 sec
Ymax	=1-L/C	=	0.658
R.C.(C)	=(0.9*Ymax-Y)/Y*100%	=	20.9 %

Stage 1	Int = 5	Stage 2	Int = 5	Stage 3	Int = 5	Stage 4	Int = 5	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	A	14.00	12	3	9	13	3	9	OK
5	B	15.50	13	3	9	13	3	9	OK
5	C	12.00	10	3	7	15	3	7	OK
5	D	12.00	10	3	6	16	3	6	OK
			-	-			-	-	-
			-	-			-	-	-
			-	-			-	-	-
			-	-			-	-	-
			-	-			-	-	-
			-	-			-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S5	16 25				
1,2,3	1	3.50	A	1	15		N	1965	75	280	0	355	0.21	1924		-	1924	0.184	0.184	0	30	30	0.744	46
3	1	4.00	A	1	28			2155			205	205	1.00	2045		-	2045	0.100			16	30	0.404	26
4,5	2	3.60	B	1	25		N	1975	180	0		180	1.00	1863		-	1863	0.097	0.097	0	16	16	0.744	29
5,6	2	3.60	B	1	20			2115		45	82	127	0.65	2017		-	2017	0.063			10	16	0.485	18
6	2	3.60	B	1	20			2115			123	123	1.00	1967		-	1967	0.063			10	16	0.482	18
7	3	3.60	C	1	15		N	1975	115			115	1.00	1795		-	1795	0.064	0.069	0	10	11	0.695	20
7,8,9	3	3.60	C	1	25			2115	0	145	0	145	0.00	2115		-	2115	0.069			11	11	0.744	25
9	3	3.60	C	1	25			2115			5	5	1.00	1995		-	1995	0.003			0	11	0.027	1
10	4	3.30	D	1	15		N	1945	55			55	1.00	1768		-	1768	0.031	0.140	0	5	23	0.165	7
10,11	4	3.30	D	1	20			2085	0	292		292	0.00	2085		-	2085	0.140			23	23	0.743	42
11,12	4	3.30	D	1	25			2085		38	240	278	0.86	1982		-	1982	0.140			23	23	0.744	40
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OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J14_PM	PROJECT NO: 304204
J14 - Road L15/ Road L12	Year 2038 Design Case (PM Peak)	DATE: 08-Jan-26	FILENAME:

N

			Road L12				
	(1)	95	⮥	(12)	(11)	(10)	
	(2)	5	→	230	45	80	
	(3)	325	⮦	↲	↓	↳	Road L15
Road L15	↰	↑	↱	⮤	5	(9)	
	255	140	5	←	130	(8)	
	(4)	(5)	(6)	⮧	85	(7)	
				Road L12			

No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.426
Loss Time	L=	41 sec
Total Flow	=	1400 pcu
Co =(1.5*L+5)/(1-Y)	=	116 sec
Cm =L/(1-Y)	=	71 sec
Yult	=	0.593
R.C.ult =(Yult-Y)/Y*100%	=	39.0 %
Cp =0.9*L/(0.9-Y)	=	77.9 sec
Ymax =1-L/C	=	0.658
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	39.0 %

Stage 1	Int = 5	Stage 2	Int = 5	Stage 3	Int = 5	Stage 4	Int = 5	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	A	14.00	12	3	9	13	3	9	OK
5	B	15.50	13	3	9	13	3	9	OK
5	C	12.00	10	3	7	15	3	7	OK
5	D	12.00	10	3	6	16	3	6	OK
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Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S5	16 25				
1,2,3	1	3.50	A	1	15		N	1965	95	5	98	198	0.97	1790		-	1790	0.111	0.111	0	20	21	0.645	28
3	1	4.00	A	1	28			2155			227	227	1.00	2045		-	2045	0.111			21	21	0.647	32
4,5	2	3.60	B	1	25		N	1975	255	0		255	1.00	1863		-	1863	0.137	0.137	0	25	25	0.647	34
5,6	2	3.60	B	1	20			2115		140	0	140	0.00	2115		-	2115	0.066			12	25	0.313	18
6	2	3.60	B	1	20			2115			5	5	1.00	1967		-	1967	0.003			0	25	0.012	1
7	3	3.60	C	1	15		N	1975	85			85	1.00	1795		-	1795	0.047	0.061	0	9	11	0.499	13
7,8,9	3	3.60	C	1	25			2115	0	130	0	130	0.00	2115		-	2115	0.061			11	11	0.647	21
9	3	3.60	C	1	25			2115			5	5	1.00	1995		-	1995	0.003			0	11	0.026	1
10	4	3.30	D	1	15		N	1945	58			58	1.00	1768		-	1768	0.033	0.117	0	6	22	0.182	8
10,11	4	3.30	D	1	20			2085	22	45		67	0.33	2035		-	2035	0.033			6	22	0.182	9
11,12	4	3.30	D	1	25			2085		0	230	230	1.00	1967		-	1967	0.117			22	22	0.647	32
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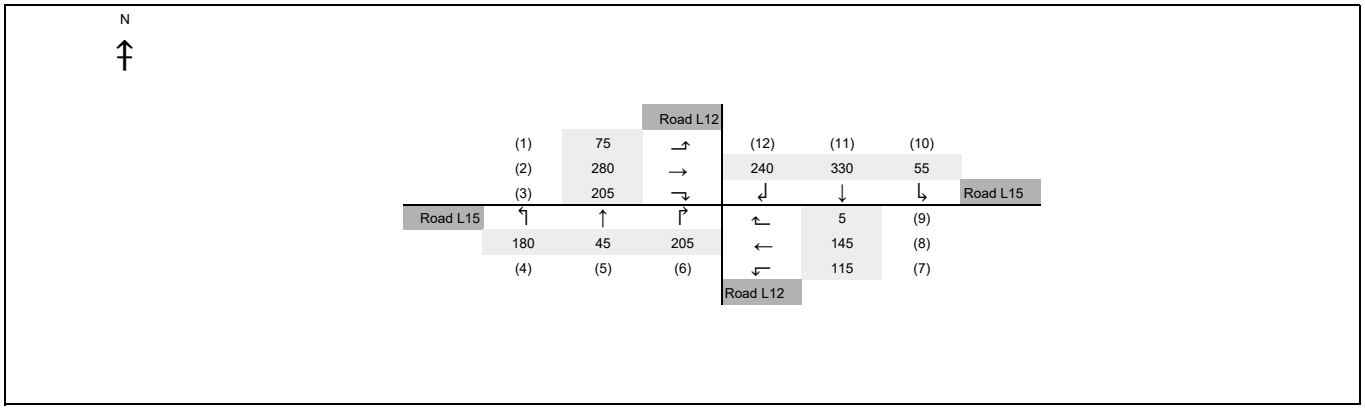
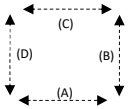
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J14_imp__AM	PROJECT NO: 304204
J14 - Road L15/ Road L12	Year 2038 Design Case (AM Peak) (Improvement)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.446
Loss Time	L=	41 sec
Total Flow	=	1880 pcu
Co =(1.5*L+5)/(1-Y)	=	120 sec
Cm =L/(1-Y)	=	74 sec
Yult	=	0.593
R.C.ult =(Yult-Y)/Y*100%	=	32.8 %
Cp =0.9*L/(0.9-Y)	=	81.3 sec
Ymax =1-L/C	=	0.658
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	32.8 %



Stage 1	Int = 5	Stage 2	Int = 5	Stage 3	Int = 5	Stage 4	Int = 5	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	A	14.00	12	3	9	13	3	9	OK
5	B	15.50	13	3	9	13	3	9	OK
5	C	12.00	10	3	7	15	3	7	OK
5	D	12.00	10	3	6	16	3	6	OK
			-	-			-	-	-
			-	-			-	-	-
			-	-			-	-	-
			-	-			-	-	-
			-	-			-	-	-
			-	-			-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S5	16 25				
1,2	1	3.50	A	1	15		N	1965	75	193		268	0.28	1912		-	1912	0.140	0.141	0	25	25	0.676	36
2,3	1	4.00	A	1	28			2155		87	205	292	0.70	2077		-	2077	0.141			25	25	0.677	39
4,5	2	3.60	B	1	25		N	1975	180	0		180	1.00	1863		-	1863	0.097	0.097	0	17	17	0.677	27
5,6	2	3.60	B	1	20			2115		45	82	127	0.65	2017		-	2017	0.063			11	17	0.441	18
6	2	3.60	B	1	20			2115			123	123	1.00	1967		-	1967	0.063			11	17	0.438	18
7	3	3.60	C	1	15		N	1975	115			115	1.00	1795		-	1795	0.064	0.069	0	11	12	0.633	18
7,8,9	3	3.60	C	1	25			2115	0	145	0	145	0.00	2115		-	2115	0.069			12	12	0.677	23
9	3	3.60	C	1	25			2115			5	5	1.00	1995		-	1995	0.003			0	12	0.025	1
10	4	3.30	D	1	15		N	1945	55			55	1.00	1768		-	1768	0.031	0.140	0	6	25	0.150	7
10,11	4	3.30	D	1	20			2085	0	292		292	0.00	2085		-	2085	0.140			25	25	0.677	39
11,12	4	3.30	D	1	25			2085		38	240	278	0.86	1982		-	1982	0.140			25	25	0.677	37
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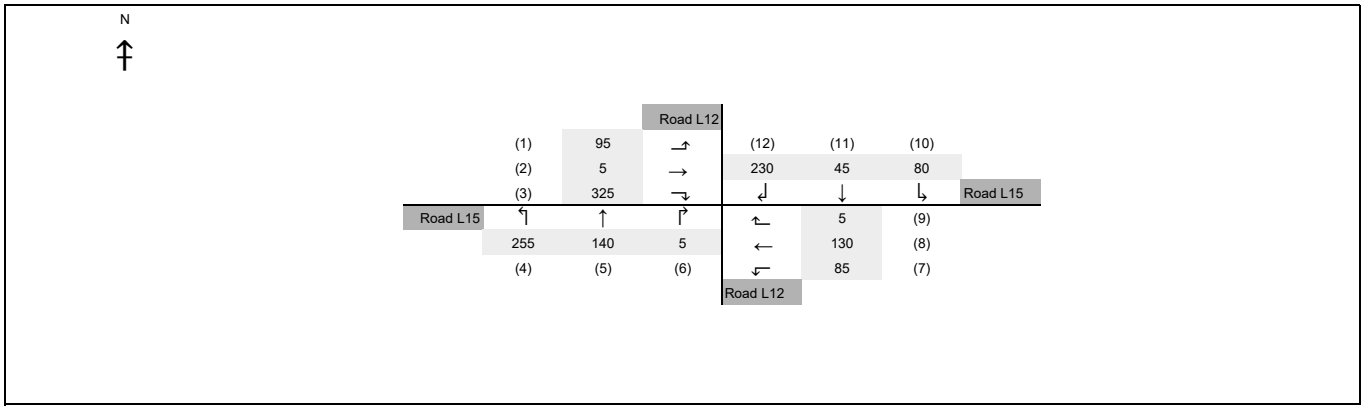
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J14_imp__PM	PROJECT NO: 304204
J14 - Road L15/ Road L12	Year 2038 Design Case (PM Peak) (Improvement)	DATE: 08-Jan-26	FILENAME:



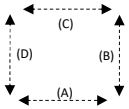
No. of Stages per Cycle	N=	5
No. of Stage Using for Calculation	N=	4
Cycle Time	C=	120 sec
Sum(y)	Y=	0.474
Loss Time	L=	41 sec
Total Flow	=	1400 pcu
Co =(1.5*L+5)/(1-Y)	=	126 sec
Cm =L/(1-Y)	=	78 sec
Yult	=	0.593
R.C.ult =(Yult-Y)/Y*100%	=	25.0 %
Cp =0.9*L/(0.9-Y)	=	86.6 sec
Ymax =1-L/C	=	0.658
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	25.0 %

Stage 1 Int = 5

Stage 2 Int = 5

Stage 3 Int = 5

Stage 4 Int = 5



Stage 5 Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
5	A	14.00	12	3	9	13	3	9	OK
5	B	15.50	13	3	9	13	3	9	OK
5	C	12.00	10	3	7	15	3	7	OK
5	D	12.00	10	3	6	16	3	6	OK
			-	-			-	-	-
			-	-			-	-	-
			-	-			-	-	-
			-	-			-	-	-
			-	-			-	-	-
			-	-			-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S5	16 25				
1,2	1	3.50	A	1	15		N	1965	95	5		100	0.95	1795		-	1795	0.056	0.159	0	9	26	0.253	13
2,3	1	4.00	A	1	28			2155		0	325	325	1.00	2045		-	2045	0.159			26	26	0.720	43
4,5	2	3.60	B	1	25		N	1975	255	0		255	1.00	1863		-	1863	0.137	0.137	0	23	23	0.720	36
5,6	2	3.60	B	1	20			2115		140	0	140	0.00	2115		-	2115	0.066			11	23	0.348	19
6	2	3.60	B	1	20			2115			5	5	1.00	1967		-	1967	0.003			0	23	0.013	1
7	3	3.60	C	1	15		N	1975	85			85	1.00	1795		-	1795	0.047	0.061	0	8	10	0.555	14
7,8,9	3	3.60	C	1	25			2115	0	130	0	130	0.00	2115		-	2115	0.061			10	10	0.720	22
9	3	3.60	C	1	25			2115			5	5	1.00	1995		-	1995	0.003			0	10	0.029	1
10	4	3.30	D	1	15		N	1945	58			58	1.00	1768		-	1768	0.033	0.117	0	5	19	0.202	8
10,11	4	3.30	D	1	20			2085	22	45		67	0.33	2035		-	2035	0.033			5	19	0.203	9
11,12	4	3.30	D	1	25			2085		0	230	230	1.00	1967		-	1967	0.117			19	19	0.720	34
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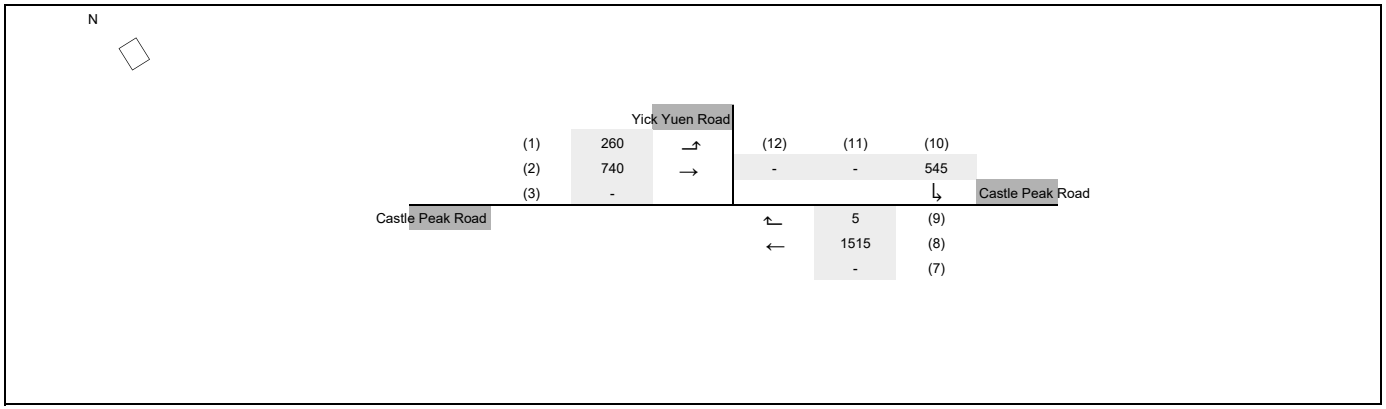
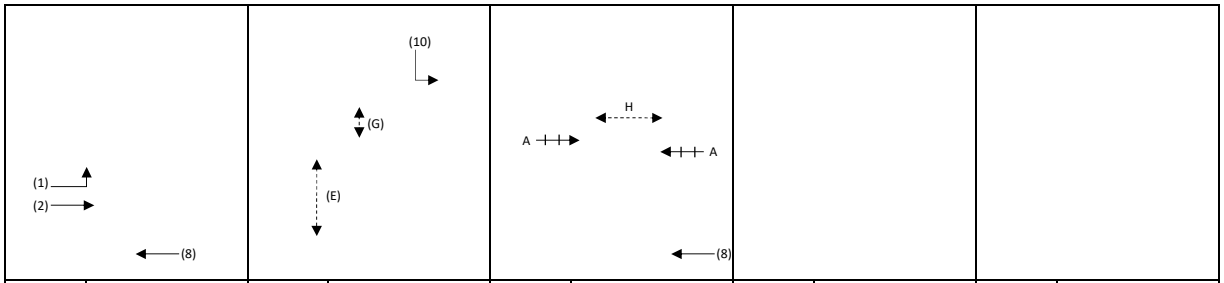
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J15_AM	PROJECT NO: 304204
J15 - Castle Peak Road/ Yick Yuen Road	Year 2038 Design Case (AM Peak)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N=	3
No. of Stage Using for Calculation	N=	2
Cycle Time	C=	108 sec
Sum(y)	Y=	0.520
Loss Time	L=	10 sec
Total Flow	=	3060 pcu
Co =(1.5*L+5)/(1-Y)	=	42 sec
Cm =L/(1-Y)	=	21 sec
Yult	=	0.825
R.C.ult =(Yult-Y)/Y*100%	=	58.8 %
Cp =0.9*L/(0.9-Y)	=	23.7 sec
Ymax =1-L/C	=	0.907
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	57.2 %



Stage 1	Int = 6	Stage 2	Int = 6	Stage 3	Int =	Stage 4	Int =	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2	E	12.00	6	2	5	26	2	5	OK
2	G	10.00	5	3	9	21	3	9	OK
3	H	18.00	8	4	15	8	4	15	OK
3	A (LRT)		7	7	8	12	7	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
																				0				
1	1	3.50	A	1	15		N	1965	260			260	1.00	1786		-	1786	0.146			27	41	0.381	24
1,2	1	3.50	A	1	15			2105	0	370		370	0.00	2105		-	2105	0.176			33	41	0.461	34
2	1	3.50	A	1				2105		370		370	0.00	2105		-	2105	0.176			33	41	0.461	34
10	2	3.50	B	2	15		N	4070	545			545	1.00	3700		-	3700	0.147	0.147	0	28	28	0.573	15
8	3,1	3.50	C	2			N	4070		1515		1515	0.00	4070		-	4070	0.372	0.372	0	70	70	0.573	20
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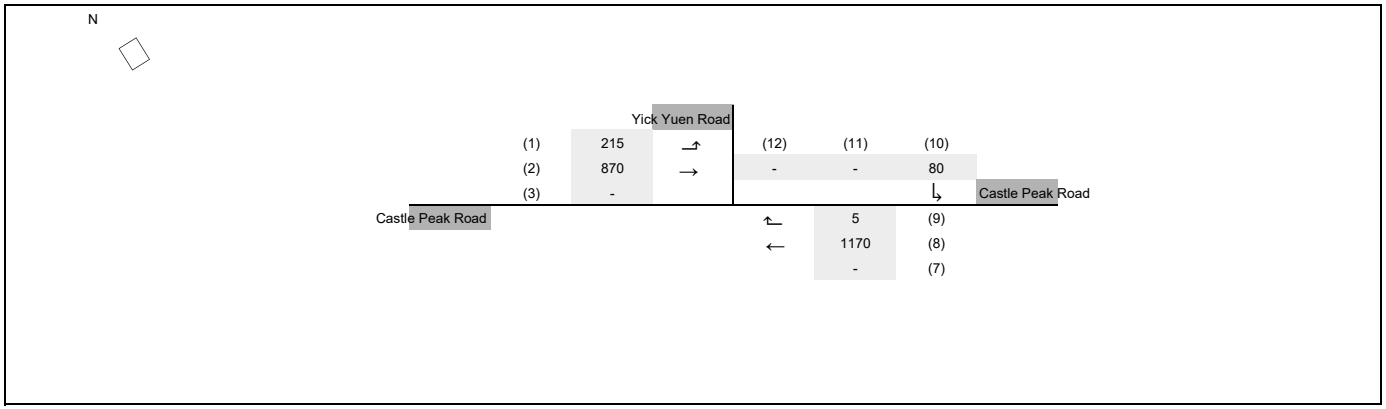
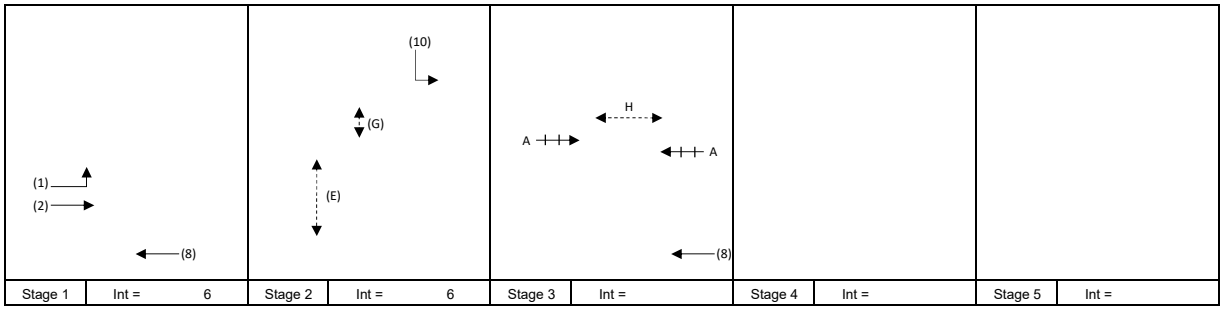
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J15_PM	PROJECT NO: 304204
J15 - Castle Peak Road/ Yick Yuen Road	Year 2038 Design Case (PM Peak)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N=	3
No. of Stage Using for Calculation	N=	2
Cycle Time	C=	108 sec
Sum(y)	Y=	0.309
Loss Time	L=	25 sec
Total Flow	=	2335 pcu
Co =(1.5*L+5)/(1-Y)	=	62 sec
Cm =L/(1-Y)	=	36 sec
Yult	=	0.713
R.C.ult =(Yult-Y)/Y*100%	=	130.5 %
Cp =0.9*L/(0.9-Y)	=	38.1 sec
Ymax =1-L/C	=	0.769
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	123.8 %



Stage 1	Int = 6	Stage 2	Int = 6	Stage 3	Int =	Stage 4	Int =	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2	E	12.00	6	2	5	11	2	5	OK
2	G	10.00	5	3	9	6	3	9	OK
3	H	18.00	8	4	15	8	4	15	OK
3	A (LRT)		7	7	8	12	7	8	OK
			-		-		-	-	-
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Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				10				
																				0				
1	1	3.50	A	1	15		N	1965	215			215	1.00	1786		-	1786	0.120			32	56	0.231	15
1,2	1	3.50	A	1	15			2105	0	435		435	0.00	2105		-	2105	0.207			55	56	0.397	31
2	1	3.50	A	1				2105		435		435	0.00	2105		-	2105	0.207			55	56	0.397	31
10	2	3.50	B	2	15		N	4070	80			80	1.00	3700		-	3700	0.022	0.022	7	6	13	0.182	3
8	3,1	3.50	C	2			N	4070		1170		1170	0.00	4070		-	4070	0.287	0.287	8	77	85	0.364	9
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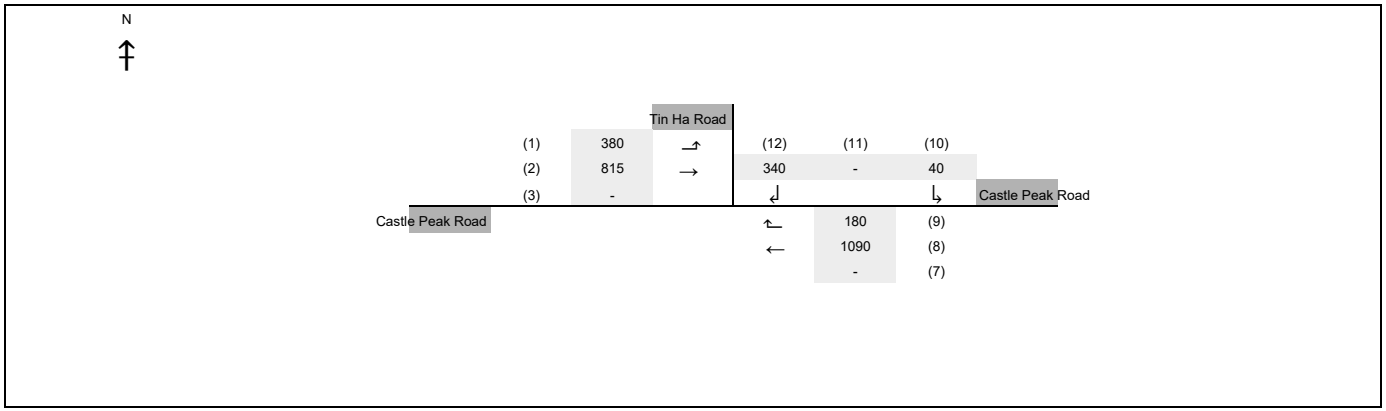
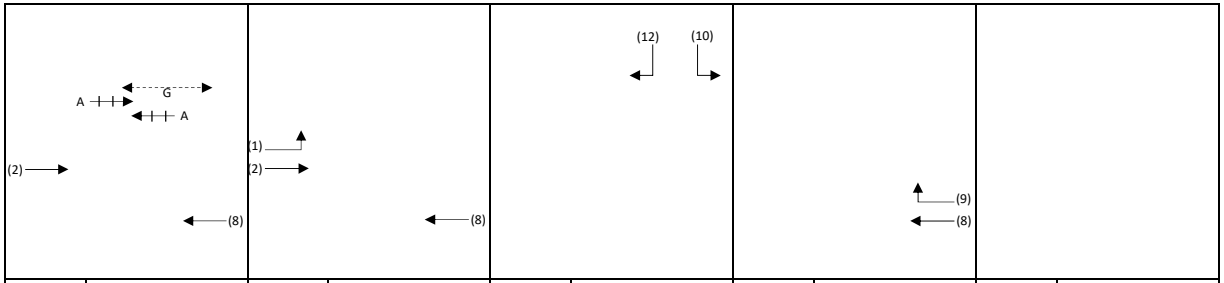
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J16_AM	PROJECT NO: 304204
J16 - Castle Peak Road/ Tin Ha Road	Year 2038 Design Case (AM Peak)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N=	4
No. of Stage Using for Calculation	N=	3
Cycle Time	C=	128 sec
Sum(y)	Y=	0.419
Loss Time	L=	44 sec
Total Flow	=	2845 pcu
Co =(1.5*L+5)/(1-Y)	=	122 sec
Cm =L/(1-Y)	=	76 sec
Yult	=	0.570
R.C.ult =(Yult-Y)/Y*100%	=	36.0 %
Cp =0.9*L/(0.9-Y)	=	82.3 sec
Ymax =1-L/C	=	0.656
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	40.9 %



Stage 1	Int = 0	Stage 2	Int = 7	Stage 3	Int = 7	Stage 4	Int = 9	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	G	8.00	5	7	7	10	7	7	OK
1	A (LRT)		8	8	8	8	8	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
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			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S1	20 24				
2	1,2	3.20	D	3				6225		815		815	0.00	6225		-	6225	0.131			26	67	0.249	8
8	1,2,4	3.65	B	2			N	4100		1090		1090	0.00	4100		-	4100	0.266			53	91	0.374	14
1	2	3.20	E	1	12		N	1935	380			380	1.00	1720		-	1720	0.221	0.221	0	44	44	0.639	44
10,12	3	3.20	F	1	12		N	1935	40		140	180	1.00	1720		-	1720	0.105	0.105	0	21	21	0.637	27
12	3	3.20	F	1	17			2075			200	200	1.00	1907		-	1907	0.105			21	21	0.639	30
9	4	3.20	C	1	20			2075			180	180	1.00	1930		-	1930	0.093	0.093	0	19	19	0.639	28
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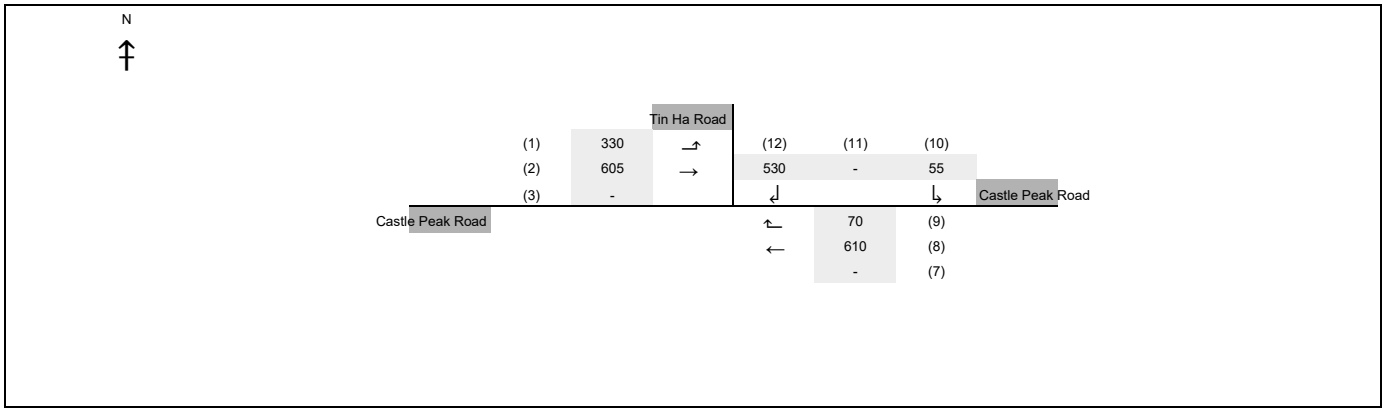
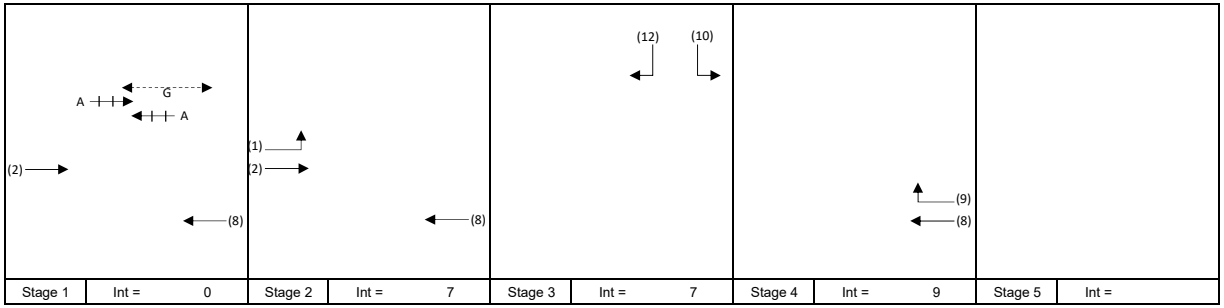
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J16_PM	PROJECT NO: 304204
J16 - Castle Peak Road/ Tin Ha Road	Year 2038 Design Case (PM Peak)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle		N=	4
No. of Stage Using for Calculation		N=	3
Cycle Time		C=	128 sec
Sum(y)		Y=	0.390
Loss Time		L=	44 sec
Total Flow		=	2200 pcu
Co	=(1.5*L+5)/(1-Y)	=	116 sec
Cm	=L/(1-Y)	=	72 sec
Yult		=	0.570
R.C.ult	=(Yult-Y)/Y*100%	=	46.3 %
Cp	=0.9*L/(0.9-Y)	=	77.6 sec
Ymax	=1-L/C	=	0.656
R.C.(C)	=(0.9*Ymax-Y)/Y*100%	=	51.6 %



Stage 1	Int = 0	Stage 2	Int = 7	Stage 3	Int = 7	Stage 4	Int = 9	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	G	8.00	5	7	7	10	7	7	OK
1	A (LRT)		8	8	8	8	8	8	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
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Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																			S1	20 24				
2	1,2	3.20	D	3				6225		605		605	0.00	6225		-	6225	0.097			21	64	0.193	6
8	1,2,4	3.65	B	2			N	4100		610		610	0.00	4100		-	4100	0.149			32	77	0.247	11
1	2	3.20	E	1	12		N	1935	330			330	1.00	1720		-	1720	0.192	0.192	0	41	41	0.594	40
10,12	3	3.20	F	1	12		N	1935	55		222	277	1.00	1720		-	1720	0.161	0.162	0	35	35	0.592	36
12	3	3.20	F	1	17			2075			308	308	1.00	1907		-	1907	0.162			35	35	0.594	40
9	4	3.20	C	1	20			2075			70	70	1.00	1930		-	1930	0.036	0.036	0	8	8	0.594	13
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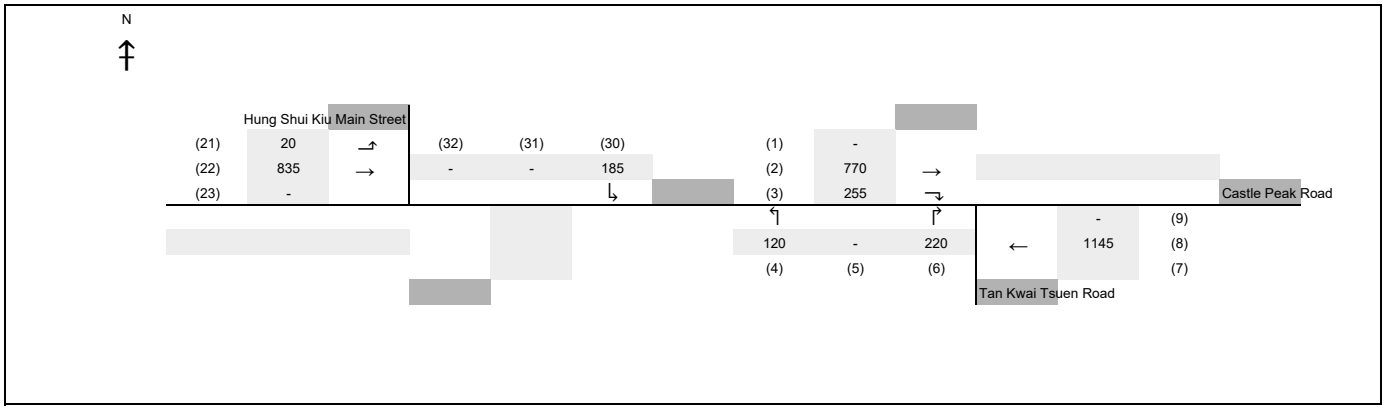
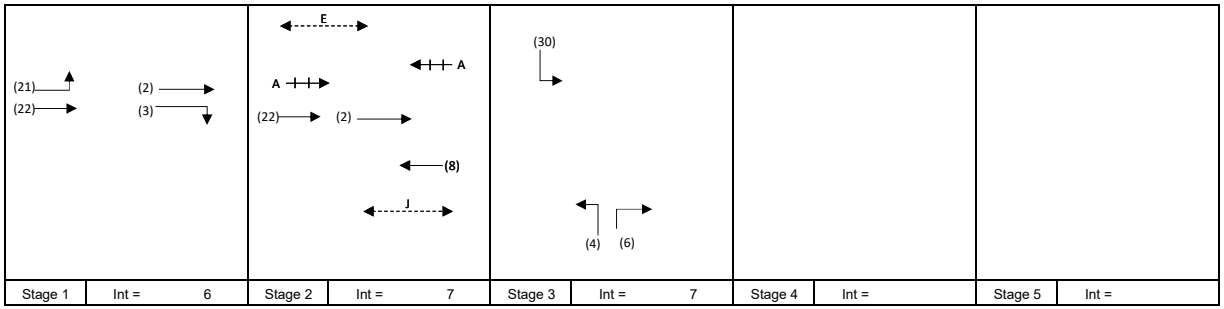
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J17_AM	PROJECT NO: 304204
J17 - Castle Peak Road/ Tan Kwai Tsuen Road/ Hung Shui Kiu Main Street	Year 2038 Design Case (AM Peak)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N=	3
No. of Stage Using for Calculation	N=	3
Cycle Time	C=	120 sec
Sum(y)	Y=	0.582
Loss Time	L=	17 sec
Total Flow	=	3550 pcu
Co =(1.5*L+5)/(1-Y)	=	73 sec
Cm =L/(1-Y)	=	41 sec
Yult	=	0.773
R.C.ult =(Yult-Y)/Y*100%	=	32.8 %
Cp =0.9*L/(0.9-Y)	=	48.0 sec
Ymax =1-L/C	=	0.858
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	32.8 %



Stage 1	Int = 6	Stage 2	Int = 7	Stage 3	Int = 7	Stage 4	Int =	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2	J	7.00	5	2	6	46	2	6	OK
2	A (LRT)		6	6	6	42	6	6	OK
2	E	6.60	5	2	6	46	2	6	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
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Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				17				
																				0				
3	1	3.50	H	1	23			2105			255	255	1.00	1976		-	1976	0.129	0.129	0	23	23	0.677	35
21	1	3.70	B	1	7		N	1985	20			20	1.00	1635		-	1635	0.012			2	22	0.067	3
8	2	3.50	G	2				4210		1145		1145	0.00	4210		-	4210	0.272	0.272	0	48	48	0.677	29
2	1,2	3.50	I	2			N	4070		770		770	0.00	4070		-	4070	0.189			34	78	0.291	11
22	1,2	3.40	D	3				6285		835		835	0.00	6285		-	6285	0.133			24	76	0.210	6
30	3	3.60	C	1	14		N	1975	185			185	1.00	1784		-	1784	0.104	0.180	0	18	29	0.430	23
4,6	3	2.70	F	1	20			2025	120		220	340	1.00	1884		-	1884	0.180			32	32	0.677	42
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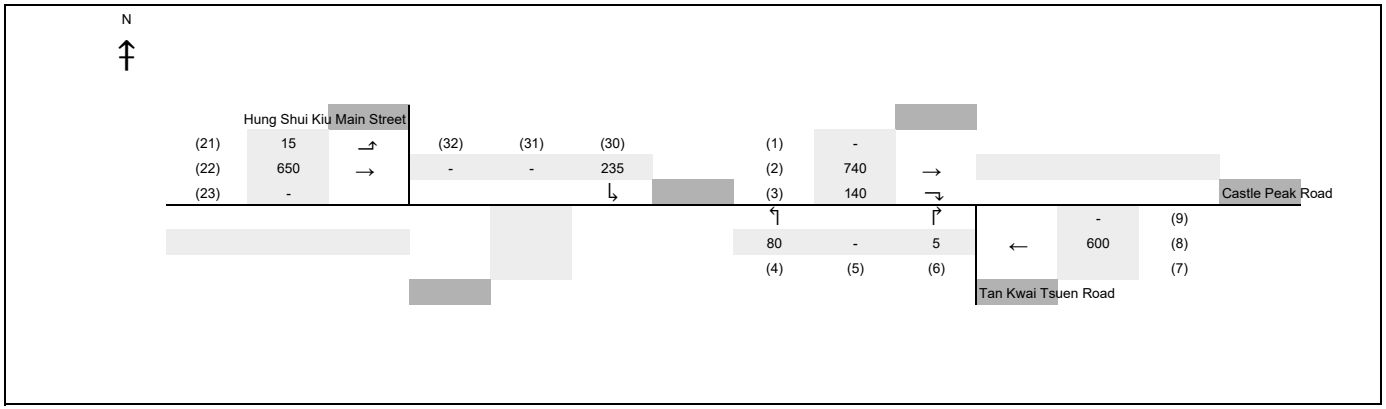
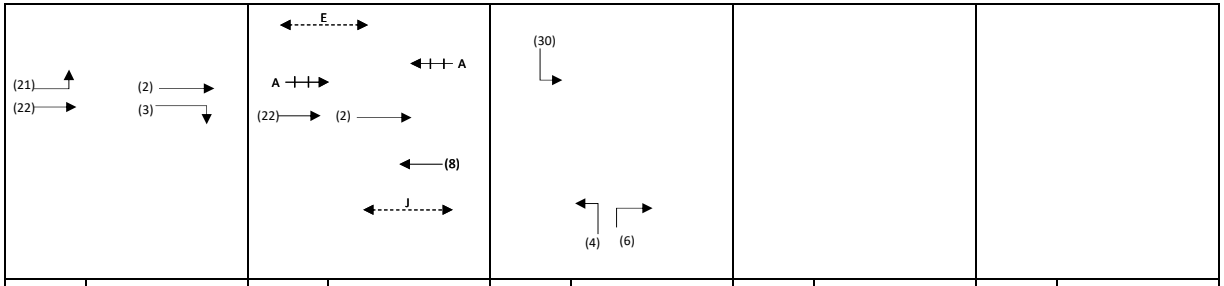
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J17_PM	PROJECT NO: 304204
J17 - Castle Peak Road/ Tan Kwai Tsuen Road/ Hung Shui Kiu Main Street	Year 2038 Design Case (PM Peak)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N= 3
No. of Stage Using for Calculation	N= 3
Cycle Time	C= 120 sec
Sum(y)	Y= 0.345
Loss Time	L= 20 sec
Total Flow	= 2465 pcu
Co =(1.5*L+5)/(1-Y)	= 53 sec
Cm =L/(1-Y)	= 31 sec
Yult	= 0.750
R.C.ult =(Yult-Y)/Y*100%	= 117.3 %
Cp =0.9*L/(0.9-Y)	= 32.4 sec
Ymax =1-L/C	= 0.833
R.C.(C) =(0.9*Ymax-Y)/Y*100%	= 117.3 %



Stage 1	Int = 6	Stage 2	Int = 7	Stage 3	Int = 10	Stage 4	Int =	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
2	J	7.00	5	2	6	39	2	6	OK
2	A (LRT)		6	6	6	35	6	6	OK
2	E	6.60	5	2	6	39	2	6	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				20 0				
3	1	3.50	H	1	23			2105			140	140	1.00	1976		-	1976	0.071	0.071	0	21	21	0.414	19
21	1	3.70	B	1	7		N	1985	15			15	1.00	1635		-	1635	0.009			3	20	0.056	2
8	2	3.50	G	2				4210		600		600	0.00	4210		-	4210	0.143	0.143	0	41	41	0.414	16
2	1,2	3.50	I	2			N	4070		740		740	0.00	4070		-	4070	0.182			53	69	0.317	13
22	1,2	3.40	D	3				6285		650		650	0.00	6285		-	6285	0.103			30	67	0.186	5
30	3	3.60	C	1	14		N	1975	235			235	1.00	1784		-	1784	0.132	0.132	0	38	38	0.414	27
4,6	3	2.70	F	1	20			2025	80		5	85	1.00	1884		-	1884	0.045			13	41	0.132	9
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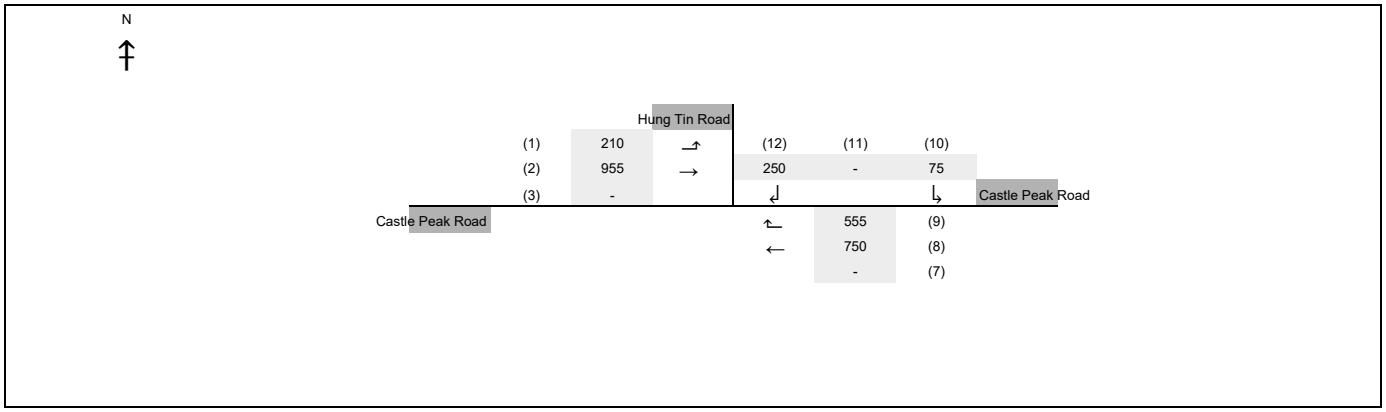
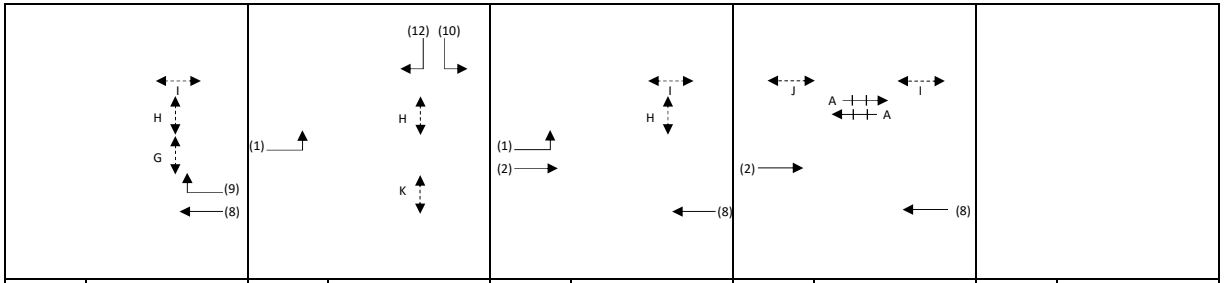
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J18_AM	PROJECT NO: 304204
J18 - Castle Peak Road/ Hung Tin Road	Year 2038 Design Case (AM Peak)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N=	4
No. of Stage Using for Calculation	N=	3
Cycle Time	C=	90 sec
Sum(y)	Y=	0.570
Loss Time	L=	26 sec
Total Flow	=	2795 pcu
Co =(1.5*L+5)/(1-Y)	=	102 sec
Cm =L/(1-Y)	=	60 sec
Yult	=	0.705
R.C.ult =(Yult-Y)/Y*100%	=	23.7 %
Cp =0.9*L/(0.9-Y)	=	70.9 sec
Ymax =1-L/C	=	0.711
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	12.3 %



Stage 1	Int = 11	Stage 2	Int = 6	Stage 3	Int =	Stage 4	Int = 6	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	G	10.00	5	2	9	30	2	9	OK
1,2,3	H	10.00	5	3	9	47	3	9	OK
1,3,4	I	11.00	5	4	10	58	4	10	OK
4	J	14.00	6	5	12	14	5	12	OK
2	K	13.00	7	6	5	7	6	5	OK
4	A (LRT)		10	9	7	15	9	7	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				20				
																				0				
9	1	3.50	E	1	35			2105			555	555	1.00	2018		-	2018	0.275	0.275	0	31	31	0.801	50
8	1,3,4	3.20	D	2			N	4010		750		750	0.00	4010		-	4010	0.187			21	68	0.249	6
10	2	3.50	F	1	12		N	1965	75			75	1.00	1747		-	1747	0.043	0.065	6	5	13	0.291	8
10,12	2	3.50	F	1	15			2105	0		124	124	1.00	1914		-	1914	0.065			7	13	0.439	13
12	2	3.50	F	1	20			2105			126	126	1.00	1958		-	1958	0.064			7	13	0.436	13
1	2,3	3.20	C	1	18		N	1935	210			210	1.00	1786		-	1786	0.118			13	13	0.797	28
2	3,4	3.20	B	2				4150		955		955	0.00	4150		-	4150	0.230	0.230	0	26	26	0.801	22
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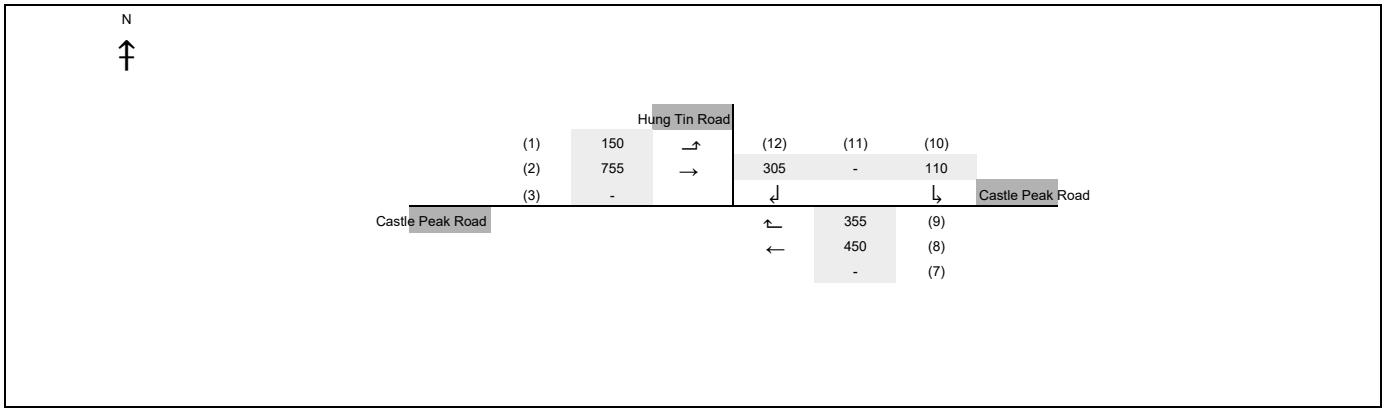
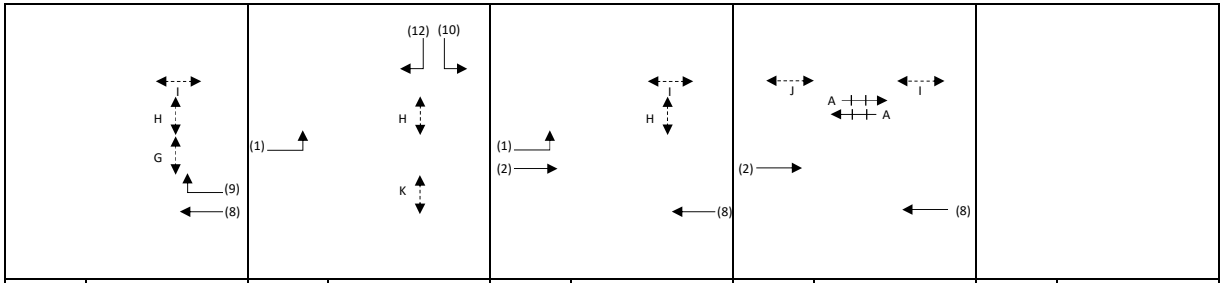
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J18_PM	PROJECT NO: 304204
J18 - Castle Peak Road/ Hung Tin Road	Year 2038 Design Case (PM Peak)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N=	4
No. of Stage Using for Calculation	N=	3
Cycle Time	C=	90 sec
Sum(y)	Y=	0.437
Loss Time	L=	21 sec
Total Flow	=	2125 pcu
Co =(1.5*L+5)/(1-Y)	=	65 sec
Cm =L/(1-Y)	=	37 sec
Yult	=	0.743
R.C.ult =(Yult-Y)/Y*100%	=	70.0 %
Cp =0.9*L/(0.9-Y)	=	40.8 sec
Ymax =1-L/C	=	0.767
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	58.0 %



Stage 1	Int = 11	Stage 2	Int = 6	Stage 3	Int =	Stage 4	Int = 6	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	G	10.00	5	2	9	27	2	9	OK
1,2,3	H	10.00	5	3	9	44	3	9	OK
1,3,4	I	11.00	5	4	10	58	4	10	OK
4	J	14.00	6	5	12	17	5	12	OK
2	K	13.00	7	6	5	7	6	5	OK
4	A (LRT)		10	9	7	18	9	7	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				20				
																				0				
9	1	3.50	E	1	35			2105			355	355	1.00	2018		-	2018	0.176	0.176	0	28	28	0.570	31
8	1,3,4	3.20	D	2			N	4010		450		450	0.00	4010		-	4010	0.112			18	68	0.150	4
10	2	3.50	F	1	12		N	1965	110			110	1.00	1747		-	1747	0.063	0.079	1	10	13	0.421	12
10,12	2	3.50	F	1	15			2105	0		151	151	1.00	1914		-	1914	0.079			12	13	0.527	16
12	2	3.50	F	1	20			2105			154	154	1.00	1958		-	1958	0.079			12	13	0.526	17
1	2,3	3.20	C	1	18		N	1935	150			150	1.00	1786		-	1786	0.084			13	13	0.561	16
2	3,4	3.20	B	2				4150		755		755	0.00	4150		-	4150	0.182	0.182	0	29	29	0.570	16
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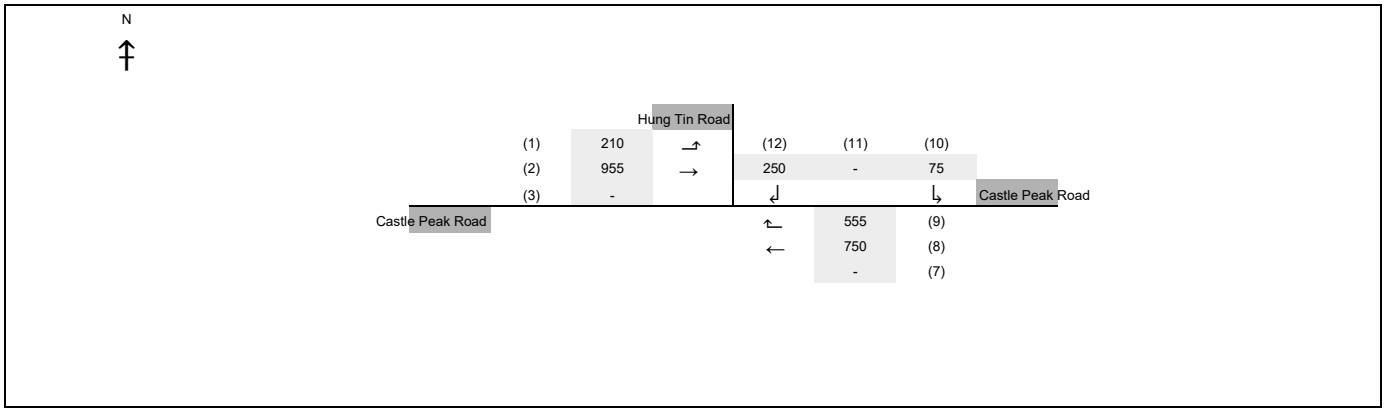
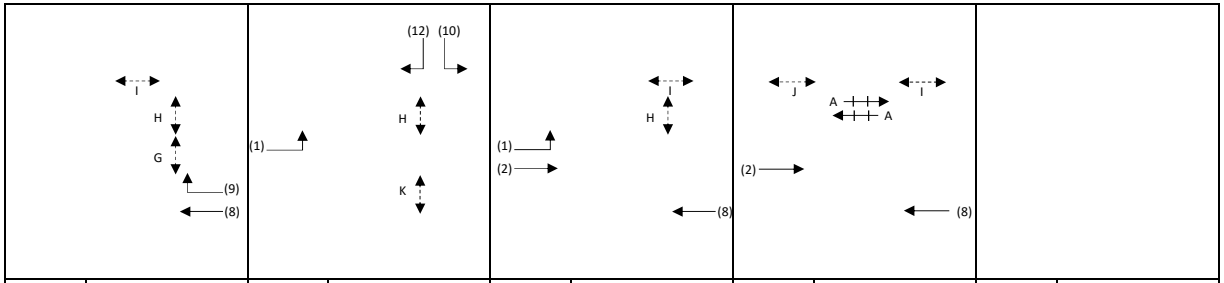
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J18_imp_AM	PROJECT NO: 304204
J18 - Castle Peak Road/ Hung Tin Road	Year 2038 Design Case (AM Peak) (Improvement)	DATE: 08-Jan-26	FILENAME:



No. of Stages per Cycle	N=	4
No. of Stage Using for Calculation	N=	3
Cycle Time	C=	90 sec
Sum(y)	Y=	0.437
Loss Time	L=	24 sec
Total Flow	=	2795 pcu
Co =(1.5*L+5)/(1-Y)	=	73 sec
Cm =L/(1-Y)	=	43 sec
Yult	=	0.720
R.C.ult =(Yult-Y)/Y*100%	=	64.9 %
Cp =0.9*L/(0.9-Y)	=	46.6 sec
Ymax =1-L/C	=	0.733
R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	51.2 %



Stage 1	Int = 11	Stage 2	Int = 6	Stage 3	Int =	Stage 4	Int = 6	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	G	10.00	5	2	9	20	2	9	OK
1,2,3	H	10.00	5	3	9	42	3	9	OK
1,3,4	I	11.00	5	4	10	57	4	10	OK
4	J	14.00	6	5	12	19	5	12	OK
2	K	13.00	7	6	5	8	6	5	OK
4	A (LRT)		10	9	7	20	9	7	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				20				
																				0				
9	1	3.50	E	2	20			4210			555	555	1.00	3916		-	3916	0.142	0.142	0	21	21	0.595	13
8	1,3,4	3.20	D	2			N	4010		750		750	0.00	4010		220	4230	0.177			27	67	0.237	6
10	2	3.50	F	1	12		N	1965	75			75	1.00	1747		-	1747	0.043	0.065	4	6	14	0.280	8
10,12	2	3.50	F	1	15			2105	0		124	124	1.00	1914		-	1914	0.065			10	14	0.423	13
12	2	3.50	F	1	20			2105			126	126	1.00	1958		-	1958	0.064			10	14	0.420	13
1	2,3	3.20	C	1	18		N	1935	210			210	1.00	1786		-	1786	0.118			18	18	0.595	21
2	3,4	3.20	B	2				4150		955		955	0.00	4150		-	4150	0.230	0.230	0	35	35	0.595	18
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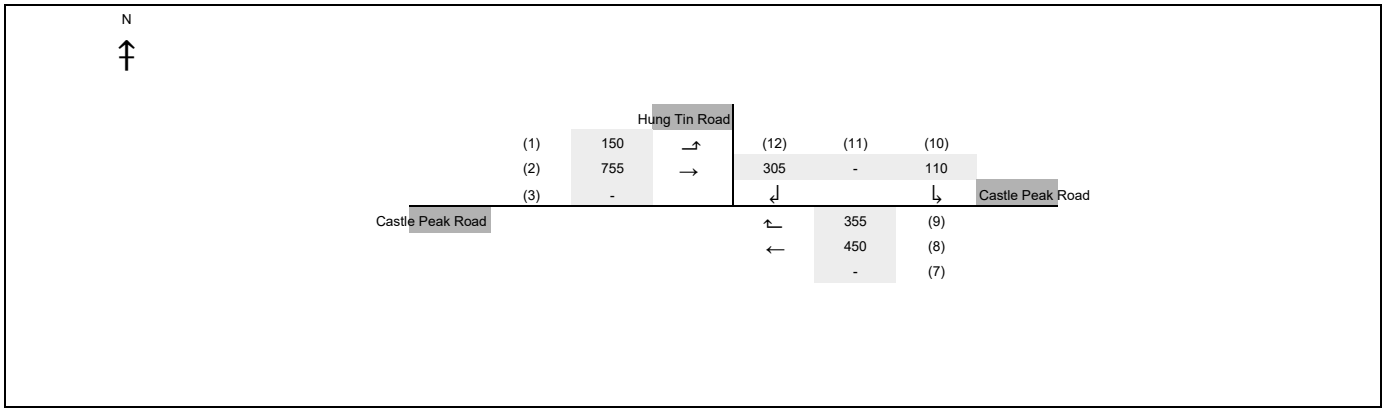
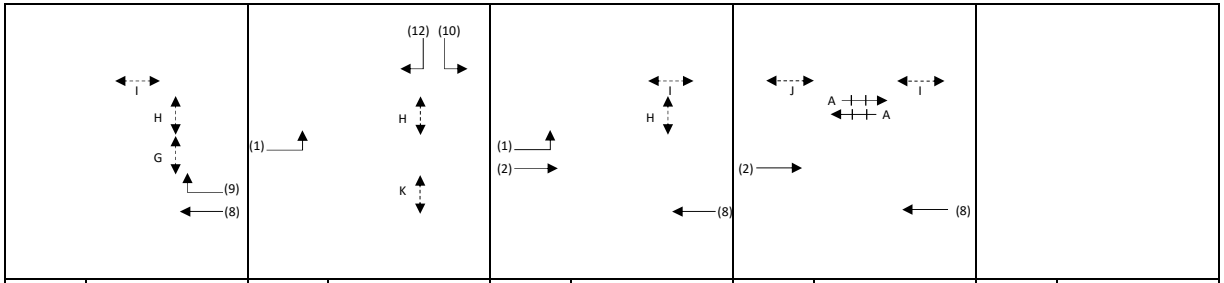
OVE ARUP & PARTNERS	TRAFFIC SIGNAL CALCULATION		
HSK Intensification Site		SHEET: J18_imp_PM	PROJECT NO: 304204
J18 - Castle Peak Road/ Hung Tin Road	Year 2038 Design Case (PM Peak) (Improvement)	DATE: 08-Jan-26	FILENAME:



	No. of Stages per Cycle	N=	4
	No. of Stage Using for Calculation	N=	3
	Cycle Time	C=	90 sec
	Sum(y)	Y=	0.351
aaa	Loss Time	L=	20 sec
	Total Flow	=	2125 pcu
	Co =(1.5*L+5)/(1-Y)	=	54 sec
	Cm =L/(1-Y)	=	31 sec
	Yult	=	0.750
	R.C.ult =(Yult-Y)/Y*100%	=	113.4 %
	Cp =0.9*L/(0.9-Y)	=	32.8 sec
	Ymax =1-L/C	=	0.778
	R.C.(C) =(0.9*Ymax-Y)/Y*100%	=	99.2 %



Stage 1	Int = 11	Stage 2	Int = 6	Stage 3	Int =	Stage 4	Int = 6	Stage 5	Int =

Pedestrian Stage	Pedestrian Phase	Width (m)	Green Time Required (s) SG	Delay	FG	Green Time Provided (s) SG	Delay	FG	Check
1	G	10.00	5	2	9	17	2	9	OK
1,2,3	H	10.00	5	3	9	39	3	9	OK
1,3,4	I	11.00	5	4	10	55	4	10	OK
4	J	14.00	6	5	12	22	5	12	OK
2	K	13.00	7	6	5	10	6	5	OK
4	A (LRT)		10	9	7	23	9	7	OK
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-
			-		-		-	-	-

Move-ment	Stage	Lane Width m.	Phase	No. of Lane	Radius m.	O	N	Straight-Ahead Sat. Flow	m Left pcu/h	m Straight pcu/h	m Right pcu/h	Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Uphill Gradient %	Short Lane Effect pcu/h	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queuing Length m.
																				20				
																				0				
9	1	3.50	E	2	20			4210			355	355	1.00	3916		-	3916	0.091	0.091	0	18	18	0.452	9
8	1,3,4	3.20	D	2			N	4010		450		450	0.00	4010		230	4240	0.106			21	65	0.146	4
10	2	3.50	F	1	12		N	1965	110			110	1.00	1747		-	1747	0.063	0.079	0	13	16	0.361	11
10,12	2	3.50	F	1	15			2105	0		151	151	1.00	1914		-	1914	0.079			16	16	0.452	16
12	2	3.50	F	1	20			2105			154	154	1.00	1958		-	1958	0.079			16	16	0.450	16
1	2,3	3.20	C	1	18		N	1935	150			150	1.00	1786		-	1786	0.084			17	18	0.427	15
2	3,4	3.20	B	2				4150		755		755	0.00	4150		-	4150	0.182	0.182	0	36	36	0.452	14
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Annex C Environmental Assessment

ARUP

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B) 3" to "Residential (Group A) 6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Environmental Assessment Study

Final Report | February 2026

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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1. Introduction

1.1 Background

1.1.1 Ove Arup & Partners Hong Kong Limited was commissioned to conduct an Environmental Assessment Study (EAS) in support of the Proposed Amendment to the Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan (HSK/HT OZP) No. S/HSK/2 at Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories (Development Sites) from "Residential (Group B) 3)" ("R(B)3") to "Residential (Group A) 6" ("R(A)6") for Proposed Residential Development.

1.1.2 Falling within Area 4B of the HSK/HT OZP, the Development Sites consist of Site 4B-1, Site 4B-2 and Site 4B-3. They belong to Remaining Phase of the development plan of the HSK/HT NDA. The Development Sites contribute to an area of about 33,767m^2, intersected by the Hung Shui Kiu Tin Sam Road and Tin Ha Road. The Development Sites are currently occupied by temporary structures for domestic and brownfield operation uses.

1.2 Site Location

1.2.1 The Development Sites are located within HSK/HT NDA, with their locations shown in **Figure 1.1**. Under the proposed change of land use from "R(B)3" to "R(A)6", a total plot ratio of 5.2 with maximum building height of +120mPD are proposed in the current scheme as shown in **Appendix 1.1**.

1.2.2 The purpose of this EAS Report is to evaluate the identified potential environmental impacts on the proposed developments with respect to the guidance for environmental considerations provided in Chapter 9 – Environment of the Hong Kong Planning Standards & Guidelines (HKPSG).

1.2.3 The structure of this Report is as follows:

Chapter	Title	Aims
1	Introduction	To give a general introduction of the Project.
2	Air Quality	To review the potential air quality impacts of the proposed developments. Propose the necessary mitigation measures to be implemented during construction and operation phase of the development.
3	Noise	To identify and assess the potential noise impacts of the proposed developments. Propose the necessary mitigation measures be implemented during operation phase of the development.
4	Land Contamination	To review the land contamination potential within the Development Sites.
5	Conclusion	To conclude the findings of this EAS

2. Air Quality

2.1 General

2.1.1 The proposed change under this application includes change of land use from "R(B)3" to "R(A)6". This EAS presents a study of the potential air quality impact associated with the proposed change in order to confirm the environmental suitability of the proposed developments.

2.1.2 This chapter reviews the potential air quality impacts on the proposed developments during the construction and operation phase. The review has been made reference to the following relevant legislation, standards and guidelines:

- Air Pollution Control Ordinance (APCO) (Cap. 311); and
- Hong Kong Planning Standards and Guidelines (HKPSG).

Air Pollution Control Ordinance (APCO) (Cap. 311)

2.1.3 The principal legislation for controlling air pollutants is the APCO (Cap. 311) and its subsidiary regulations, which defines statutory Air Quality Objectives (AQOs).

2.1.4 The APCO (Cap.311) provides the power for controlling air pollutants from a variety of stationary and mobile sources and encompasses a number of AQOs. In addition to the APCO, the following overall policy objectives are laid down in Chapter 9 of the HKPSG as follows:

- Limit the contamination of the air in Hong Kong, through land use planning and through the enforcement of the APCO to safeguard the health and well-being of the community; and
- Ensure that the AQOs for 7 common air pollutants are met as soon as possible.

2.1.5 The prevailing AQOs, which took effect in Year 2025, are listed in **Table 2.1** below.

Table 2.1 Hong Kong Air Quality Objectives

Pollutant	Limits on Concentration, µg/m^3[1] (The number of Exceedance per calendar year allowed is shown in brackets)					
	Peak Season	10-min	1-hr	8-hr	24-hr[2]	Annual[2]
Sulphur Dioxide (SO_2)	-	500 (3)	-	-	40 (3)	-
Respirable Suspended Particulates (RSP, or PM_{10})[3]	-	-	-	-	75 (9)	30 (N.A.)
Fine Suspended Particulates (FSP, or $PM_{2.5}$)[4]	-	-	-	-	37.5 (18)	15 (N.A.)
Carbon Monoxide (CO)	-	-	30,000 (0)	10,000 (0)	4,000 (0)	-
Nitrogen Dioxide (NO_2)	-	-	200 (18)	-	120 (9)	40 (N.A.)
Ozone (O_3)	100 (N.A.)	-	-	160 (9)	-	-
Lead (Pb)	-	-	-	-	-	0.5 (N.A.)

Note:
[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] Arithmetic mean.
[3] RSP means suspended particulates in air with a nominal aerodynamic diameter of 10 micrometres or smaller.
[4] FSP means suspended particulates in air with a nominal aerodynamic diameter of 2.5 micrometres or smaller.

Hong Kong Planning Standards and Guidelines

2.1.6 Chapter 9 of HKPSG outlines the environmental requirements that need to be considered in land use planning. The HKPSG lists out environmental factors influencing land use planning and recommend buffer distances for land uses. It also recommends minimum setback distance from different categories of air pollution sources. **Table 2.2** shows these minimum setback distances.

Table 2.2 Guidelines on buffer distance between air pollution sources and different land uses

Pollution Source	Parameter	Buffer Distance	Permitted Uses
Road and Highways	Type of Road		
	Trunk Road and Primary Distributor	> 20m	Active and passive recreational uses
		3 – 20m	Passive recreational uses
		< 3m	Amenity areas
	District Distributor	> 10m	Active and passive recreational uses
		< 10m	Passive recreational uses
	Local Distributor	> 5m	Active and passive recreational uses
		< 5m	Passive recreational uses
Industrial Areas	Difference in Height between Industrial Chimney Exit and the Site		
	< 20m	> 200m	Active and passive recreational uses
		5 – 200m	Passive recreational uses
	20 – 30m (*)	> 100m	Active and passive recreational uses
		5 – 100m	Passive recreational uses
	30m – 40m	> 50m	Active and passive recreational uses
		5 – 50m	Passive recreational uses
	> 40m	> 10m	Active and passive recreational uses

Pollution Source	Parameter	Buffer Distance	Permitted Uses
Construction and Earth Moving Activities	-	< 50m	Passive recreational uses
		> 50m	Active and passive recreational uses

Note:
[1] In situations where the height of chimneys is not known, use the set of guidelines marked with an asterisk for preliminary planning purpose and refine as and when more information is available.
[2] The buffer distance is the horizontal, shortest distance from the boundary of the industrial lot, the position of existing chimneys or the edge of road kerb, to the boundary of open space sites.
[3] The guidelines are generally applicable to major industrial areas but NOT individual large industrial establishments which are likely to be significant air pollution sources. Consult Environmental Protection Department (EPD) when planning open space sites close to such establishments.
[4] Amenity areas are permitted in any situation.

2.2 Description of the Environment

2.2.1 The proposed developments consist of three private housing sites which are situated at the southern part of the approved HSK/HT OZP No. S/HSK/2. The Development Sites fall within area zoned "R(B)3" Zone in the approved HSK/HT OZP No. S/HSK/2.

2.2.2 The Development Sites are bounded by Tin Ha Road to the west, Hung Shui Kiu Tin Sam Road to the north, and residential developments including Casa De Oro and Parkview Garden to the east/south. The Development Sites are separated by Hung Leong Road and Hung Kei Road connecting to Tin Ha Road and Hung Shui Kiu Tin Sam Road respectively.

2.2.3 Site survey was conducted on 2nd October 2025 and no existing chimney emission was identified within 200 m from the Development Sites. The setback distance requirements as stipulated in HKPSG could be well satisfied, and air quality impact from chimney emission is not considered to be of concern to the proposed developments.

2.3 Air Sensitive Receivers

2.3.1 As the major construction activities, i.e. site formation works, that would generate fugitive dust, of the Development Sites are targeted to complete by Year 2030, existing Air Sensitive Receivers (ASRs) and planned/ committed ASRs (until 2030) in the approved Hung Shui Kiu New Development Area Environmental Impact Assessment report (AEIAR-203/2016) ("the approved HSK EIA report") were reviewed. Existing ASRs identified in the approved HSK EIA report have been reviewed by means of reviewing topographic maps, aerial photos and land status plans. They mainly include place of worship, residential, educational and recreational uses. Planned/committed ASRs have been identified by referring to the approved HSK EIA report.

2.3.2 The locations of representative existing and planned ASRs within 500m from the boundary of the Development Sites, with reference to the approved HSK EIA report, are summarized in **Table 2.3**. Their locations are illustrated in **Figure 2.1**.

Table 2.3 Representative ASRs

ASR ID	Description	Land Use	Approx. Distance from boundary of Development Site (m)
Site 4B-1			
A306	Chung Uk Tsuen	Res	160
A310	Tin Ha Road Playground	Rec	30
A311	Bauhinia Garden	Res	100
A313	Parkview Garden	Res	20
A314	The Church of Jesus Christ of Latter-day Saints	Wor	20
A401	Casa De Oro	Res	50
A402	Tin Sam Villa	Res	230
A406	Tin Sum Tsuen	Res	30
P311	Planned Public Rental Housing	Res	260
P312	Planned Public Rental Housing	Res	260
Site 4B-2			
A306	Chung Uk Tsuen	Res	310
A310	Tin Ha Road Playground	Rec	160
A311	Bauhinia Garden	Res	240
A313	Parkview Garden	Res	10
A314	The Church of Jesus Christ of Latter-day Saints	Wor	170
A401	Casa De Oro	Res	10
A402	Tin Sam Villa	Res	190
A406	Tin Sum Tsuen	Res	30
A407	Bellevue Court	Res	250
A408	San Lee Uk Tsuen	Res	60
P311	Planned Public Rental Housing	Res	380
P312	Planned Public Rental Housing	Res	360
P408	High Park	Res	240
P430	Existing Residential Development (Sheffield Villas) at Site 5-23	Res	260
P432	Planned Subsidized Sales Flat	Res	300
P436	Planned Subsidized Sales Flat	Res	390
P437	Eminence Terrace I	Res	240
Site 4B-3			
A310	Tin Ha Road Playground	Rec	330

ASR ID	Description	Land Use	Approx. Distance from boundary of Development Site (m)
A311	Bauhinia Garden	Res	350
A313	Parkview Garden	Res	80
A314	The Church of Jesus Christ of Latter-day Saints	Wor	300
A401	Casa De Oro	Res	<10
A402	Tin Sam Villa	Res	30
A406	Tin Sum Tsuen	Res	130
A407	Bellevue Court	Res	210
A408	San Lee Uk Tsuen	Res	20
P408	High Park	Res	80
P430	Existing Residential Development (Sheffield Villas) at Site 5-23	Res	140
P432	Planned Subsidized Sales Flat	Res	180
P436	Planned Subsidized Sales Flat	Res	310
P437	Eminence Terrace I	Res	90

Note:
[1] Res – Residential; Rec – Recreational; Wor – Place of Worship.

2.4 Construction Dust Impact

2.4.1 According to the construction dust impact assessment in the approved HSK EIA report, the construction dust impacts of current footprint of the proposed developments are included under the same assessment scenario, i.e. until Year 2030. The proposed change under this application does not change the residential land use type and mainly involves superstructure works which are not considered major dusty activities. The construction details, the construction period, the construction methods, the total area for site formation and excavation, the amount of excavated material, the number of dump trucks needed per time over work sites as well as the number of on-site mechanical equipment to be used, would be the same as that assumed in the approved HSK EIA report. Besides, based on the latest development timeline of HSK/HT NDA, the overall timeline for the developments included in the approved HSK EIA report will be shifted but remains generally consistent with the original planning framework and will not significantly deviate from the approved HSK EIA. With the implementation of mitigation measures as recommended in the approved HSK EIA report, no adverse construction dust impacts would be anticipated.

2.4.2 Moreover, the proposed change in land use would only affect the superstructure works. As prefabrication method would be adopted, superstructure works are not considered dusty construction activities, and hence significant dust impacts from superstructure works due to the change regarding land use is not anticipated.

2.4.3 As no additional construction dust impact is anticipated due to the change regarding land use, good site practices and mitigation measures as recommended in the approved HSK EIA report shall be implemented to ensure no adverse construction dust impact is anticipated from the proposed developments.

2.5 Vehicular Emission Impact

2.5.1 The best available information has been evaluated for the road networks in the surrounding environment of the proposed development. The corresponding recommended minimum buffer distance in the HKPSG for the surrounding major roads are summarized in **Table 2.4** below.

Table 2.4 Classification of type of road and buffer distance for nearby major roads

Name of Road	Type of Road [1]	HKPSG Recommended Setback Distance(m)
Tin Ha Road [2]	LD	>5
Hung Shui Kiu Tin Sam Road [2]	LD	>5
Hung Yu Road [2]	LD	>5
Hung Kei Road [2]	LD	>5
Hung Leong Road [2]	LD	>5
Hung Shui Kiu Main Street [2]	LD	>5

Note:
[1] LD – Local Distributor.
[2] The respective road type is not available in AADT. The road type is determined from the road configuration by traffic engineer and submitted to TD for confirmation in the separate Technical Note on the traffic forecast for this study.

2.5.2 **Figure 2.2** shows the minimum setback distances from nearby roads. Based on the latest preliminary building layout plan for the proposed developments at the time of this EAS submission, all air-sensitive uses, including openable windows, fresh air intake of mechanical ventilation and recreational uses in the open area, could comply with the HKPSG's minimum setback distance requirement. Adverse vehicular emission impact on the proposed developments is not anticipated.

2.6 Chimney Emissions

2.6.1 Site surveys were conducted on 2nd October 2025 to review the validity of the existing chimneys in the vicinity of the Development Sites as identified in the approved HSK EIA report. No existing and planned chimney was identified within 200 m from the Development Sites. Hence, no adverse air quality due to chimney emission is anticipated.

2.7 Odour Emission Impact

2.7.1 Site survey was conducted on 2nd October 2025 and no additional major odour emission sources have been identified through site survey. According to the approved HSK EIA report, a refuse collection point (RCP) is proposed in Site 5-29 (i.e. Area 46 in the approved HSK/HT OZP No. S/HSK/2) as shown in **Figure 2.3**. It is located at about 500m, 365m and 220m from the boundary of the Development Sites 4B-1, 4B-2 and 4B-3 respectively. In order to minimize the potential odour nuisance on the proposed residential blocks, proper ventilation and necessary pollution control measures shall be provided at the planned RCP, which shall be investigated under the detailed design of the planned RCP by other project proponent as far as practical. Good site practices will be also adopted to enhance the hygiene of the refuse collection point by frequent washing, proper covering of refuse bins, closing of roller shutters and proper maintenance of the ventilation, deodourising and exhaust systems. Given the considerable separation distance between these development sites and Site 5-29, together with the mitigation

measures to be implemented for potential odour emissions, no adverse odour impact from the proposed RCP is anticipated.

2.7.2 Besides, sewage pumping station (SPS) is proposed at Site 3-41 (i.e. Area 8 in the approved HSK/HT OZP No. S/HSK/2) as shown in **Figure 2.3**, with designed capacities of 43,000 m^3 per day and is located at around 630m, 440m and 530m from the boundary of the Development Sites 4B-1, 4B-2, 4B-3 respectively.

2.7.3 As concluded in the approved HSK EIA report, all facilities and areas with potential odour emission such as wet wells, inlet chamber and screen chambers would be covered by reinforced concrete structure. The exhausted air would be conveyed to a deodouriser with improved odour removal efficiency of at least 90% for treatment before discharge to the environment as stated in the approved HSK EIA report. The ventilation system would also maintain a slight negative pressure within the facilities.

2.7.4 A desktop review of the Tuen Mun Area 54 SPS (AEIAR-122/2008), which has a greater design capacities (90,000 m^3/day), shorter separation distances from the nearest ASRs to the SPS site boundary (10 m), and a deodorizer with similar odour removal efficiency (at least 90%), has concluded that there are no adverse odour impacts on ASRs. Considering large separation distances between the proposed development and the planned SPSs with proper implementation of odour mitigation measure, no unacceptable odour impact arising from the planned SPSs is anticipated.

2.8 Air Quality Impact from Proposed Carpark

2.8.1 A carpark has been proposed at G/F and 1/F. Detailed layout design is not yet available during the preparation of this EAS. If mechanical ventilation system is provided, it shall satisfy the requirements, including design, maintenance and operation of the ventilation systems, stipulated in the ProPECC PN 2/96 - Control of Air Pollution in Car Park. Any exhaust(s) of the proposed car park shall be located and directed away from nearby air sensitive uses as far as practicable. Therefore, adverse air quality impact arising from the proposed carpark is not anticipated.

2.9 Air Quality and Odour Emission Impact from Proposed Restaurants

2.9.1 Restaurants are proposed at the Development Sites. Detailed layout design is not yet available during the preparation of this EAS. Nevertheless, the design of the exhaust air outlets of the proposed restaurants would follow the Guidelines on Control of Oily Fume and Cooking Odour from Restaurants and Food Business issued by EPD. Therefore, adverse air quality and odour impacts from the proposed restaurants are not anticipated.

3. Noise

3.1 Legislation, Standards and Guidelines

3.1.1 As the proposed change is related to land use only, this EAS presents a study of the potential noise impact associated with the proposed change in order to confirm the environmental suitability of the proposed developments. Considering the proposed change, nature and scope of the proposed developments, it is anticipated that there would be no additional environmental impacts arising from the proposed change during the construction of the proposed developments. Future developer and construction contractor shall also follow ProPECC PN 1/24 Minimizing Noise from Construction Activities in the construction stage and implement necessary mitigation measures to minimize the construction noise impacts.

3.1.2 This chapter reviews the potential noise impacts on the proposed developments during the operational phase. The review has been made reference to the following relevant legislation, standards and guidelines:

- Noise Control Ordinance (NCO) (Cap.400);
- Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites (IND-TM); and
- Hong Kong Planning Standards and Guidelines (HKPSG).

Noise Standards for Road Traffic Noise

3.1.3 The criteria for assessing road traffic noise follows the HKPSG and is in L_{10} (1 hour). For domestic premises, hotels, hostels and offices, the criterion is 70dB(A). For educational institutions and places of public worship, the criterion is 65dB(A). For hospitals, clinics etc., a more stringent criterion of 55dB(A) is stipulated. It should be noted that all these L_{10} (1 hour) criteria only apply to uses that rely on openable windows for ventilation.

Noise Standards for Fixed Noise

3.1.4 The HKPSG states that in order to plan for a better environment, all planned fixed noise sources should be located and designed that when assessed in accordance with the IND-TM, the level of intruding noise at the façade of the nearest sensitive use should be at least 5dB(A) below the appropriate Acceptable Noise Levels (ANLs) shown in Table 2 of the IND-TM or, in the case of the background being 5dB(A) lower than the ANL, should not be higher than the background.

3.1.5 The ANL for a particular NSR is dependent upon the Area Sensitive Rating of the area within which the NSR is located, and the time period under consideration.

3.1.6 Area Sensitivity Rating is defined in the IND-TM issued under the NCO. The Area Sensitivity Rating depends on the type of area and the degree of impact that Influencing Factors (IFs) have on the NSRs. Industrial area, major road (with an annual average daily traffic (AADT) flow in excess of 30,000) or the area within the boundary of Hong Kong International Airport shall be considered to be an IF.

3.1.7 The appropriate Area Sensitivity Rating for the NSR shall be assigned on the basis of **Table 3.1**. Having regard to the appropriate Area Sensitivity Rating and the time period under consideration, the appropriate ANL for a given NSR could be determined from **Table 3.2**. All these criteria only apply to NSRs relying on openable windows for ventilation.

Table 3.1 Area Sensitivity Ratings

Type of area containing Area Sensitivity Rating	Degree to which NSR is affected by IF		
	Not Affected	Indirectly Affected	Directly Affected
Rural area, including country parks or village type developments	A	B	B
Low density residential area consisting of low-rise or isolated high-rise developments	A	B	C
Urban area	B	C	C
Area other than those above	B	B	C

Table 3.2 Acceptable Noise Level for Different Area Sensitivity Ratings

Time Period	Area Sensitivity Rating		
	A [1]	B [1]	C [1]
Day (0700 to 1900 hours)	60 (55)	65 (60)	70 (65)
Evening (1900 to 2300 hours)			
Night (2300 to 0700 hours)	50 (45)	55 (50)	60 (55)

Note:

[1] The brackets show the permissible noise levels at NSRs for any planned fixed plant noise sources, i.e. 5 dB(A) below the corresponding ANLs.

Noise Standards for Rail Noise

3.1.8 Noise planning standards for rail noise have been specified in Table 4.1 of the HKPSG Chapter 9, i.e. $Leq_{(24hr)}$ of 65 dB(A) and $Lmax_{(2300\text{-}0700hours)}$ of 85 dB(A). Besides, Acceptable Noise Levels (ANL) are also stipulated in the IND-TM issued under the Noise Control Ordinance as shown in **Table 3.3**.

Table 3.3 Noise Criteria for Rail Noise

Area Sensitivity Rating	Time Period [1]	Acceptable Noise Levels, $Leq_{(30\ mins)}$ dB(A) under TM-Places	Maximum A-weighted SPL, $L_{max\ (2300\text{-}0700hrs)}$ dB(A) under HKPSG	24 hours Equivalent SPL, $Leq_{(24\ hr)}$ dB(A) under HKPSG
A	Daytime & Evening	60	85	65
	Night-time	50		
B	Daytime & Evening	65		
	Night-time	55		
C	Daytime & Evening	70		
	Night-time	60		

Note:

[1] Daytime: 0700 to 1900 hours, Evening: 1900 to 2300 hours, Night-time: 2300 to 0700 hours.

3.2 Descriptions of the Environment

3.2.1 The proposed developments are situated at the southern part of the approved HSK/HT OZP No. S/HSK/2. The Development Sites fall within area zoned "R(B)3" Zone in the approved HSK/HT OZP No. S/HSK/2. The existing noise climate in the vicinity of these sites are mainly dominated by traffic noise from Tin Ha Road, Hung Shui Kiu Tin Sam Road and Castle Peak Road-Hung Shui Kiu (CPR-HSK), and rail noise from Light Rail Transit (LRT).

3.2.2 In regard to the proposed change in land use, major concerns would be the potential road traffic noise impact from the nearby roads as well as the potential rail noise impact from LRT. Another concern would be the potential fixed plant noise impact on the proposed residential developments. This section addresses road traffic noise, rail noise and fixed plant noise impacts on the proposed residential developments. The Indicative Scheme is particularly formulated for this submission to demonstrate the technical feasibility and constructability of Development Sites.

3.2.3 The future developer of the Development Sites will submit a Noise Impact Assessment (NIA) based on the latest building plan(s) under a control mechanism (e.g. land lease condition) to review, exploration, demonstration and implementation of appropriate at-receivers noise mitigation measures to ensure full compliance with the relevant noise criteria and requirements of road traffic noise, fixed noise and railway noise under Professional Persons Environmental Consultative Committee Practice Notes (ProPECC PNs), HKPSG and NCO during the operational phase of the proposed development.

3.3 Road Traffic Noise Assessment

Assessment Methodology

3.3.1 Road traffic noise calculation is based on the method of UK Department of Transport "Calculation of Road Traffic Noise (CRTN)", which is the same as that adopted in the approved EIA. The predicted noise levels at the noise sensitive receivers (NSRs) include 2.5dB(A) facade reflection and correction factors of effects due to gradient, distance, view angle, road surface and barriers.

3.3.2 The computer programme, RoadNoise 2000, has been used to model traffic noise from road networks. It complies with the Calculation of Road Traffic Noise (CRTN) developed by the UK Department of Transport. The road traffic noise will be presented in terms of noise levels exceeded for 10% of the one-hour period during peak traffic flow [i.e. L_{10}(1hr) dB(A)].

3.3.3 Calculations of future road traffic noise are based on the peak hourly flow for the maximum traffic projected within a 15 years period upon full operation of the roadworks or full occupation of the NSRs. Representative NSRs have been identified according to the latest block layout plans of the proposed developments, as shown in **Figure 3.1**.

Assessment Year

3.3.4 The population intake of proposed development will be Year 2035. The population intake year is only assumed for assessment purpose only. Calculation of future road traffic noise level is based on the peak hourly flow for the maximum traffic projected within a 15-year period upon commencement of the operation of the proposed road improvement works. The traffic projection has taken into account the induced traffic due to the planned developments in the vicinity of the site. As advised by Traffic Consultant, the maximum

traffic flow within 15 years after population intake of the proposed development will be Year Post-2046. Details of traffic forecast in Year Post-2046 are given in **Appendix 3.1**.

Proposed Direct Noise Mitigation Measures

3.3.5 The direct mitigation measures as proposed in the approved HSK EIA report, including noise barrier and Low Noise Road Surfacing (LNRS) have been reviewed under a separate Environmental Review of the detailed design for HSK/HT development. In view of design and engineering constraints such as visibility issues, space availability, etc., the extent of some noise barriers and LNRS proposed under the approved HSK EIA report have been adjusted. Proposed direct noise mitigation measures under the separate Environmental Review of the detailed design for HSK/HT development within the 300m assessment area are indicated in **Figure 3.2** and summarised in **Table 3.4** and **3.5**, which are included in the base case scenario.

Table 3.4 Summary of Proposed Noise Barriers for HSK/HT Development

Barrier ID	Barrier Type	Height, mAG [1]	Approx. Length (m)
NVB4	Vertical Barrier	5m	60

Note:
[1] mAG means meter above ground level

Table 3.5 Summary of Proposed Low Noise Road Surfacing (LNRS) for HSK/HT Development

LNRS ID	Road	Approx. Length (m) [1]
LNS27	Proposed Road near Site 4-24	300
LNS29	Proposed Road L2	300

Note:
[1] The length refers to the section of LNRS falls within the 300m assessment area in Figure 3.2.

Road Traffic Noise Assessment Result – Basecase Scenario

3.3.6 Result of the road traffic noise assessment for the proposed residential development are presented in **Appendix 3.2**. The locations of the predicted exceedances are summarised in **Table 3.6.**

Table 3.6 Road traffic noise assessment results – Residential Blocks (Basecase Scenario)

NAP ID	Exceeded Floor
R1201	1/F-16/F
R1202	1/F-17/F
R1203	1/F-11/F
R1301	1/F-13/F
R1302	1/F-19/F
R1303	1/F-16/F
R1402	1/F-8/F

NAP ID	Exceeded Floor
R1403	2/F-17/F
R1404	5/F-11/F
R2101	4/F-12/F
R2102	2/F-19/F
R2103	1/F-24/F
R2104	1/F-22/F
R2105	1/F-24/F
R2106	1/F-16/F
R2302	1/F-19/F
R2303	1/F-24/F
R2304	1/F-23/F
R2502	1/F-16/F
R2503	1/F-23/F
R2504	1/F-28/F
R2505	1/F-21/F
R3104	1/F-6/F
R3105	1/F-11/F
R3106	1/F-9/F
R3201	1/F-12/F
R3202	1/F-10/F
R3203	1/F-14/F
R3401	1/F-16/F
R3402	1/F-13/F
R3406	1/F-14/F

Road Traffic Noise Assessment Result – Mitigated Scenario

3.3.7 At-receiver mitigation measures are proposed with reference to the EPD's "Practice Note on Application of Innovative Noise Mitigation Designs in Planning Private Residential Developments against Road Traffic Noise Impact" (PN 5/23), which include:

- Acoustic window (Baffle Type): -6dB(A)
- Acoustic window (Baffle Type) with Sound Absorptive Material (SAM): -7.5dB(A)

3.3.8 Locations of the proposed acoustic windows are indicated in **Figure 3.3** and are summarised in **Table 3.7** and **Table 3.8** respectively.

Table 3.7 Location of Proposed Acoustic Windows (Baffle Type) for Mitigating Road Traffic Noise

Acoustic Window at NSR	Floors Requiring Acoustic Window
R1201	1/F-16/F
R1202	1/F-17/F

Acoustic Window at NSR	Floors Requiring Acoustic Window
R1203	1/F-11/F
R1301	1/F-13/F
R1302	1/F-19/F
R1303	1/F-16/F
R1402	1/F-8/F
R1403	2/F-17/F
R1404	5/F-11/F
R2101	4/F-12/F
R2102	2/F-19/F
R2103	1/F-24/F
R2104	1/F-22/F
R2105	1/F-24/F
R2106	1/F-16/F
R2302	1/F-19/F
R2303	1/F-24/F
R2304	1/F-23/F
R2502	1/F-16/F
R2503	1/F-23/F
R2504	2/F-28/F
R2505	1/F-21/F
R3104	1/F-6/F
R3105	1/F-11/F
R3106	1/F-9/F
R3201	1/F-12/F
R3202	1/F-10/F
R3203	1/F-14/F
R3401	1/F-16/F
R3402	1/F-13/F
R3406	1/F-14/F

Table 3.8 Location of Proposed Acoustic Windows (Baffle Type) with SAM for Mitigating Road Traffic Noise

Acoustic Window at NSR	Floors Requiring Acoustic Window
R2504	1/F

3.3.9 With the provision of acoustic windows in place, all residential flats will be protected and a compliance rate of 100% could be achieved. Detailed results are presented in **Appendix 3.3**. It is considered that with proper design and provision of additional at-receiver mitigation measures, no adverse road traffic noise impact is anticipated. The detailed design of the at-receiver mitigation measures shall be reviewed at a later stage.

3.3.10 Since the Development Site was within Hung Shui Kiu/Ha Tsuen NDA with a number of infrastructure works being planned or undergoing, future land owner(s) or grantee(s) shall seek confirmation from Highway Department (HyD) and Civil Engineering and Development Department (CEDD) on the latest road layouts, any at-source mitigation measures, such as low noise road surfacing and / or noise barrier(s) within 300m of the Development Site for road traffic noise modelling. The future land owner(s) or grantee(s) shall also confirm with Transport Department (TD) on the traffic forecast for road traffic noise modelling. Should TD only confirm on the methodology of traffic forecast, the applicant shall appoint a competent person, e.g. traffic consultant to confirm that the methodology of traffic forecast agreed by TD has been strictly followed.

3.4 Fixed Noise Assessment

Assessment Methodology

3.4.1 The fixed noise impact assessment has been assessed in the approved HSK EIA report. The assumptions, such as source term, operation, tonal characteristics and screening, adopted in the approved HSK EIA report have been reviewed and considered still valid for the fixed noise impact assessment. Therefore, this assessment adopted the same methodology, assumptions and noise criteria as in the approved HSK EIA report. Potential fixed noise sources during operational phase in this assessment remains the same as those presented in the approved HSK EIA report, as shown in **Figure 3.4**. Representative NSRs have been updated according to the latest block layout plan of the proposed developments.

Fixed Noise Assessment Result

3.4.2 Representative worst affected NSR at the proposed developments are selected for the assessment. The location of the selected representative assessment point at the proposed residential block are illustrated in **Figure 3.4**. According to the approved HSK EIA report, a planned flood retention facility would be situated at Site 4-11 as shown in **Figure 3.4**. The flood retention facility would be installed underground with a small concrete building structure for maintenance use. The ventilation fans would be operated during maintenance period only. As such, it is not considered in the quantitative fixed noise assessment. The predicted fixed noise levels are summarised in **Table 3.9** and detailed calculation shall be referred to **Appendix 3.4**.

Table 3.9 Predicted Fixed Noise Levels at Representative NSRs

Site ID	Representative NSR	ASR	Noise Criteria, dB(A)			Predicted Leq30mins. dB(A)		
			Day-time	Evening-time	Night-time	Day-time	Evening-time	Night-time
4B-1	R1302	B	60	60	50	42	42	32

3.4.3 Results indicate that the predicted fixed noise impact on the proposed developments would comply with the respective noise criteria stipulated in the HKPSG and NCO. Adverse fixed noise sources impacts are not anticipated and mitigation measures on the proposed developments are therefore not required.

3.4.4 The future land owner(s) or grantee(s) shall review in the NIA the fixed noise source impacts from nearby fixed plants / warehouse(s) / workshop(s) / Commercial & Industrial (C&I) facility(ies) (if any). The future land owner(s) or grantee(s) shall consider the existing residential development of Casa De Oro and Parkview Garden in designing / locating their plant rooms, Electrical & Mechanical (E&M) equipment, and necessary noise mitigation measures, and demonstrate in the NIA the compliance with respective fixed noise source criteria as stipulated in the HKPSG Chapter 9.

3.5 Rail Noise Impact Assessment

Assessment Methodology

3.5.1 The rail noise impact from LRT has been assessed in the approved HSK EIA report. The assessment methodology and assumptions, such as source term, track alignment, train frequency and train speed, adopted in the approved HSK EIA report have been reviewed and considered still valid.

Rail Noise Assessment Review

3.5.2 The existing LRT is located at about 45m to the south of the nearest Development Sites, i.e. Site 4B-1. According to the approved HSK EIA report, rail noise assessment has been conducted for representative NSRs along the LRT near the Development Sites. The nearest representative NSR identified in the approved HSK EIA report from the Development Sites is Parkview Garden Block 24 – 27 (i.e. NSR LR-E1) to the east of Site 4B-1 and located at about 15m from the LRT. The predicted noise levels at LR-E1 are 60-61dB(A) for daytime and 60dB(A) for night-time, which complies with the respective noise criteria for ASR of C. The predicted Lmax and Leq(24hrs) are 71-72dB(A) and 59dB(A) respectively, which could also comply with the noise standard of HKPSG.

3.5.3 Both LR-E1 and the proposed developments (with domestic blocks located above podium) in the nearest Development Site, i.e. Site 4B-1, have open view to the LRT with no screening in between. Yet, the Development Sites have larger separation distances from the LRT compared to LR-E1, it is anticipated that the noise levels at the proposed developments would be smaller than the noise levels at LR-E1 predicted in the approved HSK EIA report. Given the predicted rail noise levels at LR-E1 in the approved HSK EIA report comply with respective noise criteria, adverse rail noise impact at the proposed developments is also not anticipated and mitigation measures are therefore not required.

3.5.4 The future land owner(s) or grantee(s) of Site 4B-1 shall address the railway noise impact from LRT in the NIA based on the actual building plan.

4. Land Contamination

4.1 Site Description

4.1.1 The Development Sites are bounded by Tin Ha Road to the west, Hung Shui Kiu Tin Sam Road to the north, and residential developments including Casa De Oro and Parkview Garden to the east/south. The sites are currently occupied by warehouses and temporary structures.

4.2 Guidelines and Evaluation Criteria

4.2.1 Land contamination assessment is conducted in accordance with the following Technical Memorandum and Guidance Notes:

- Guidance Manual for Use of Risk-Based Remediation Goals (RBRGs) for Contaminated Land Management, EPD, 2023;
- Guidance Note for Contaminated Land Assessment and Remediation, Environmental Protection Department (EPD), 2023; and
- Practice Guide for Investigation and Remediation of Contaminated Land, EPD, 2023.

4.2.2 The EPD's *Guidance Manual for Use of Risk-Based Remediation Goals for Contaminated Land Management* introduces the background of RBRGs and provides guidelines for comparison of soil and groundwater data to RBRGs. The RBRGs have been designed to protect the health of people who could potentially be exposed to land contaminated by chemicals. They are intended to be used as site assessment criteria that will be appropriate on a stand-alone basis for the majority of site in Hong Kong, where human health is the only significant receptor that needs to be protected.

4.2.3 In accordance with EPD's *Guidance Note for Contamination Land Assessment and Remediation*, a contamination assessment evaluation should:

- provide a clear and detailed account of the present land use and the relevant past land history, in relation to possible land contamination;
- identify areas of potential contamination and associated impacts, risks or hazards; and
- submit a plan to evaluate the actual contamination conditions for soil and/or groundwater, if required.

4.2.4 The EPD's *Practice Guide for Investigation and Remediation of Contaminated Land* outlines the process for conducting land contamination assessment and remediation in Hong Kong. It sets out the requirements for:

- planning and implementation of the contaminated land investigation;
- interpretation of the investigation results using the RBRGs;
- reporting the contaminated land assessment;
- planning and implementation of remediation actions; and
- reporting the remediation works.

4.3 Review of Aerial Photographs and Historical Land Use

4.3.1 Historical aerial photographs taken from 1978 to 2013 have been reviewed in the approved HSK EIA report. The latest aerial photograph taken in 2024 has also been reviewed. The key findings with reference to the approved HSK EIA report are summarized in **Table 4.1** and the historical aerial photographs are shown in **Appendix 4.1**.

Table 4.1 Description of historical aerial photographs of Sites 4B-1, 4B-2 and 4B-3

Year	Photo No.	Site Description
1978	Extracted from Appendix 8.1 of HSK EIA report	The site area comprised village houses, warehouses and open area storages.
1985		No significant change in land use was observed compared to Year 1978.
1995		No significant change in land use was observed compared to Year 1985. The land to the south of Site 4B-3 was under construction.
2010		The land use of Sites 4B-1 and 4B-2 were dominated by warehouse type structures. The land to the south of 4B-3 was converted to roads and residential areas. No significant change in land use was observed in Site 4B-3 compared to Year 1995.
2013		No significant change in land use was observed compared to Year 2010.
2024	E230322C	No significant change in land use was observed compared to Year 2013.

4.4 Site Visit

4.4.1 Site visit was conducted in October 2025 to identify the existing land uses which may have potential land contamination issues. For Sites 4B-1 and 4B-2, there is no change in land use and site conditions compared to the findings in approved HSK EIA report (open area storage/parking area and warehouses). While no contamination activity was identified at Site 4B-3 in the approved HSK EIA report, a hardware store and a motorcycle repair shop were identified within the site facing Hung Shui Kiu Tin Sam Road during site visit. Potential contaminating activities such as loading, unloading and storage of goods and motorcycle maintenance in the sites may cause contamination to the underlying soil and groundwater. Photo record of the site survey is given in **Appendix 4.2**.

4.5 Recommendation

4.5.1 Based on the recent site survey findings, potential land contamination activities were identified within Development Sites 4B-1, 4B-2 and 4B-3.

4.5.2 According to the approved HSK EIA report, after the sites are handed over to Civil Engineering and Development Department (CEDD) for development, CEDD will appoint a consultant to revisit/re-appraise the sites to assess the latest land uses and site conditions, as well as to ascertain the initial evaluation and recommendation reported in the Contamination Assessment Plan (CAP). Site Investigation (SI) works and submission of supplementary CAP/ Contamination Assessment Report (CAR)/ Remediation Action Plan (RAP) and Remediation Report (RR) are also recommended to conduct by the appointed consultant of CEDD to identify the presence, nature and extent of contamination and, if necessary, to remediate the contaminated soil and groundwater.

4.5.3 In view of the above, land contamination impacts are therefore considered surmountable to future occupants during operation phase.

5. Conclusion

5.1 General

5.1.1 In view of the nature and scope of the proposed change to the proposed developments, it is anticipated that there would be no additional environmental impacts arising from the proposed changes during the construction stage of the proposed developments. In order to confirm the acceptability of the proposed developments, an EAS has been conducted to evaluate the potential environmental impacts due to proposed change during the operation phase of the proposed developments. Potential environmental impacts include air quality, noise and land contamination impacts. It is concluded that there are no insurmountable environmental impacts on the proposed developments and the key findings are summarized as below.

5.2 Air Quality

5.2.1 As the major dusty construction activities would be the same as that assumed in the approved HSK EIA report, no adverse construction dust impacts would be anticipated. No significant dust impact is anticipated from superstructure works considered that prefabrication method would be adopted. With the implementation of good site practices and mitigation measures as recommended in the approved HSK EIA report, no adverse air quality impacts are anticipated during the construction phase of the proposed development.

5.2.2 The current design scheme has allowed sufficient setback from the surrounding roads to ensure no air sensitive uses, including openable windows, fresh air intake of mechanical ventilation and recreational uses in the open area, would be located within the buffer zones, in order to meet the minimum requirement as stipulated in the HKPSG. Hence adverse air quality impacts from vehicular emissions on the proposed development are not anticipated, subject to further review to be undertaken in detailed design stage where necessary.

5.2.3 No existing and planned chimney was identified within 200 m from the proposed development. Hence, adverse air quality impact due to chimney emission is not anticipated.

5.2.4 Owing to the adequate separation distances, the proposed odour mitigation measures, and the implementation of good site practices by the relevant premises, adverse odour impacts from the planned RCP and SPSs at nearby sites are not anticipated.

5.2.5 The proposed carpark would be designed in according to the ProPECC PN 2/96 - Control of Air Pollution in Car Park and thus, adverse air quality impact arising from the proposed carpark is not anticipated.

5.2.6 The design of the exhaust air outlets of the proposed restaurants would follow the Guidelines on Control of Oily Fume and Cooking Odour from Restaurants and Food Business issued by EPD. Therefore, adverse air quality and odour impacts are not anticipated from the proposed restaurants.

5.3 Noise

5.3.1 Road traffic noise assessment has been conducted at the representative NSRs based on traffic forecast at Year Post-2046. With the adoption of acoustic windows, no adverse road traffic noise impact on the proposed development is anticipated.

5.3.2 Rail noise assessment for the LRT has been conducted in the approved HSK EIA report and representative NSR along the LRT near the Development Sites has been assessed. The representative NSR would comply with the respective noise criteria and no mitigation measures are required. In view that the Development Sites have a larger separation distance from the LRT compared to the representative NSR in the approved HSK EIA report, adverse rail noise impact on the proposed developments is also not anticipated.

5.3.3 Based on the fixed plant noise assessment findings, the predicted noise level at all representative NSRs within the proposed development would comply with the respective noise criteria and hence no mitigation measures are required.

5.4 Land Contamination

5.4.1 Potential land contamination activities were identified within the Development Sites based on the review of aerial photos and site survey findings. Nevertheless, according to the approved HSK EIA report, CEDD will appoint a consultant to revisit/re-appraise the sites after they are handed over for development and remediation measures would be proposed where necessary. Therefore, land contamination impacts are considered surmountable to future occupants during operation phase.

Figures

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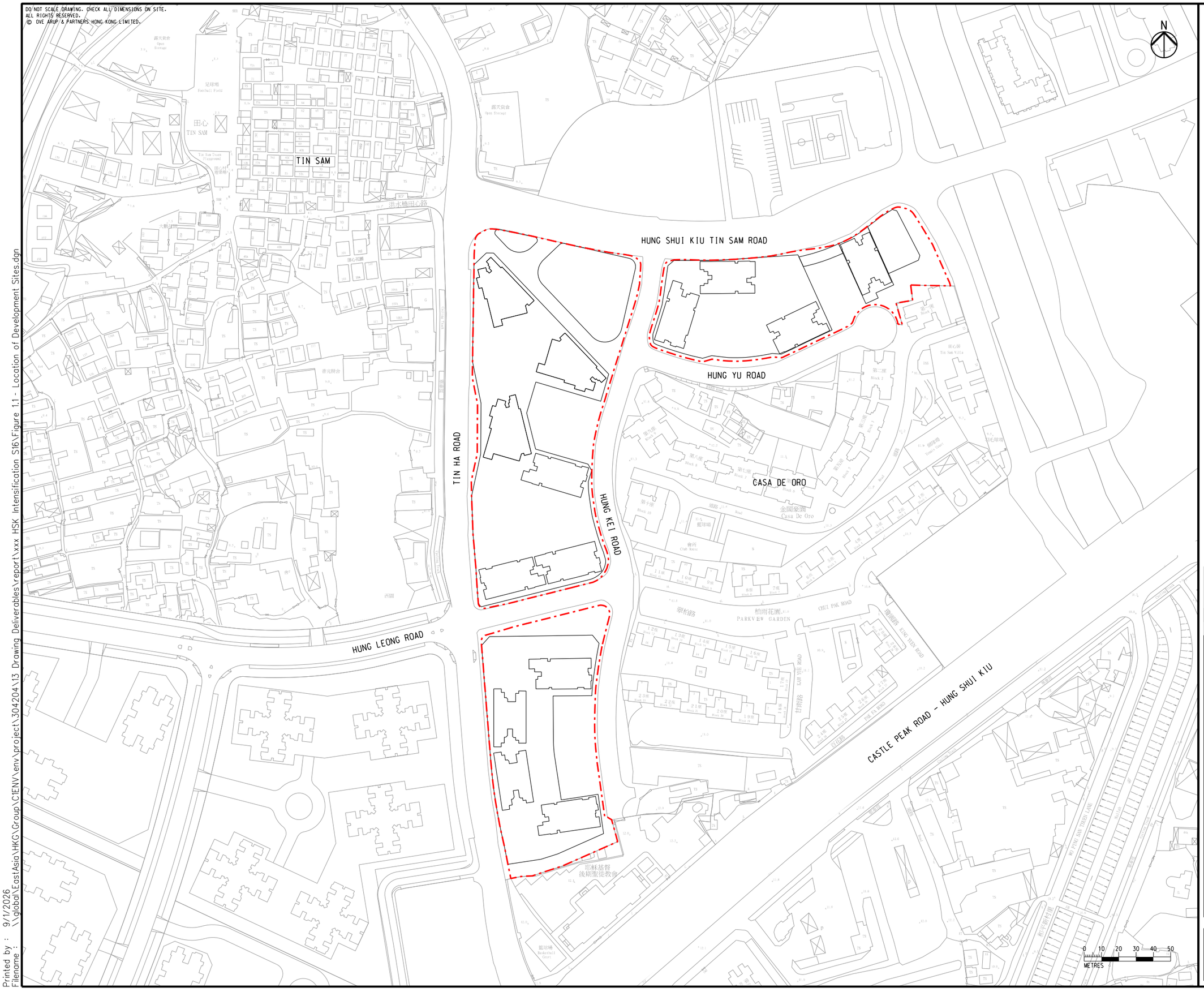

LEGEND

DEVELOPMENT SITE BOUNDARY

Rev	Description	By	Date
A	FIRST ISSUE	GL	01/26

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

LOCATION OF DEVELOPMENT SITES

Drawing no.			Rev.
FIGURE 1.1			A
Drawn: GL	Date: 01/26	Checked: RC	Approved: FC
Scale: 1:2000 @ A3		Status: PRELIMINARY	

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Printed by : 9/1/2026
Filename : \\global\EastAsia\HKG\Group\CIENV\env\project\304204\13 Drawing Deliverables\report\xxx HSK Intensification S16\Figure 1.1 - Location of Development Sites.dgn

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N

LEGEND

- DEVELOPMENT SITE BOUNDARY
- 500m ASSESSMENT AREA
- EXISTING AIR SENSITIVE RECEIVERS
- PLANNED AIR SENSITIVE RECEIVERS

HUNG FUK ESTATE
SAN LEE UK TSUEN
TIN SAM
PARKVIEW GARDEN
CASTLE PEAK ROAD - HUNG SHUI KIU
WO PING SAN TSUEN
CHUNG UK TSUEN

P436
A407
P430
P432
P437
P408
A408
A406
A401
A402
A313
A310
A314
A311
P312
A306
P311

0 30 60 90 120 150
METRES

A	FIRST ISSUE	GL	01/26
Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

LOCATION OF REPRESENTATIVE AIR SENSITIVE RECEIVERS

Drawing no.			Rev.
FIGURE 2.1			A
Drawn: GL	Date: 01/26	Checked: RC	Approved: FC
Scale: AS SHOWN		Status: PRELIMINARY	

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Printed by : 9/1/2026
Filename : \\global\EastAsia\HKG\Group\CIENV\env\project\304204\13 Drawing Deliverables\report\xxx HSK Intensification S16\Figure 2.1 - Location of Representative Air Sensitive Receivers.dgn

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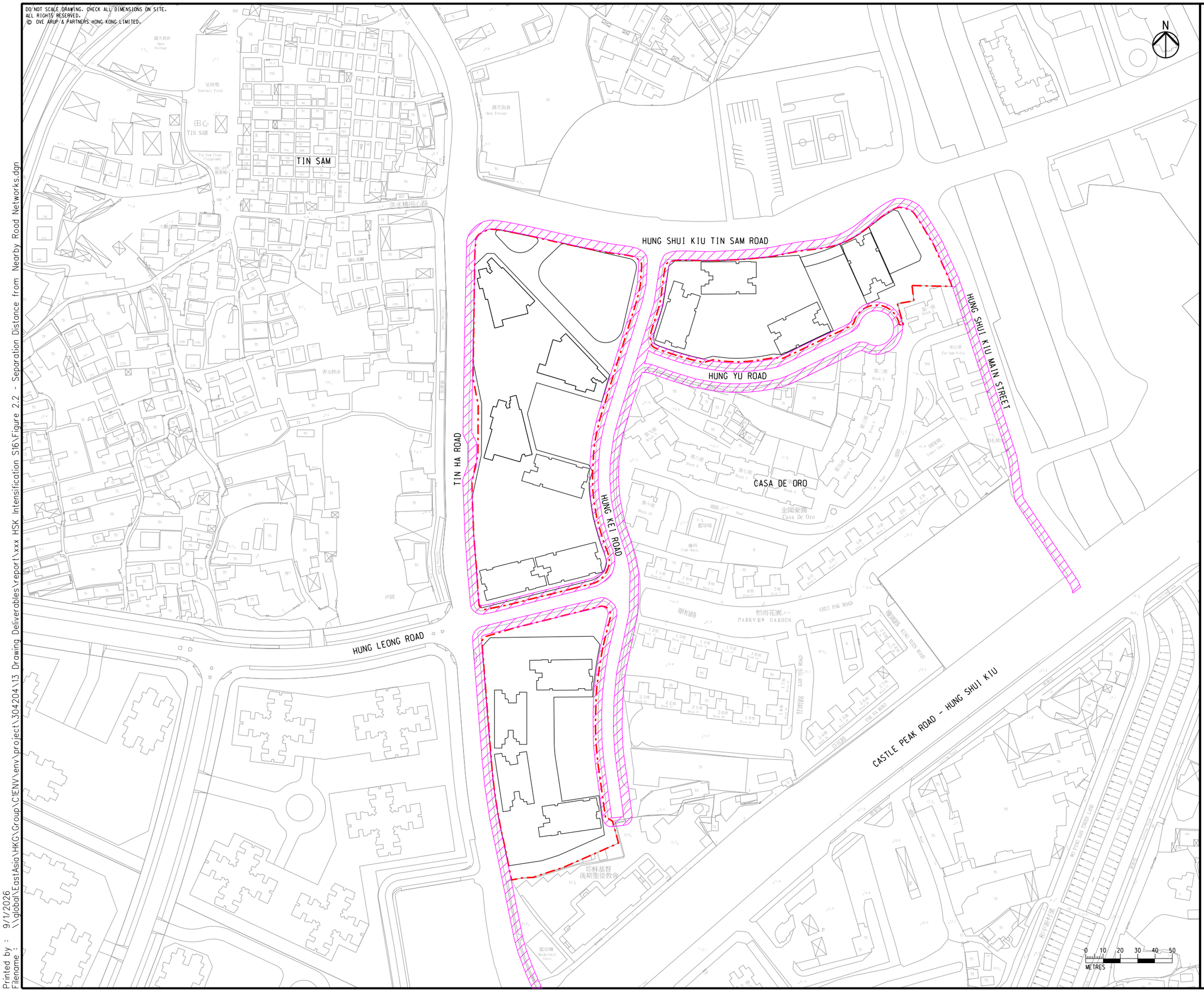

LEGEND

DEVELOPMENT SITE BOUNDARY

5m SETBACK DISTANCE

REMARK
NO AIR SENSITIVE USES, INCLUDING OPENABLE WINDOWS, FRESH AIR INTAKE OF MECHANICAL VENTILATION AND RECREATIONAL USES IN THE OPEN AREA, WOULD BE LOCATED WITHIN THE BUFFER ZONES.

Rev	Description	By	Date
A	FIRST ISSUE	GL	01/26

Consultant

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Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

SEPARATION DISTANCE FROM NEARBY ROAD NETWORKS

Drawing no.			Rev.
FIGURE 2.2			A
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Filename : \\global\EastAsia\HKG\Group\CIENV\env\project\304204\13 Drawing Deliverables\report\xxx HSK Intensification S16\Figure 2.2 - Separation Distance from Nearby Road Networks.dgn

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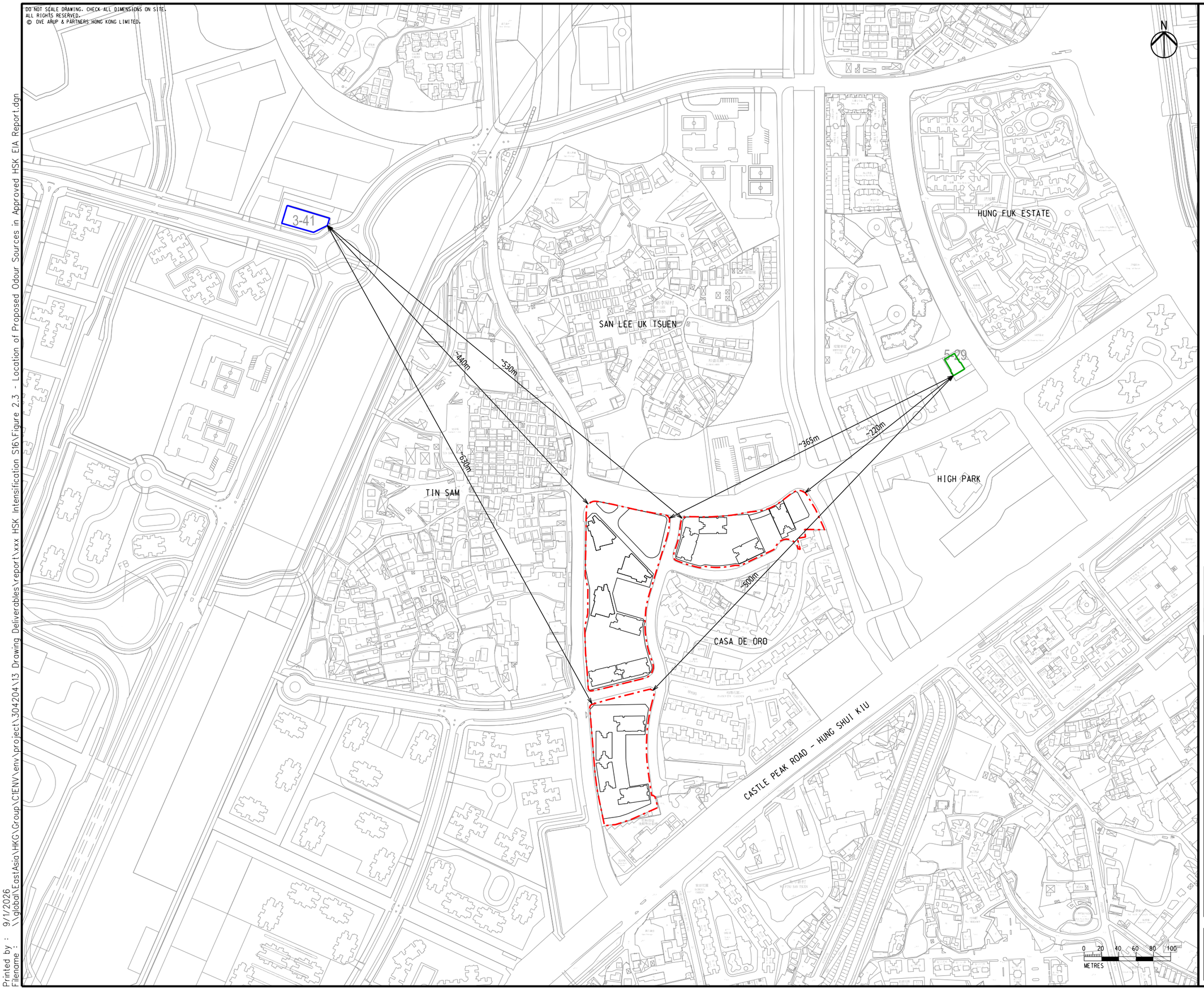

LEGEND

- DEVELOPMENT SITE BOUNDARY
- PROPOSED REFUSE COLLECTION POINT (RCP)
- PROPOSED SEWAGE PUMPING STATION (SPS)

Rev	Description	By	Date
A	FIRST ISSUE	GL	01/26

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

LOCATION OF PROPOSED ODOUR SOURCES IN APPROVED HSK EIA REPORT

Drawing no.			Rev.
FIGURE 2.3			A
Drawn: GL	Date: 01/26	Checked: RC	Approved: FC
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Printed by : 9/1/2026
Filename : \\global\EastAsia\HKG\Group\CIENV\env\project\304204\13 Drawing Deliverables\report\xxx HSK Intensification S16\Figure 2.3 - Location of Proposed Odour Sources in Approved HSK EIA Report.dgn

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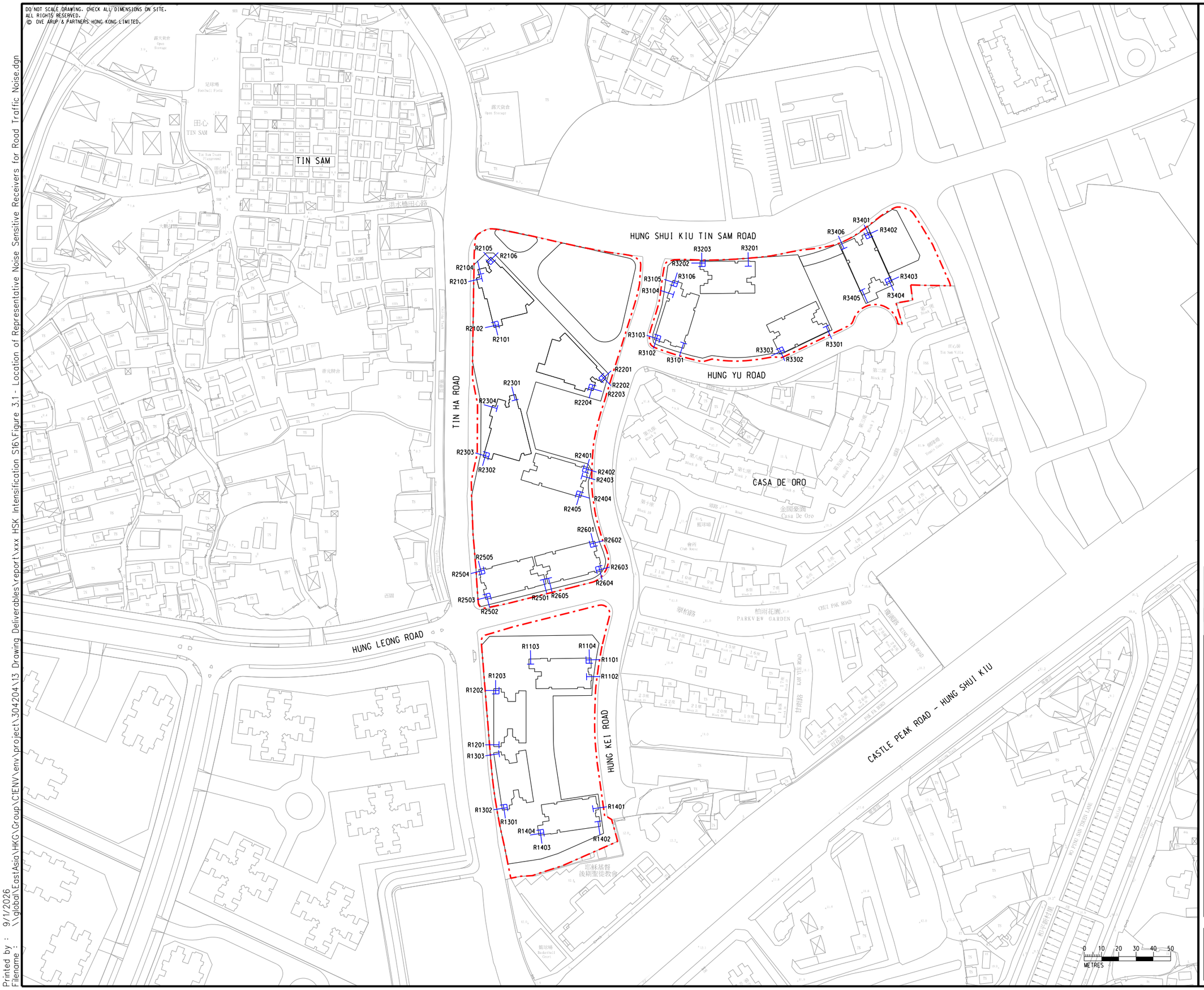

LEGEND

DEVELOPMENT SITE BOUNDARY

REPRESENTATIVE NOISE SENSITIVE RECEIVERS

Rev	Description	By	Date
A	FIRST ISSUE	GL	01/26

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

LOCATION OF REPRESENTATIVE NOISE SENSITIVE RECEIVERS FOR ROAD TRAFFIC NOISE

Drawing no.			Rev.
FIGURE 3.1			A
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Printed by : 9/1/2026
Filename : \\global\EastAsia\HKG\Group\CIENV\env\project\304204\13 Drawing Deliverables\report\xxx HSK Intensification S16\Figure 3.1 - Location of Representative Noise Sensitive Receivers for Road Traffic Noise.dgn

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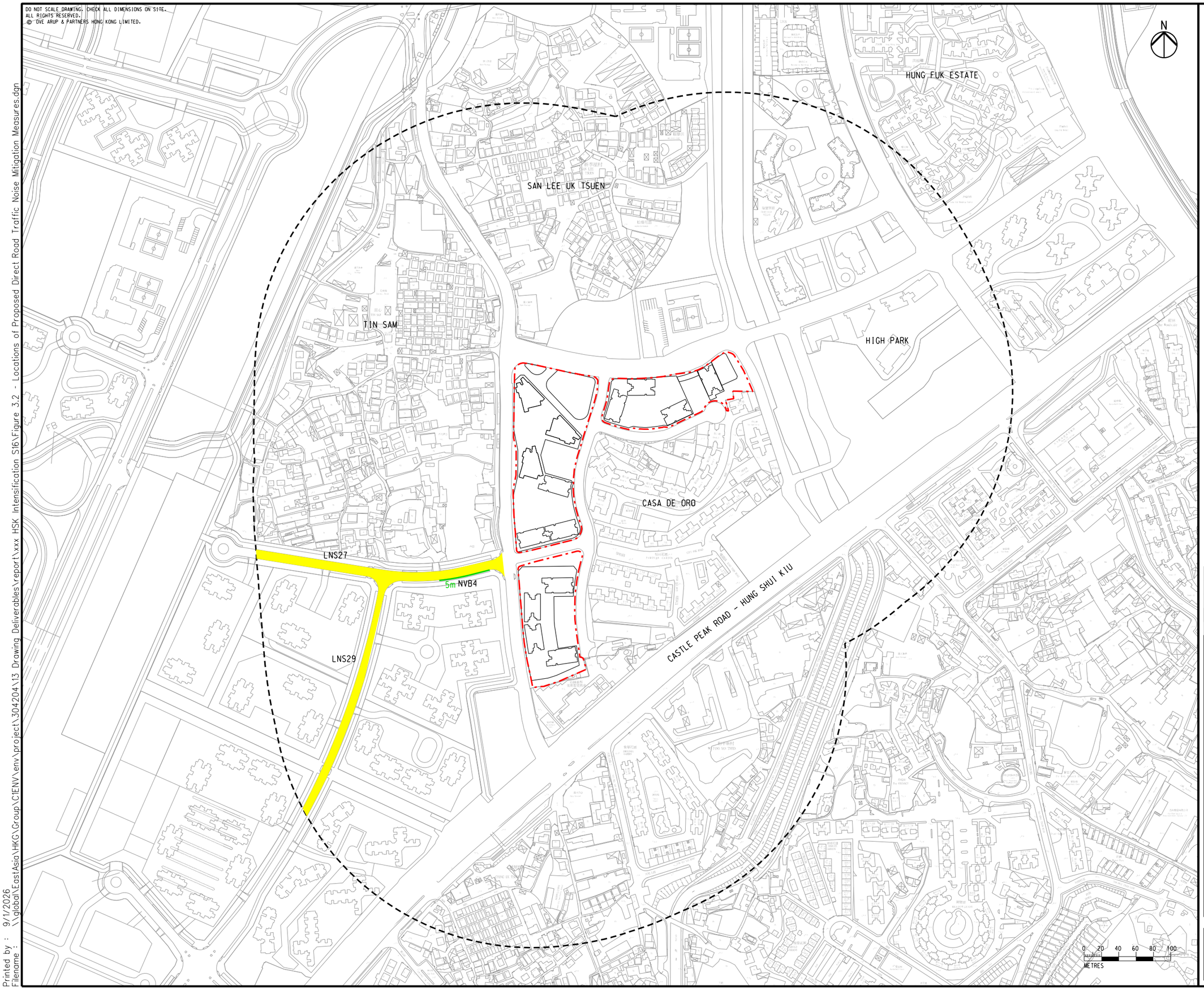

LEGEND

- DEVELOPMENT SITE BOUNDARY
- 300m ASSESSMENT AREA
- VERTICAL BARRIER
- LOW NOISE ROAD SURFACING (LNRS)

Rev	Description	By	Date
A	FIRST ISSUE	GL	01/26

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Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

LOCATIONS OF PROPOSED DIRECT ROAD TRAFFIC NOISE MITIGATION MEASURES

Drawing no.			Rev.
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Filename : \\global\EastAsia\HKG\Group\CIENV\env\project\304204\13 Drawing Deliverables\report\xxx HSK Intensification S16\Figure 3.2 - Locations of Proposed Direct Road Traffic Noise Mitigation Measures.dgn

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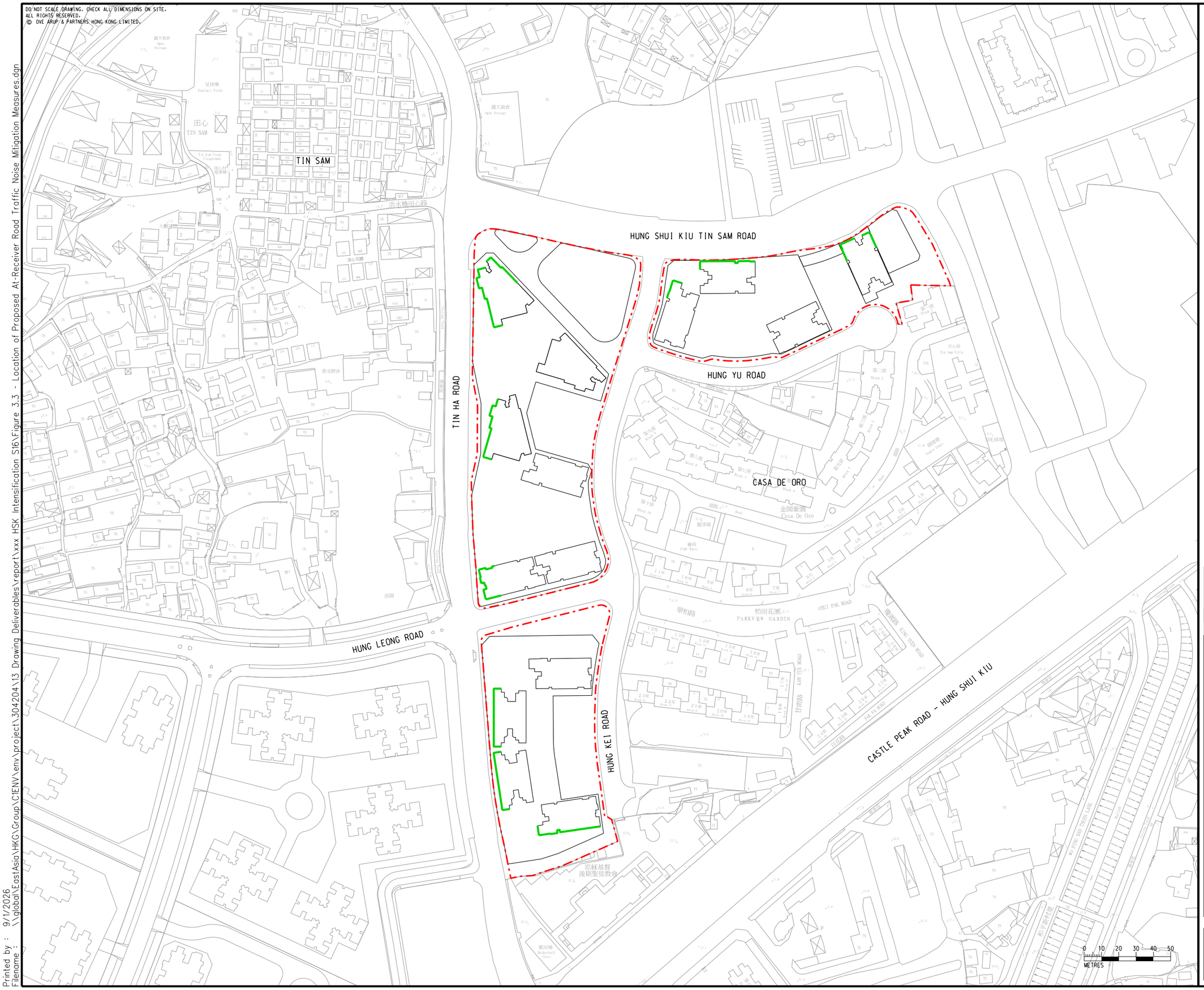

LEGEND

- DEVELOPMENT SITE BOUNDARY
- ACOUSTIC WINDOW

Rev	Description	By	Date
A	FIRST ISSUE	GL	01/26

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

LOCATION OF PROPOSED AT-RECEIVER ROAD TRAFFIC NOISE MITIGATION MEASURES

Drawing no.			Rev.
FIGURE 3.3			A
Drawn	Date	Checked	Approved
GL	01/26	RC	FC
Scale		Status	
1:2000 @ A3		PRELIMINARY	

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Printed by : 9/1/2026
Filename : \\global\EastAsia\HKG\Group\CIENV\env\project\304204\13 Drawing Deliverables\report\xxx HSK Intensification S16\Figure 3.3 - Location of Proposed At-Receiver Road Traffic Noise Mitigation Measures.dgn

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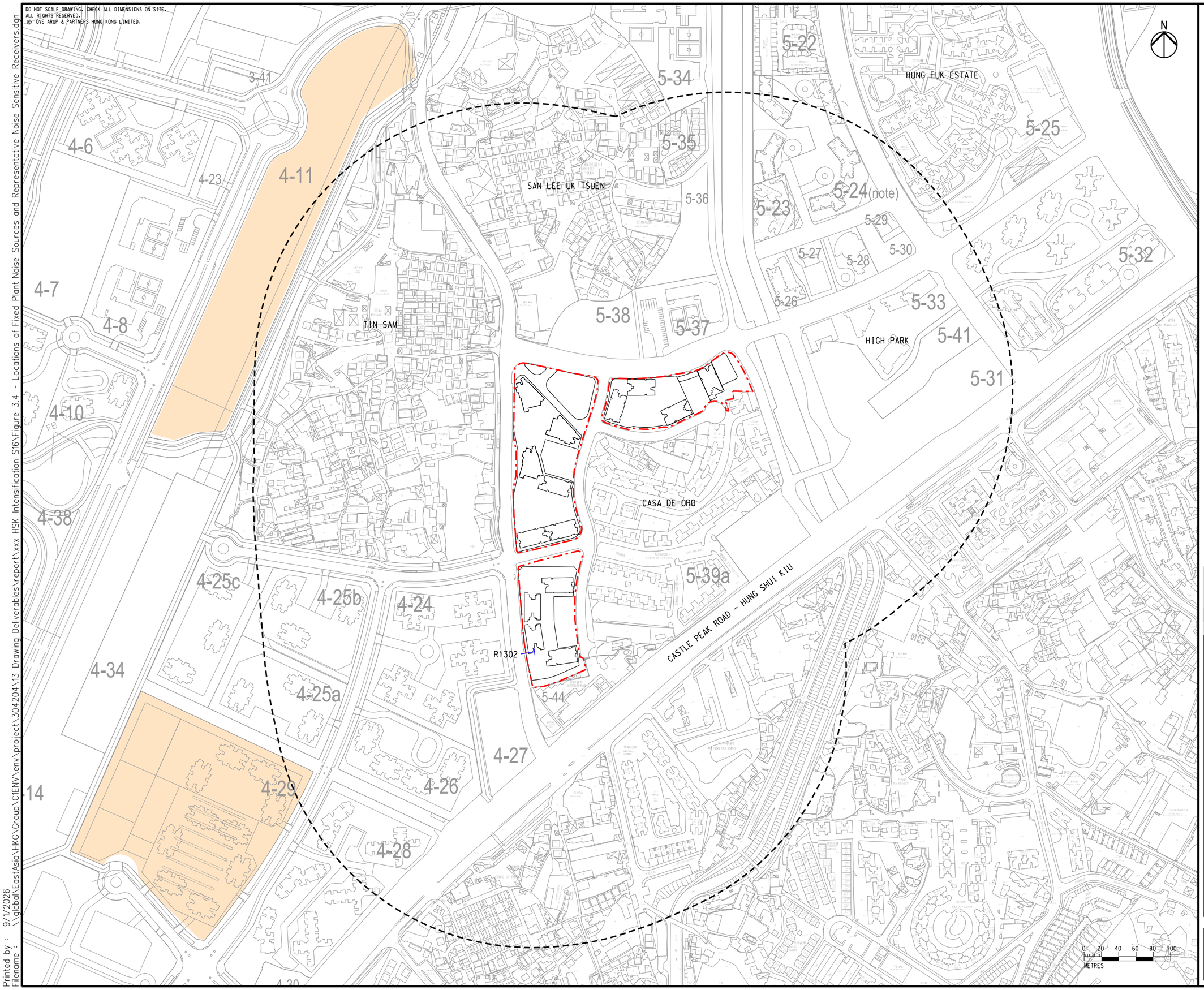

LEGEND

- DEVELOPMENT SITE BOUNDARY
- 300m ASSESSMENT AREA
- PLANNED FIXED PLANT NOISE SOURCES
- REPRESENTATIVE NOISE SENSITIVE RECEIVERS

Rev	Description	By	Date
A	FIRST ISSUE	GL	01/26

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Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

LOCATIONS OF FIXED PLANT NOISE SOURCES AND REPRESENTATIVE NOISE SENSITIVE RECEIVERS

Drawing no.			Rev.
FIGURE 3.4			A
Drawn	Date	Checked	Approved
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1:4000 @ A3		PRELIMINARY	

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Printed by : 9/1/2026
Filename : \\global\EastAsia\HKG\Group\C\ENV\env\project\304204\13 Drawing Deliverables\report\xxx HSK Intensification S16\Figure 3.4 - Locations of Fixed Plant Noise Sources and Representative Noise Sensitive Receivers.dgn

Appendix 1.1

Indicative Scheme

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NOTATIONS

- Development Site Boundary
- Area for Footpath Widening
- Domestic Block
- Non-Domestic Podium with Rooftop Podium Garden
- Driveway / Emergency Vehicular Access
- Emergency Vehicular Access only
- At-grade Landscape Area

- 25 — No. of Storey
- +20.0 — Building Height at Main Roof Level in mPD
- +10.0 — Site Formation Level in mPD

Planned in HSK/HT ODP

- LO — Land Use Zoning
- (1) — Planning Area Number

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Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Application Site from “Residential (Group B)3” to “Residential (Group A)6”, Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

BLOCK PLAN

Drawing no.			Rev.
01			
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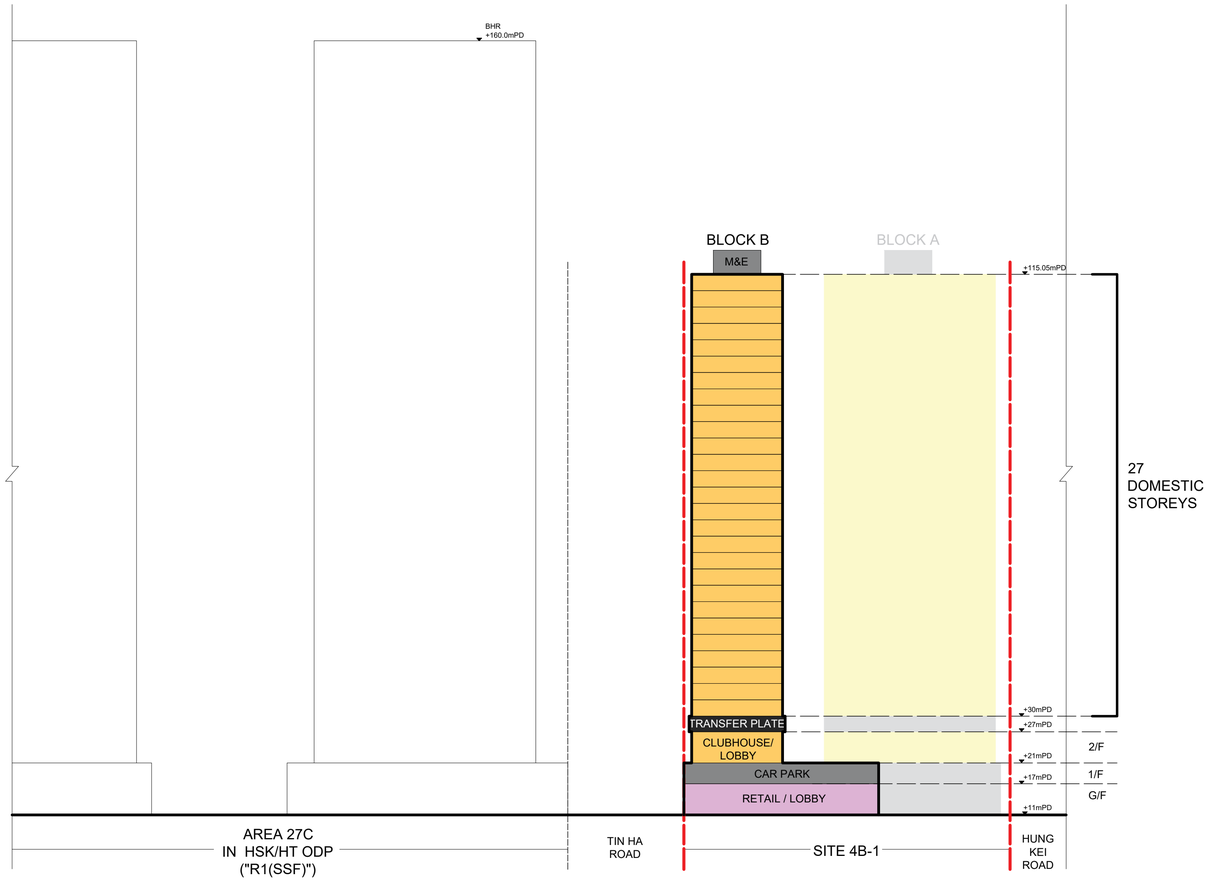

* *The building blocks in Area 27C of the HSK/HT OZP are indicative only, with a planned Building Height Restriction of +160mPD.*

0 10 20 40 60 80 Meters

KEY PLAN

NOTATIONS

- Development Site Boundary
- Domestic Use
- Transfer Plate
- Car Park / L/UL Space
- Retail / Lobby

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Application Site from “Residential (Group B)3” to “Residential (Group A)6”, Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

SECTION A-A

Drawing no.			Rev.
02			
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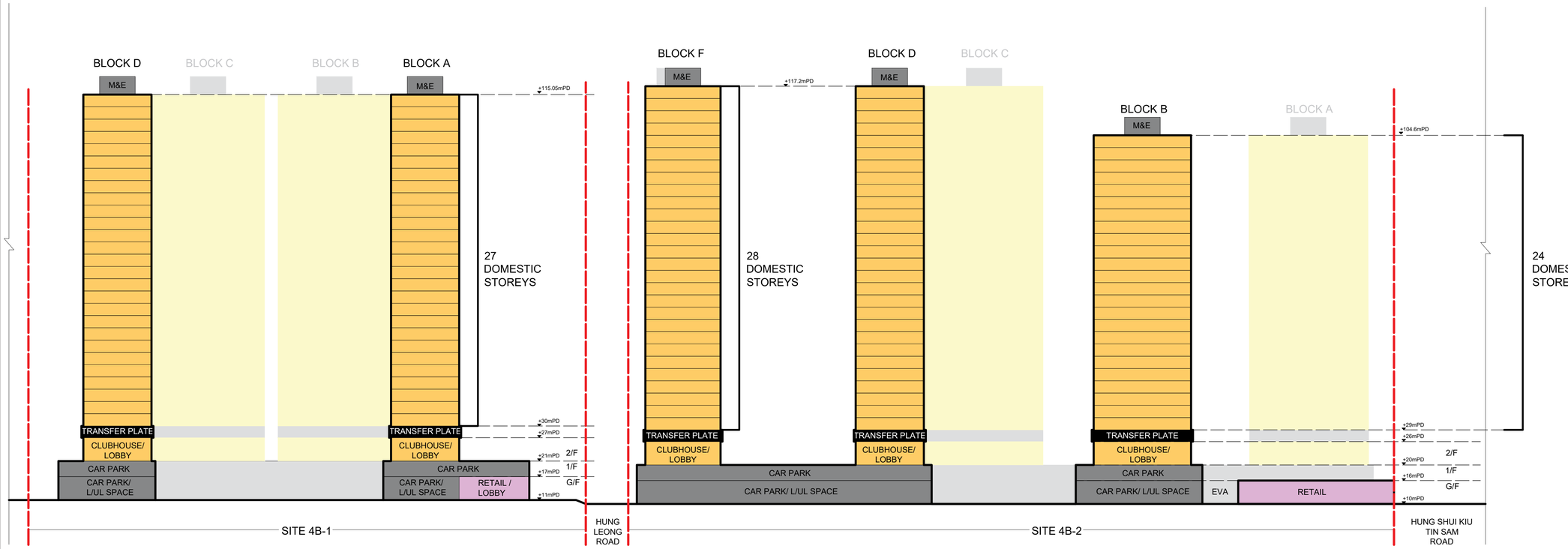

0 10 20 40 60 80 Meters

KEY PLAN

NOTATIONS

- Development Site Boundary
- Domestic Use
- Transfer Plate
- Car Park / L/UL Space
- Retail / Lobby

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Application Site from “Residential (Group B)3” to “Residential (Group A)6”, Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

SECTION B-B

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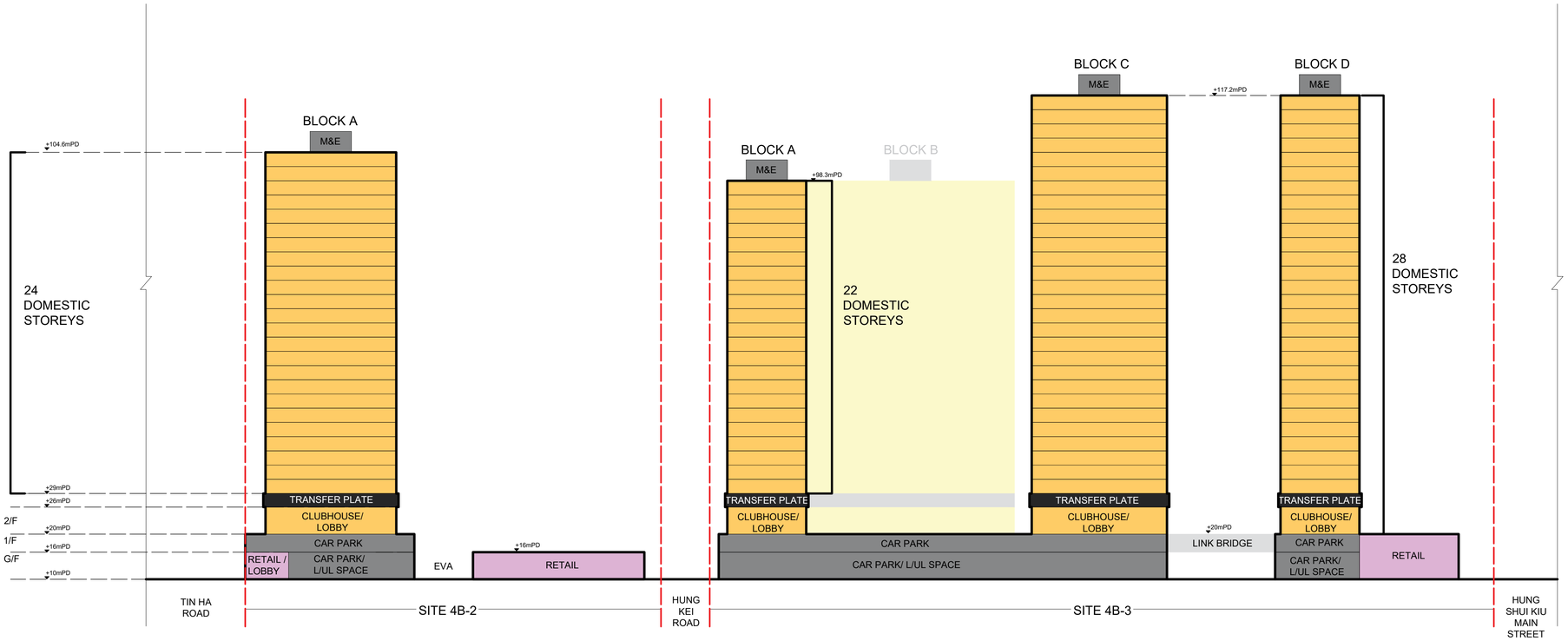

0 10 20 40 60 80 Meters

KEY PLAN

NOTATIONS

- Development Site Boundary
- Domestic Use
- Transfer Plate
- Car Park / L/UL Space
- Retail / Lobby

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Application Site from “Residential (Group B)3” to “Residential (Group A)6”, Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

SECTION C-C

Drawing no.			Rev.
04			
Drawn	Date	Checked	Approved
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Scale		Status	

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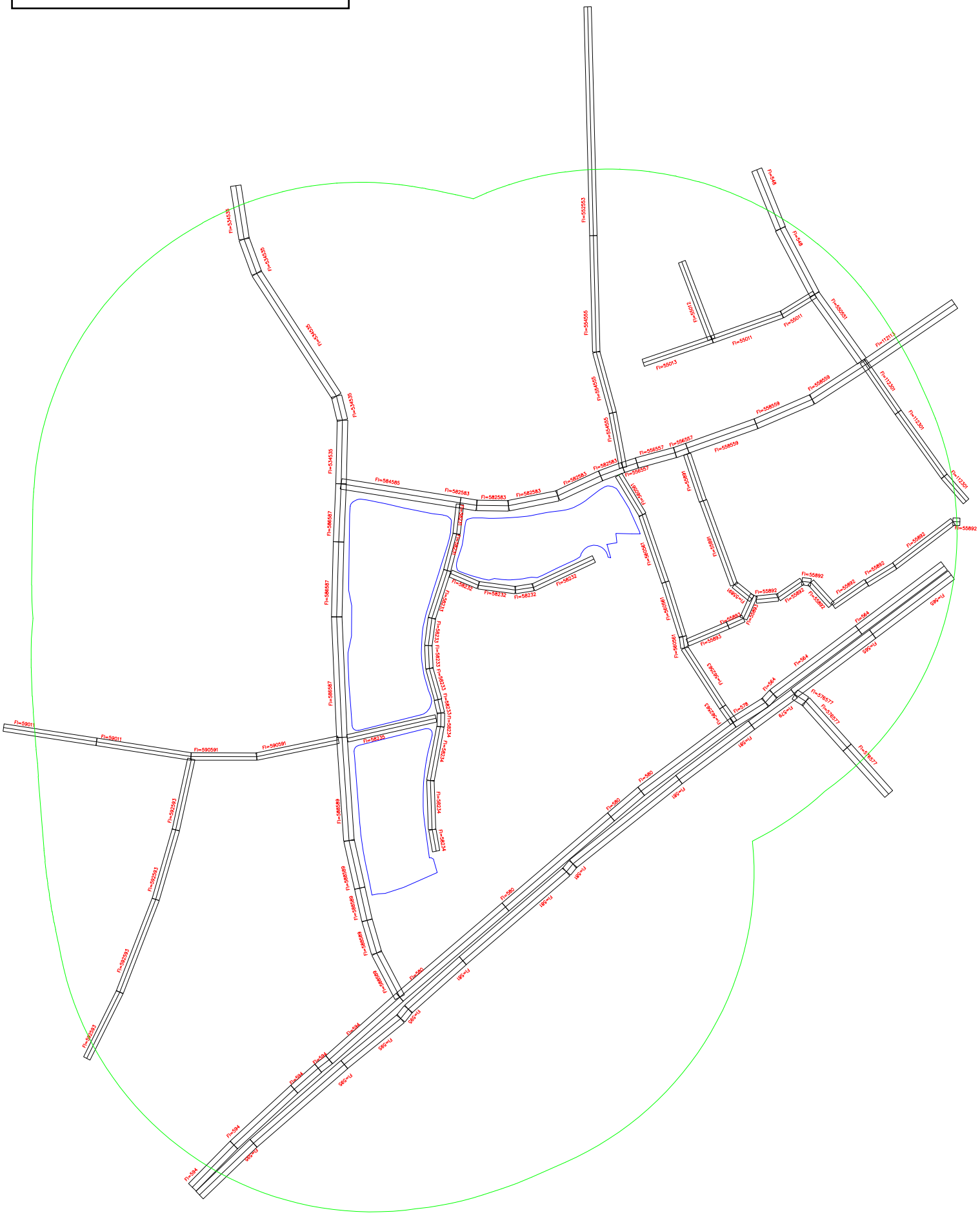
Appendix 3.1

Traffic Forecast in Year Post-2046


Legend
Subject Sites Boundary
300m Assessment Area

AM Peak Hour Traffic Forecast for Year Post-2046

Flow ID	Design Speed (km/h)	Vehicles/hr	Heavy Vehicle %
112113	50	570	33%
112301	50	77	30%
548	50	156	36%
564	70	882	33%
565	50	1126	19%
578	70	921	32%
579	50	1248	19%
580	70	749	36%
581	70	1248	19%
594	70	1088	32%
595	70	1382	21%
55011	50	352	27%
55012	50	176	27%
55013	50	176	27%
55891	50	58	27%
55892	50	58	27%
55893	50	46	32%
58231	50	430	9%
58232	50	111	9%
58233	50	230	11%
58234	50	118	9%
58235	50	197	11%
59011	50	399	29%
534535	50	756	36%
550551	50	287	36%
552553	50	668	28%
554555	50	633	26%
556557	50	563	28%
558559	50	563	28%
560561	50	298	34%
562563	50	206	19%
576577	50	579	26%
582583	50	1161	22%
584585	50	749	28%
586587	50	1173	35%
588589	50	863	27%
590591	50	1360	26%
592593	50	1058	26%

Appendix 3.2

Road Traffic Noise Assessment – Base Case Scenario

Floor	R1101	R1102	R1103	R1104	R1201	R1202	R1203	R1301	R1302	R1303	R1401	R1402	R1403	R1404	R2101	R2102	R2103	R2104	R2105	R2106	R2201	R2202	R2203	R2204	R2301	R2302
28																									67.2	69.3
27	65.9	65.7	67.0	66.0	69.1	69.2	68.0	68.8	69.6	69.1	66.7	69.1	69.5	68.7											67.3	69.5
26	65.9	65.8	67.1	66.0	69.2	69.3	68.1	68.9	69.7	69.2	66.8	69.2	69.6	68.7											67.4	69.6
25	66.0	65.8	67.2	66.0	69.3	69.4	68.2	69.0	69.8	69.3	66.9	69.3	69.7	68.8											67.5	69.7
24	66.0	65.9	67.3	66.1	69.4	69.5	68.4	69.1	69.9	69.4	66.9	69.4	69.8	68.9	68.8	69.7	**70.7**	70.2	**70.5**	69.4	67.0	65.4	63.5	63.4	67.6	69.8
23	66.0	65.9	67.4	66.1	69.5	69.6	68.5	69.2	70.0	69.5	67.0	69.5	69.9	69.0	68.9	69.8	**70.8**	70.3	**70.7**	69.5	67.1	65.5	63.6	63.4	67.8	69.9
22	66.1	65.9	67.5	66.2	69.7	69.8	68.6	69.3	70.2	69.7	67.1	69.5	70.0	69.1	69.1	70.0	**70.9**	**70.5**	**70.8**	69.7	67.1	65.5	63.6	63.4	67.8	70.1
21	66.1	66.0	67.6	66.2	69.8	69.9	68.8	69.5	70.3	69.8	67.2	69.6	70.1	69.3	69.2	70.2	**71.0**	**70.6**	**71.0**	69.7	67.2	65.5	63.7	63.4	68.0	70.2
20	66.1	66.0	67.8	66.2	69.9	70.1	68.9	69.6	70.4	69.9	67.3	69.7	70.2	69.4	69.4	70.3	**71.2**	**70.8**	**71.1**	69.9	67.2	65.6	63.7	63.5	68.1	70.4
19	66.2	66.0	67.9	66.2	70.1	70.2	69.0	69.7	**70.5**	70.1	67.3	69.8	70.3	69.5	69.5	**70.5**	**71.4**	**70.9**	**71.2**	70.1	67.3	65.6	63.7	63.5	68.2	**70.5**
18	66.2	66.1	68.0	66.2	70.2	70.3	69.2	69.8	**70.7**	70.2	67.4	69.8	70.4	69.6	69.6	**70.6**	**71.6**	**71.1**	**71.4**	70.2	67.3	65.6	63.8	63.5	68.3	**70.6**
17	66.2	66.1	68.1	66.2	70.4	**70.5**	69.4	70.0	**70.8**	70.4	67.5	69.9	**70.5**	69.7	69.8	**70.8**	**71.7**	**71.2**	**71.6**	70.4	67.4	65.7	63.9	63.5	68.5	**70.8**
16	66.3	66.1	68.2	66.2	**70.5**	**70.7**	69.6	70.1	**70.9**	**70.5**	67.6	69.9	**70.6**	69.8	70.0	**70.9**	**71.9**	**71.4**	**71.7**	**70.6**	67.4	65.7	63.9	63.5	68.5	**71.0**
15	66.3	66.1	68.4	66.2	**70.7**	**70.9**	69.7	70.3	**71.1**	**70.7**	67.6	70.0	**70.7**	69.9	70.1	**71.1**	**72.1**	**71.6**	**71.9**	**70.7**	67.5	65.8	63.9	63.5	68.7	**71.2**
14	66.3	66.1	68.4	66.3	**70.9**	**71.0**	69.9	70.4	**71.3**	**70.8**	67.7	70.1	**70.9**	70.1	70.2	**71.3**	**72.2**	**71.8**	**72.1**	**70.9**	67.5	65.8	64.0	63.5	68.8	**71.3**
13	66.3	66.1	68.6	66.3	**71.0**	**71.2**	70.1	**70.6**	**71.4**	**71.0**	67.8	70.1	**70.9**	70.2	70.4	**71.5**	**72.5**	**72.0**	**72.4**	**71.0**	67.6	65.9	64.1	63.5	68.9	**71.5**
12	66.4	66.2	68.7	66.4	**71.2**	**71.5**	70.3	**70.7**	**71.6**	**71.1**	67.8	70.2	**71.0**	70.4	**70.6**	**71.7**	**72.7**	**72.2**	**72.5**	**71.2**	67.6	66.0	64.1	63.5	69.0	**71.7**
11	66.4	66.2	68.7	66.4	**71.4**	**71.6**	**70.5**	**70.9**	**71.8**	**71.3**	67.9	70.3	**71.2**	**70.5**	**70.8**	**71.9**	**73.0**	**72.4**	**72.7**	**71.4**	67.6	66.0	64.2	63.5	69.0	**71.9**
10	66.5	66.2	68.8	66.5	**71.5**	**71.9**	**70.7**	**71.1**	**72.0**	**71.6**	68.0	70.4	**71.3**	**70.6**	**71.0**	**72.1**	**73.2**	**72.7**	**73.0**	**71.6**	67.6	66.1	64.2	63.5	69.1	**72.1**
9	66.5	66.3	68.7	66.6	**71.8**	**72.1**	**70.9**	**71.3**	**72.2**	**71.8**	68.0	70.4	**71.3**	**70.7**	**71.1**	**72.3**	**73.4**	**73.0**	**73.2**	**71.8**	67.6	66.1	64.3	63.5	69.1	**72.4**
8	66.5	66.3	68.5	66.6	**72.0**	**72.3**	**71.2**	**71.5**	**72.4**	**72.0**	68.1	**70.5**	**71.4**	**70.8**	**71.3**	**72.6**	**73.7**	**73.2**	**73.4**	**72.1**	67.5	66.2	64.3	63.5	68.9	**72.7**
7	66.5	66.3	68.3	66.6	**72.3**	**72.5**	**71.4**	**71.7**	**72.7**	**72.3**	68.1	**70.5**	**71.4**	**70.8**	**71.4**	**72.7**	**74.0**	**73.5**	**73.7**	**72.3**	67.5	66.2	64.4	63.5	68.7	**72.9**
6	66.6	66.3	68.1	66.6	**72.6**	**72.8**	**71.6**	**71.9**	**73.0**	**72.6**	68.1	**70.6**	**71.3**	**70.8**	**71.6**	**73.0**	**74.3**	**73.8**	**74.0**	**72.5**	67.5	66.3	64.4	63.5	68.5	**73.2**
5	66.6	66.3	67.9	66.6	**72.9**	**73.1**	**71.8**	**72.2**	**73.3**	**72.9**	68.2	**70.6**	**71.0**	**70.5**	**71.6**	**73.1**	**74.6**	**74.1**	**74.3**	**72.8**	67.5	66.3	64.5	63.5	68.1	**73.5**
4	66.6	66.3	67.8	66.5	**73.2**	**73.3**	**72.1**	**72.4**	**73.5**	**73.2**	68.3	**70.6**	**70.8**	70.0	**71.4**	**73.1**	**75.0**	**74.4**	**74.5**	**73.1**	67.5	66.4	64.6	63.6	67.2	**73.9**
3	66.6	66.3	67.8	66.4	**73.6**	**73.6**	**72.2**	**72.8**	**73.9**	**73.6**	68.3	**70.6**	**70.6**	69.7	70.4	**72.8**	**75.4**	**74.8**	**74.8**	**73.3**	67.7	66.7	64.9	63.8	65.0	**74.1**
2	66.6	66.3	67.6	66.4	**74.0**	**73.9**	**72.4**	**73.0**	**74.3**	**74.0**	68.3	**70.6**	**70.5**	69.5	68.7	**71.2**	**75.8**	**75.1**	**75.0**	**73.6**	67.9	67.0	65.2	63.9	62.6	**74.4**
1	66.7	66.4	67.0	66.2	**74.4**	**74.2**	**72.2**	**73.2**	**74.6**	**74.4**	68.2	**70.6**	70.3	69.1	66.9	68.8	**76.4**	**75.4**	**75.1**	**73.8**	68.1	67.4	65.3	63.8	60.6	**74.7**
Max	66.7	66.4	68.8	66.6	**74.4**	**74.2**	**72.4**	**73.2**	**74.6**	**74.4**	68.3	**70.6**	**71.4**	**70.8**	**71.6**	**73.1**	**76.4**	**75.4**	**75.1**	**73.8**	68.1	67.4	65.3	63.9	69.1	**74.7**
Min	65.9	65.7	67.0	66.0	69.1	69.2	68.0	68.8	69.6	69.1	66.7	69.1	69.5	68.7	66.9	68.8	**70.7**	70.2	**70.5**	69.4	67.0	65.4	63.5	63.4	60.6	69.3

Noise sensitive receivers with exceedance (>=70.5 dB(A))

Floor	R2303	R2304	R2401	R2402	R2403	R2404	R2405	R2501	R2502	R2503	R2504	R2505	R2601	R2602	R2603	R2604	R2605	R3101	R3102	R3103	R3104	R3105	R3106	R3201	R3202	R3203
28	70.0	69.9	64.1	64.6	64.6	64.9	66.1	66.3	68.9	69.9	**70.5**	69.6	65.1	65.1	65.7	66.6	66.3									
27	70.2	70.0	64.1	64.7	64.6	64.9	66.0	66.3	69.0	70.0	**70.6**	69.7	65.0	65.2	65.7	66.6	66.4									
26	70.3	70.1	64.1	64.7	64.7	64.9	66.0	66.4	69.1	70.1	**70.7**	69.9	65.0	65.2	65.7	66.6	66.4									
25	70.4	70.3	64.0	64.7	64.6	64.9	65.9	66.5	69.3	70.3	**70.9**	70.0	64.9	65.2	65.7	66.7	66.5									
24	**70.6**	70.4	64.0	64.7	64.7	64.9	65.8	66.5	69.4	70.4	**71.0**	70.1	64.8	65.2	65.8	66.7	66.5									
23	**70.7**	**70.5**	64.0	64.8	64.7	64.9	65.7	66.6	69.4	**70.6**	**71.2**	70.3	64.6	65.2	65.8	66.7	66.7									
22	**70.9**	**70.6**	63.9	64.8	64.7	64.9	65.5	66.7	69.6	**70.7**	**71.3**	70.4	64.6	65.3	65.8	66.7	66.7	64.2	66.5	67.4	68.0	68.9	68.6	69.0	68.6	69.5
21	**71.0**	**70.8**	64.0	64.8	64.7	64.9	65.5	66.8	69.8	**70.9**	**71.4**	**70.6**	64.4	65.3	65.8	66.7	66.8	64.2	66.6	67.6	68.1	69.0	68.7	69.1	68.6	69.6
20	**71.1**	**70.9**	64.0	64.8	64.8	65.0	65.4	66.9	69.9	**71.0**	**71.6**	**70.7**	64.3	65.3	65.9	66.7	66.8	64.2	66.6	67.6	68.2	69.1	68.8	69.3	68.8	69.7
19	**71.3**	**71.1**	64.0	64.9	64.8	65.0	65.2	66.9	70.0	**71.2**	**71.7**	**70.9**	64.1	65.3	65.9	66.7	66.9	64.3	66.7	67.8	68.4	69.2	68.9	69.4	68.9	69.8
18	**71.4**	**71.2**	64.0	64.9	64.9	65.0	65.1	67.1	70.2	**71.4**	**71.9**	**71.0**	63.9	65.3	65.9	66.8	67.0	64.3	66.8	67.9	68.5	69.4	69.1	69.5	69.0	70.0
17	**71.6**	**71.3**	64.0	65.0	64.9	65.0	64.9	67.1	70.4	**71.5**	**72.1**	**71.2**	63.8	65.4	66.0	66.8	67.1	64.4	66.9	68.0	68.7	69.5	69.2	69.6	69.2	70.1
16	**71.8**	**71.5**	64.0	65.0	64.9	65.0	64.8	67.2	**70.5**	**71.7**	**72.3**	**71.4**	63.7	65.4	66.0	66.8	67.1	64.4	66.9	68.1	68.8	69.7	69.4	69.8	69.3	70.2
15	**71.9**	**71.7**	64.0	65.0	64.9	65.0	64.7	67.3	**70.7**	**71.9**	**72.4**	**71.6**	63.6	65.4	66.1	66.9	67.1	64.5	67.1	68.2	69.0	69.8	69.5	70.0	69.5	70.4
14	**72.1**	**71.8**	64.0	65.1	65.0	65.1	64.6	67.3	**70.9**	**72.1**	**72.6**	**71.8**	63.4	65.4	66.1	67.0	67.2	64.5	67.1	68.3	69.1	70.0	69.7	70.2	69.7	**70.6**
13	**72.3**	**72.0**	64.1	65.1	65.0	65.1	64.5	67.3	**71.0**	**72.3**	**72.9**	**72.0**	63.4	65.4	66.2	67.0	67.2	64.5	67.2	68.4	69.3	70.2	69.8	70.3	69.9	**70.8**
12	**72.5**	**72.2**	64.1	65.1	65.1	65.1	64.4	67.3	**71.2**	**72.6**	**73.1**	**72.2**	63.3	65.4	66.2	67.1	67.1	64.5	67.3	68.5	69.5	70.4	70.1	**70.5**	70.1	**71.0**
11	**72.7**	**72.4**	64.1	65.2	65.1	65.1	64.4	67.3	**71.5**	**72.8**	**73.3**	**72.4**	63.3	65.4	66.3	67.2	67.2	64.6	67.4	68.7	69.7	**70.6**	70.3	**70.7**	70.3	**71.2**
10	**73.0**	**72.6**	64.1	65.2	65.1	65.1	64.4	67.3	**71.7**	**73.1**	**73.5**	**72.7**	63.3	65.4	66.4	67.2	67.2	64.6	67.5	68.8	69.8	**70.8**	70.4	**70.9**	**70.5**	**71.4**
9	**73.2**	**72.8**	64.1	65.2	65.1	65.2	64.4	67.3	**71.9**	**73.3**	**73.8**	**73.0**	63.4	65.5	66.4	67.3	67.2	64.6	67.5	68.9	70.0	**71.0**	**70.6**	**71.1**	**70.7**	**71.6**
8	**73.5**	**73.0**	64.1	65.3	65.2	65.2	64.3	67.4	**72.2**	**73.5**	**74.1**	**73.3**	63.5	65.5	66.5	67.4	67.3	64.6	67.6	69.0	70.2	**71.2**	**70.9**	**71.4**	**70.9**	**71.9**
7	**73.7**	**73.3**	64.2	65.3	65.2	65.3	64.4	67.5	**72.5**	**73.9**	**74.4**	**73.5**	63.6	65.7	66.6	67.5	67.5	64.5	67.6	69.1	70.4	**71.5**	**71.1**	**71.7**	**71.2**	**72.1**
6	**74.0**	**73.5**	64.2	65.3	65.2	65.3	64.4	67.7	**72.8**	**74.2**	**74.7**	**73.8**	63.7	65.7	66.6	67.7	67.6	64.4	67.7	69.2	**70.6**	**71.7**	**71.3**	**71.9**	**71.5**	**72.4**
5	**74.3**	**73.7**	64.3	65.4	65.3	65.4	64.4	67.8	**73.0**	**74.6**	**75.1**	**74.2**	63.8	65.9	66.8	67.8	67.8	64.4	67.7	69.3	**70.8**	**71.9**	**71.6**	**72.3**	**71.7**	**72.7**
4	**74.6**	**74.0**	64.5	65.5	65.5	65.4	64.4	68.1	**73.4**	**74.9**	**75.4**	**74.6**	64.0	66.0	67.0	68.0	67.9	64.3	67.8	69.4	**71.0**	**72.2**	**71.9**	**72.6**	**72.0**	**73.0**
3	**75.0**	**74.2**	64.7	65.7	65.6	65.5	64.3	68.2	**73.8**	**75.3**	**75.8**	**74.9**	64.2	66.2	67.1	68.2	68.1	64.4	68.0	69.4	**71.1**	**72.4**	**72.1**	**73.0**	**72.3**	**73.4**
2	**75.3**	**74.4**	65.1	65.9	65.8	65.6	64.2	68.4	**74.1**	**75.7**	**76.2**	**75.4**	64.6	66.4	67.3	68.3	68.4	64.5	68.2	69.6	**71.2**	**72.4**	**72.1**	**73.4**	**72.7**	**73.7**
1	**75.7**	**74.5**	65.5	66.2	66.1	65.7	64.0	68.6	**74.4**	**76.1**	**76.8**	**75.8**	64.9	66.5	67.5	68.5	68.5	64.7	68.5	69.9	**71.4**	**72.1**	**71.5**	**73.8**	**73.0**	**74.2**
Max	**75.7**	**74.5**	65.5	66.2	66.1	65.7	66.1	68.6	**74.4**	**76.1**	**76.8**	**75.8**	65.1	66.5	67.5	68.5	68.5	64.7	68.5	69.9	**71.4**	**72.4**	**72.1**	**73.8**	**73.0**	**74.2**
Min	70.0	69.9	63.9	64.6	64.6	64.9	64.0	66.3	68.9	69.9	**70.5**	69.6	63.3	65.1	65.7	66.6	66.3	64.2	66.5	67.4	68.0	68.9	68.6	69.0	68.6	69.5

Floor	R3301	R3302	R3303	R3401	R3402	R3403	R3404	R3405	R3406
28	64.6	64.4	63.9	69.1	68.7	67.6	66.2	64.7	68.7
27	64.6	64.4	63.8	69.2	68.8	67.7	66.2	64.7	68.8
26	64.5	64.4	63.8	69.3	68.9	67.7	66.2	64.7	68.9
25	64.5	64.4	63.8	69.4	69.0	67.8	66.2	64.7	69.0
24	64.5	64.4	63.8	69.6	69.1	67.9	66.3	64.7	69.1
23	64.5	64.4	63.8	69.7	69.3	67.9	66.3	64.7	69.2
22	64.5	64.4	63.7	69.8	69.3	68.0	66.4	64.7	69.4
21	64.5	64.4	63.8	69.9	69.5	68.1	66.4	64.6	69.5
20	64.5	64.4	63.8	70.1	69.6	68.2	66.5	64.6	69.6
19	64.5	64.4	63.8	70.2	69.7	68.2	66.5	64.6	69.7
18	64.5	64.4	63.8	70.3	69.8	68.3	66.5	64.6	69.8
17	64.5	64.5	63.8	70.4	70.0	68.4	66.6	64.5	70.0
16	64.5	64.5	63.8	**70.6**	70.1	68.5	66.7	64.4	70.1
15	64.5	64.5	63.8	**70.8**	70.3	68.5	66.7	64.4	70.3
14	64.6	64.6	63.8	**71.0**	70.4	68.6	66.8	64.3	**70.5**
13	64.6	64.6	63.9	**71.1**	**70.6**	68.7	66.8	64.3	**70.7**
12	64.5	64.5	63.9	**71.4**	**70.8**	68.8	66.8	64.3	**70.9**
11	64.6	64.5	63.8	**71.5**	**70.9**	68.8	66.8	64.2	**71.0**
10	64.6	64.5	63.8	**71.7**	**71.1**	68.7	66.7	64.2	**71.2**
9	64.5	64.4	63.8	**72.0**	**71.3**	68.6	66.7	64.1	**71.5**
8	64.5	64.4	63.7	**72.2**	**71.5**	68.6	66.7	64.0	**71.7**
7	64.4	64.2	63.5	**72.5**	**71.8**	68.5	66.7	63.7	**72.0**
6	64.2	64.0	63.2	**72.8**	**72.0**	68.3	66.6	63.2	**72.2**
5	63.8	63.5	62.7	**73.0**	**72.3**	68.3	66.5	62.5	**72.6**
4	63.2	62.9	62.0	**73.4**	**72.6**	68.1	66.3	61.6	**72.8**
3	62.8	62.6	61.7	**73.7**	**72.8**	67.9	66.1	61.2	**73.2**
2	62.8	62.8	61.7	**73.9**	**73.0**	67.5	65.7	61.0	**73.5**
1	63.0	63.0	61.9	**74.2**	**73.0**	66.8	65.3	60.8	**73.9**
Max	64.6	64.6	63.9	**74.2**	**73.0**	68.8	66.8	64.7	**73.9**
Min	62.8	62.6	61.7	69.1	68.7	66.8	65.3	60.8	68.7

Appendix 3.3

Road Traffic Noise Assessment – Mitigated Scenario

Floor	R1101	R1102	R1103	R1104	R1201	R1202	R1203	R1301	R1302	R1303	R1401	R1402	R1403	R1404	R2101	R2102	R2103	R2104	R2105	R2106	R2201	R2202	R2203	R2204	R2301	R2302
28																									67.2	69.3
27	65.9	65.7	67.0	66.0	69.1	69.2	68.0	68.8	69.6	69.1	66.7	69.1	69.5	68.7											67.3	69.5
26	65.9	65.8	67.1	66.0	69.2	69.3	68.1	68.9	69.7	69.2	66.8	69.2	69.6	68.7											67.4	69.6
25	66.0	65.8	67.2	66.0	69.3	69.4	68.2	69.0	69.8	69.3	66.9	69.3	69.7	68.8											67.5	69.7
24	66.0	65.9	67.3	66.1	69.4	69.5	68.4	69.1	69.9	69.4	66.9	69.4	69.8	68.9	68.8	69.7	64.7	70.2	64.5	69.4	67.0	65.4	63.5	63.4	67.6	69.8
23	66.0	65.9	67.4	66.1	69.5	69.6	68.5	69.2	70.0	69.5	67.0	69.5	69.9	69.0	68.9	69.8	64.8	70.3	64.7	69.5	67.1	65.5	63.6	63.4	67.8	69.9
22	66.1	65.9	67.5	66.2	69.7	69.8	68.6	69.3	70.2	69.7	67.1	69.5	70.0	69.1	69.1	70.0	64.9	64.5	64.8	69.7	67.1	65.5	63.6	63.4	67.8	70.1
21	66.1	66.0	67.6	66.2	69.8	69.9	68.8	69.5	70.3	69.8	67.2	69.6	70.1	69.3	69.2	70.2	65.0	64.6	65.0	69.7	67.2	65.5	63.7	63.4	68.0	70.2
20	66.1	66.0	67.8	66.2	69.9	70.1	68.9	69.6	70.4	69.9	67.3	69.7	70.2	69.4	69.4	70.3	65.2	64.8	65.1	69.9	67.2	65.6	63.7	63.5	68.1	70.4
19	66.2	66.0	67.9	66.2	70.1	70.2	69.0	69.7	64.5	70.1	67.3	69.8	70.3	69.5	69.5	64.5	65.4	64.9	65.2	70.1	67.3	65.6	63.7	63.5	68.2	64.5
18	66.2	66.1	68.0	66.2	70.2	70.3	69.2	69.8	64.7	70.2	67.4	69.8	70.4	69.6	69.6	64.6	65.6	65.1	65.4	70.2	67.3	65.6	63.8	63.5	68.3	64.6
17	66.2	66.1	68.1	66.2	70.4	64.5	69.4	70.0	64.8	70.4	67.5	69.9	64.5	69.7	69.8	64.8	65.7	65.2	65.6	70.4	67.4	65.7	63.9	63.5	68.5	64.8
16	66.3	66.1	68.2	66.2	64.5	64.7	69.6	70.1	64.9	64.5	67.6	69.9	64.6	69.8	70.0	64.9	65.9	65.4	65.7	64.6	67.4	65.7	63.9	63.5	68.5	65.0
15	66.3	66.1	68.4	66.2	64.7	64.9	69.7	70.3	65.1	64.7	67.6	70.0	64.7	69.9	70.1	65.1	66.1	65.6	65.9	64.7	67.5	65.8	63.9	63.5	68.7	65.2
14	66.3	66.1	68.4	66.3	64.9	65.0	69.9	70.4	65.3	64.8	67.7	70.1	64.9	70.1	70.2	65.3	66.2	65.8	66.1	64.9	67.5	65.8	64.0	63.5	68.8	65.3
13	66.3	66.1	68.6	66.3	65.0	65.2	70.1	64.6	65.4	65.0	67.8	70.1	64.9	70.2	70.4	65.5	66.5	66.0	66.4	65.0	67.6	65.9	64.1	63.5	68.9	65.5
12	66.4	66.2	68.7	66.4	65.2	65.5	70.3	64.7	65.6	65.1	67.8	70.2	65.0	70.4	64.6	65.7	66.7	66.2	66.5	65.2	67.6	66.0	64.1	63.5	69.0	65.7
11	66.4	66.2	68.7	66.4	65.4	65.6	64.5	64.9	65.8	65.3	67.9	70.3	65.2	64.5	64.8	65.9	67.0	66.4	66.7	65.4	67.6	66.0	64.2	63.5	69.0	65.9
10	66.5	66.2	68.8	66.5	65.5	65.9	64.7	65.1	66.0	65.6	68.0	70.4	65.3	64.6	65.0	66.1	67.2	66.7	67.0	65.6	67.6	66.1	64.2	63.5	69.1	66.1
9	66.5	66.3	68.7	66.6	65.8	66.1	64.9	65.3	66.2	65.8	68.0	70.4	65.3	64.7	65.1	66.3	67.4	67.0	67.2	65.8	67.6	66.1	64.3	63.5	69.1	66.4
8	66.5	66.3	68.5	66.6	66.0	66.3	65.2	65.5	66.4	66.0	68.1	64.5	65.4	64.8	65.3	66.6	67.7	67.2	67.4	66.1	67.5	66.2	64.3	63.5	68.9	66.7
7	66.5	66.3	68.3	66.6	66.3	66.5	65.4	65.7	66.7	66.3	68.1	64.5	65.4	64.8	65.4	66.7	68.0	67.5	67.7	66.3	67.5	66.2	64.4	63.5	68.7	66.9
6	66.6	66.3	68.1	66.6	66.6	66.8	65.6	65.9	67.0	66.6	68.1	64.6	65.3	64.8	65.6	67.0	68.3	67.8	68.0	66.5	67.5	66.3	64.4	63.5	68.5	67.2
5	66.6	66.3	67.9	66.6	66.9	67.1	65.8	66.2	67.3	66.9	68.2	64.6	65.0	64.5	65.6	67.1	68.6	68.1	68.3	66.8	67.5	66.3	64.5	63.5	68.1	67.5
4	66.6	66.3	67.8	66.5	67.2	67.3	66.1	66.4	67.5	67.2	68.3	64.6	64.8	70.0	65.4	67.1	69.0	68.4	68.5	67.1	67.5	66.4	64.6	63.6	67.2	67.9
3	66.6	66.3	67.8	66.4	67.6	67.6	66.2	66.8	67.9	67.6	68.3	64.6	64.6	69.7	70.4	66.8	69.4	68.8	68.8	67.3	67.7	66.7	64.9	63.8	65.0	68.1
2	66.6	66.3	67.6	66.4	68.0	67.9	66.4	67.0	68.3	68.0	68.3	64.6	64.5	69.5	68.7	65.2	69.8	69.1	69.0	67.6	67.9	67.0	65.2	63.9	62.6	68.4
1	66.7	66.4	67.0	66.2	68.4	68.2	66.2	67.2	68.6	68.4	68.2	64.6	70.3	69.1	66.9	68.8	70.4	69.4	69.1	67.8	68.1	67.4	65.3	63.8	60.6	68.7
Max	66.7	66.4	68.8	66.6	70.4	70.3	70.3	70.4	70.4	70.4	68.3	70.4	70.4	70.4	70.4	70.3	70.4	70.3	69.1	70.4	68.1	67.4	65.3	63.9	69.1	70.4
Min	65.9	65.7	67.0	66.0	64.5	64.5	64.5	64.6	64.5	64.5	66.7	64.5	64.5	64.5	64.6	64.5	64.7	64.5	64.5	64.6	67.0	65.4	63.5	63.4	60.6	64.5

Noise sensitive receivers applied with acoustic window (non-absorptive)

Noise sensitive receivers applied with acoustic window (absorptive)

(These predicted noise levels are the equivalent noise levels at 1m from the external facade after accounting the reduction in noise levels inside the flat offered by the proposed acoustic window)

Floor	R2303	R2304	R2401	R2402	R2403	R2404	R2405	R2501	R2502	R2503	R2504	R2505	R2601	R2602	R2603	R2604	R2605	R3101	R3102	R3103	R3104	R3105	R3106	R3201	R3202	R3203
28	70.0	69.9	64.1	64.6	64.6	64.9	66.1	66.3	68.9	69.9	64.5	69.6	65.1	65.1	65.7	66.6	66.3									
27	70.2	70.0	64.1	64.7	64.6	64.9	66.0	66.3	69.0	70.0	64.6	69.7	65.0	65.2	65.7	66.6	66.4									
26	70.3	70.1	64.1	64.7	64.7	64.9	66.0	66.4	69.1	70.1	64.7	69.9	65.0	65.2	65.7	66.6	66.4									
25	70.4	70.3	64.0	64.7	64.6	64.9	65.9	66.5	69.3	70.3	64.9	70.0	64.9	65.2	65.7	66.7	66.5									
24	64.6	70.4	64.0	64.7	64.7	64.9	65.8	66.5	69.4	70.4	65.0	70.1	64.8	65.2	65.8	66.7	66.5									
23	64.7	64.5	64.0	64.8	64.7	64.9	65.7	66.6	69.4	64.6	65.2	70.3	64.6	65.2	65.8	66.7	66.7									
22	64.9	64.6	63.9	64.8	64.7	64.9	65.5	66.7	69.6	64.7	65.3	70.4	64.6	65.3	65.8	66.7	66.7	64.2	66.5	67.4	68.0	68.9	68.6	69.0	68.6	69.5
21	65.0	64.8	64.0	64.8	64.7	64.9	65.5	66.8	69.8	64.9	65.4	64.6	64.4	65.3	65.8	66.7	66.8	64.2	66.6	67.6	68.1	69.0	68.7	69.1	68.6	69.6
20	65.1	64.9	64.0	64.8	64.8	65.0	65.4	66.9	69.9	65.0	65.6	64.7	64.3	65.3	65.9	66.7	66.8	64.2	66.6	67.6	68.2	69.1	68.8	69.3	68.8	69.7
19	65.3	65.1	64.0	64.9	64.8	65.0	65.2	66.9	70.0	65.2	65.7	64.9	64.1	65.3	65.9	66.7	66.9	64.3	66.7	67.8	68.4	69.2	68.9	69.4	68.9	69.8
18	65.4	65.2	64.0	64.9	64.9	65.0	65.1	67.1	70.2	65.4	65.9	65.0	63.9	65.3	65.9	66.8	67.0	64.3	66.8	67.9	68.5	69.4	69.1	69.5	69.0	70.0
17	65.6	65.3	64.0	65.0	64.9	65.0	64.9	67.1	70.4	65.5	66.1	65.2	63.8	65.4	66.0	66.8	67.1	64.4	66.9	68.0	68.7	69.5	69.2	69.6	69.2	70.1
16	65.8	65.5	64.0	65.0	64.9	65.0	64.8	67.2	64.5	65.7	66.3	65.4	63.7	65.4	66.0	66.8	67.1	64.4	66.9	68.1	68.8	69.7	69.4	69.8	69.3	70.2
15	65.9	65.7	64.0	65.0	64.9	65.0	64.7	67.3	64.7	65.9	66.4	65.6	63.6	65.4	66.1	66.9	67.1	64.5	67.1	68.2	69.0	69.8	69.5	70.0	69.5	70.4
14	66.1	65.8	64.0	65.1	65.0	65.1	64.6	67.3	64.9	66.1	66.6	65.8	63.4	65.4	66.1	67.0	67.2	64.5	67.1	68.3	69.1	70.0	69.7	70.2	69.7	64.6
13	66.3	66.0	64.1	65.1	65.0	65.1	64.5	67.3	65.0	66.3	66.9	66.0	63.4	65.4	66.2	67.0	67.2	64.5	67.2	68.4	69.3	70.2	69.8	70.3	69.9	64.8
12	66.5	66.2	64.1	65.1	65.1	65.1	64.4	67.3	65.2	66.6	67.1	66.2	63.3	65.4	66.2	67.1	67.1	64.5	67.3	68.5	69.5	70.4	70.1	64.5	70.1	65.0
11	66.7	66.4	64.1	65.2	65.1	65.1	64.4	67.3	65.5	66.8	67.3	66.4	63.3	65.4	66.3	67.2	67.2	64.6	67.4	68.7	69.7	64.6	70.3	64.7	70.3	65.2
10	67.0	66.6	64.1	65.2	65.1	65.1	64.4	67.3	65.7	67.1	67.5	66.7	63.3	65.4	66.4	67.2	67.2	64.6	67.5	68.8	69.8	64.8	70.4	64.9	64.5	65.4
9	67.2	66.8	64.1	65.2	65.1	65.2	64.4	67.3	65.9	67.3	67.8	67.0	63.4	65.5	66.4	67.3	67.2	64.6	67.5	68.9	70.0	65.0	64.6	65.1	64.7	65.6
8	67.5	67.0	64.1	65.3	65.2	65.2	64.3	67.4	66.2	67.5	68.1	67.3	63.5	65.5	66.5	67.4	67.3	64.6	67.6	69.0	70.2	65.2	64.9	65.4	64.9	65.9
7	67.7	67.3	64.2	65.3	65.2	65.3	64.4	67.5	66.5	67.9	68.4	67.5	63.6	65.7	66.6	67.5	67.5	64.5	67.6	69.1	70.4	65.5	65.1	65.7	65.2	66.1
6	68.0	67.5	64.2	65.3	65.2	65.3	64.4	67.7	66.8	68.2	68.7	67.8	63.7	65.7	66.6	67.7	67.6	64.4	67.7	69.2	64.6	65.7	65.3	65.9	65.5	66.4
5	68.3	67.7	64.3	65.4	65.3	65.4	64.4	67.8	67.0	68.6	69.1	68.2	63.8	65.9	66.8	67.8	67.8	64.4	67.7	69.3	64.8	65.9	65.6	66.3	65.7	66.7
4	68.6	68.0	64.5	65.5	65.5	65.4	64.4	68.1	67.4	68.9	69.4	68.6	64.0	66.0	67.0	68.0	67.9	64.3	67.8	69.4	65.0	66.2	65.9	66.6	66.0	67.0
3	69.0	68.2	64.7	65.7	65.6	65.5	64.3	68.2	67.8	69.3	69.8	68.9	64.2	66.2	67.1	68.2	68.1	64.4	68.0	69.4	65.1	66.4	66.1	67.0	66.3	67.4
2	69.3	68.4	65.1	65.9	65.8	65.6	64.2	68.4	68.1	69.7	70.2	69.4	64.6	66.4	67.3	68.3	68.4	64.5	68.2	69.6	65.2	66.4	66.1	67.4	66.7	67.7
1	69.7	68.5	65.5	66.2	66.1	65.7	64.0	68.6	68.4	70.1	69.3	69.8	64.9	66.5	67.5	68.5	68.5	64.7	68.5	69.9	65.4	66.1	65.5	67.8	67.0	68.2
Max	70.4	70.4	65.5	66.2	66.1	65.7	66.1	68.6	70.4	70.4	70.2	70.4	65.1	66.5	67.5	68.5	68.5	64.7	68.5	69.9	70.4	70.4	70.4	70.3	70.3	70.4
Min	64.6	64.5	63.9	64.6	64.6	64.9	64.0	66.3	64.5	64.6	64.5	64.6	63.3	65.1	65.7	66.6	66.3	64.2	66.5	67.4	64.6	64.6	64.6	64.5	64.5	64.6

Floor	R3301	R3302	R3303	R3401	R3402	R3403	R3404	R3405	R3406
28	64.6	64.4	63.9	69.1	68.7	67.6	66.2	64.7	68.7
27	64.6	64.4	63.8	69.2	68.8	67.7	66.2	64.7	68.8
26	64.5	64.4	63.8	69.3	68.9	67.7	66.2	64.7	68.9
25	64.5	64.4	63.8	69.4	69.0	67.8	66.2	64.7	69.0
24	64.5	64.4	63.8	69.6	69.1	67.9	66.3	64.7	69.1
23	64.5	64.4	63.8	69.7	69.3	67.9	66.3	64.7	69.2
22	64.5	64.4	63.7	69.8	69.3	68.0	66.4	64.7	69.4
21	64.5	64.4	63.8	69.9	69.5	68.1	66.4	64.6	69.5
20	64.5	64.4	63.8	70.1	69.6	68.2	66.5	64.6	69.6
19	64.5	64.4	63.8	70.2	69.7	68.2	66.5	64.6	69.7
18	64.5	64.4	63.8	70.3	69.8	68.3	66.5	64.6	69.8
17	64.5	64.5	63.8	70.4	70.0	68.4	66.6	64.5	70.0
16	64.5	64.5	63.8	64.6	70.1	68.5	66.7	64.4	70.1
15	64.5	64.5	63.8	64.8	70.3	68.5	66.7	64.4	70.3
14	64.6	64.6	63.8	65.0	70.4	68.6	66.8	64.3	64.5
13	64.6	64.6	63.9	65.1	64.6	68.7	66.8	64.3	64.7
12	64.5	64.5	63.9	65.4	64.8	68.8	66.8	64.3	64.9
11	64.6	64.5	63.8	65.5	64.9	68.8	66.8	64.2	65.0
10	64.6	64.5	63.8	65.7	65.1	68.7	66.7	64.2	65.2
9	64.5	64.4	63.8	66.0	65.3	68.6	66.7	64.1	65.5
8	64.5	64.4	63.7	66.2	65.5	68.6	66.7	64.0	65.7
7	64.4	64.2	63.5	66.5	65.8	68.5	66.7	63.7	66.0
6	64.2	64.0	63.2	66.8	66.0	68.3	66.6	63.2	66.2
5	63.8	63.5	62.7	67.0	66.3	68.3	66.5	62.5	66.6
4	63.2	62.9	62.0	67.4	66.6	68.1	66.3	61.6	66.8
3	62.8	62.6	61.7	67.7	66.8	67.9	66.1	61.2	67.2
2	62.8	62.8	61.7	67.9	67.0	67.5	65.7	61.0	67.5
1	63.0	63.0	61.9	68.2	67.0	66.8	65.3	60.8	67.9
Max	64.6	64.6	63.9	70.4	70.4	68.8	66.8	64.7	70.3
Min	62.8	62.6	61.7	64.6	64.6	66.8	65.3	60.8	64.5

Appendix 3.4

Fixed Noise Assessment

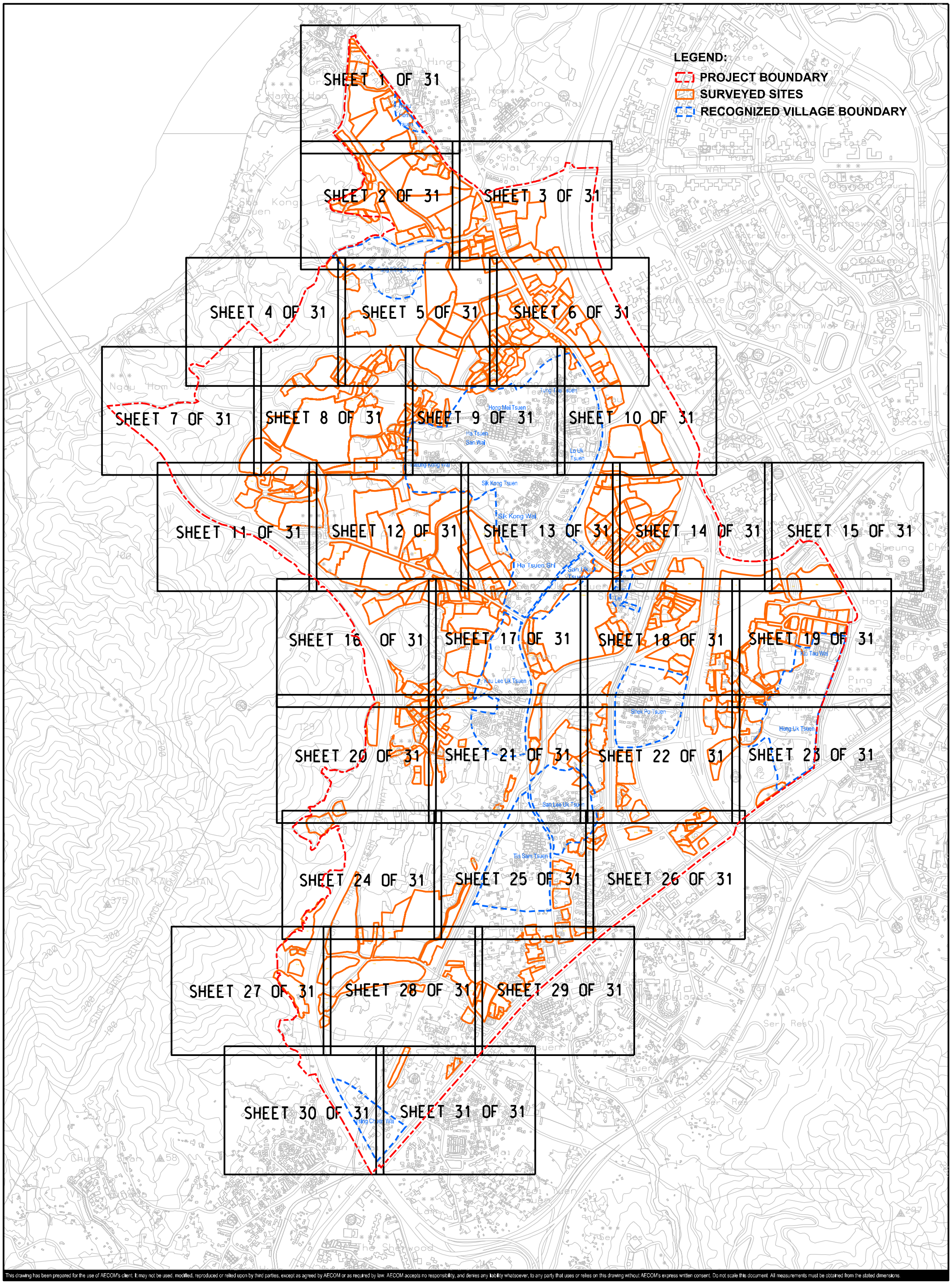
Project: Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B) 3" to "Residential (Group A) 6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories
Detailed Calculation of Fixed Noise Assessment

Site	NSR ID	ASR	Noise Criteria, dB(A)			Noise Source	Corrected SEL / Max Allowed SWL, dB(A)			Separation Distance between NSR and Source, m	Correction, dB(A)			Predicted SPL at NSR, dB(A)			Compliance (Y/N)		
			Daytime	Evening-time	Night-time		Daytime	Evening-time	Night-time		Distance	Tonal	Screening	Daytime	Evening-time	Night-time	Daytime	Evening-time	Night-time
4B-1	R1302	B	60	60	50	Site 4-29	96	96	86	285	-57	3	0	42	42	32	Y	Y	Y

[1] The noise source and correct SEL / Max Allowed SWL make reference to the Approved EIA Report (AEIAR-203/2016) of HSK NDA.
[2] Façade correction have been considered in the corrected noise level already.
[3] A +3dB(A) tonal corrections are assumed for all planned fixed plant noise sources.
[4] Screening correction applies when the angle of view of the NSR on the fixed plant noise source is partially (-5 dB(A)) or fully (-10 dB(A)) blocked by buildings or terrains.

Appendix 4.1

Aerial Photographs



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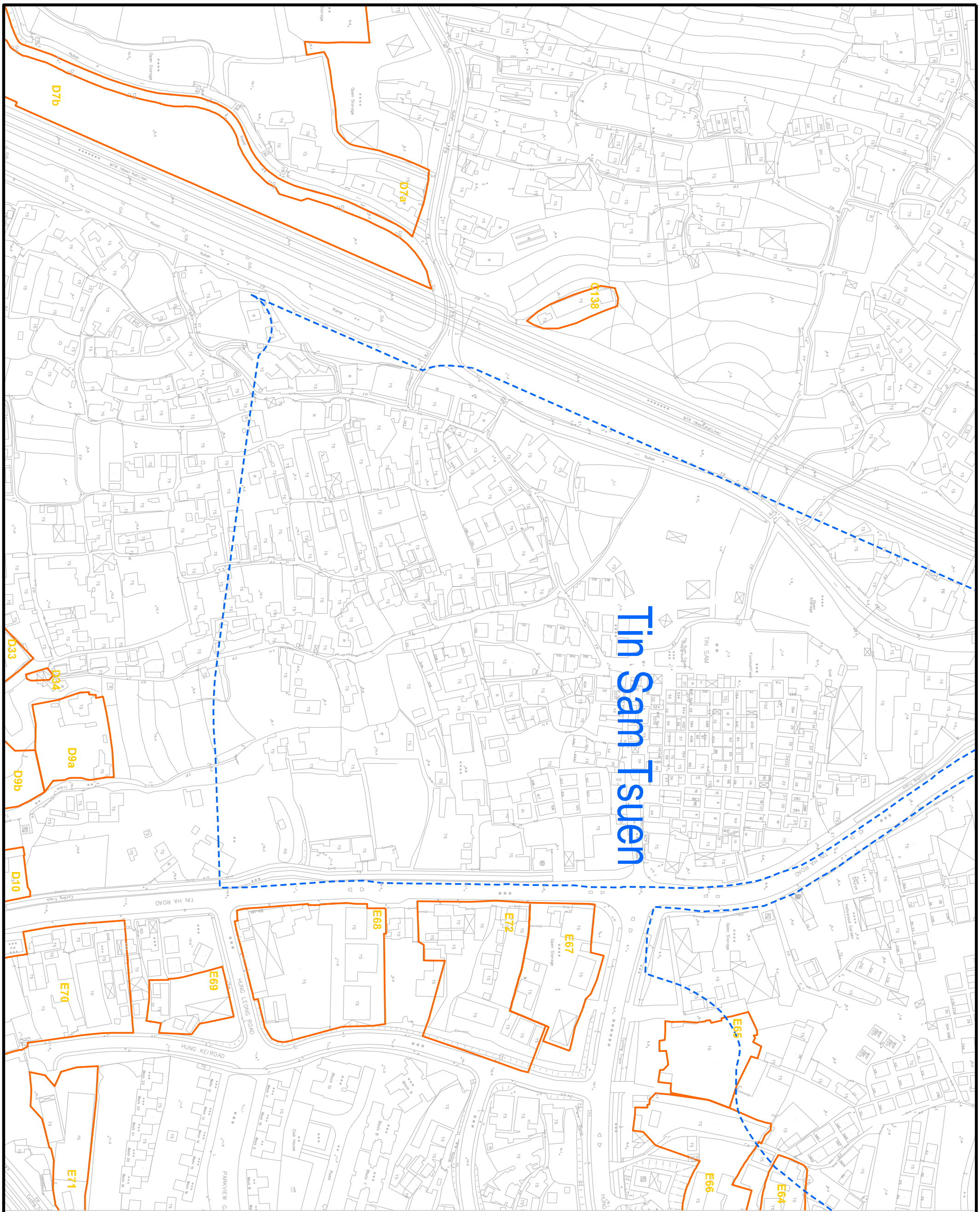

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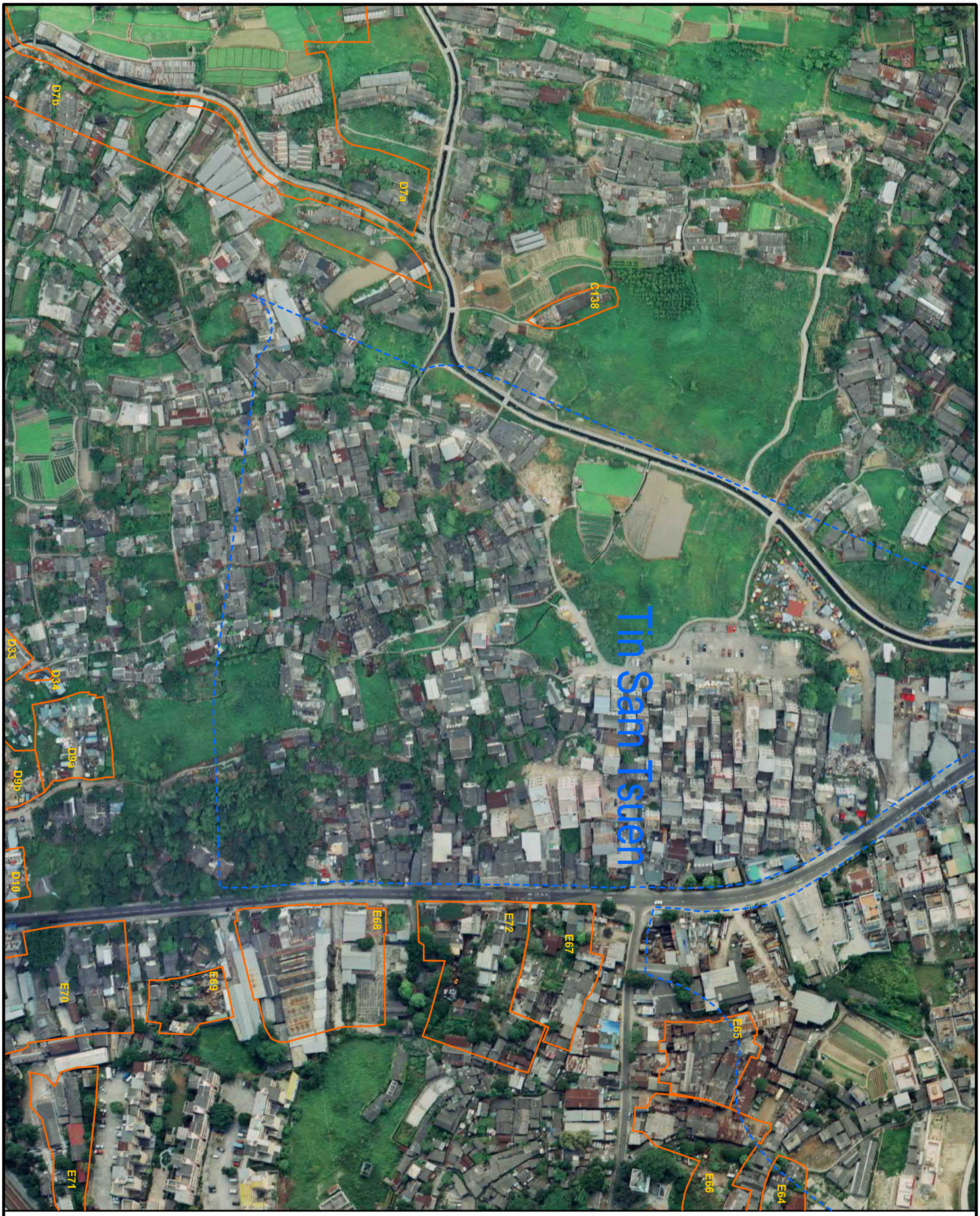

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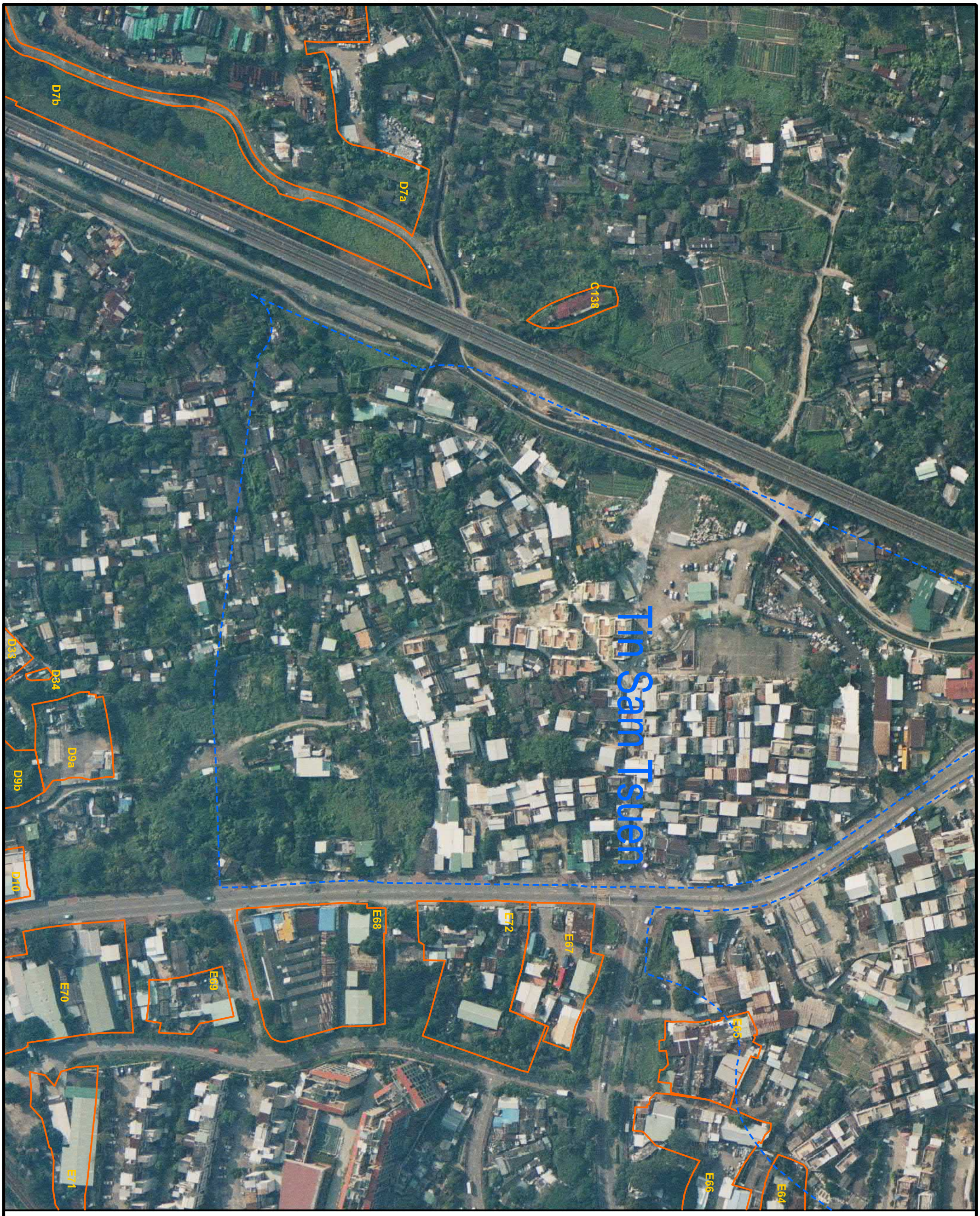

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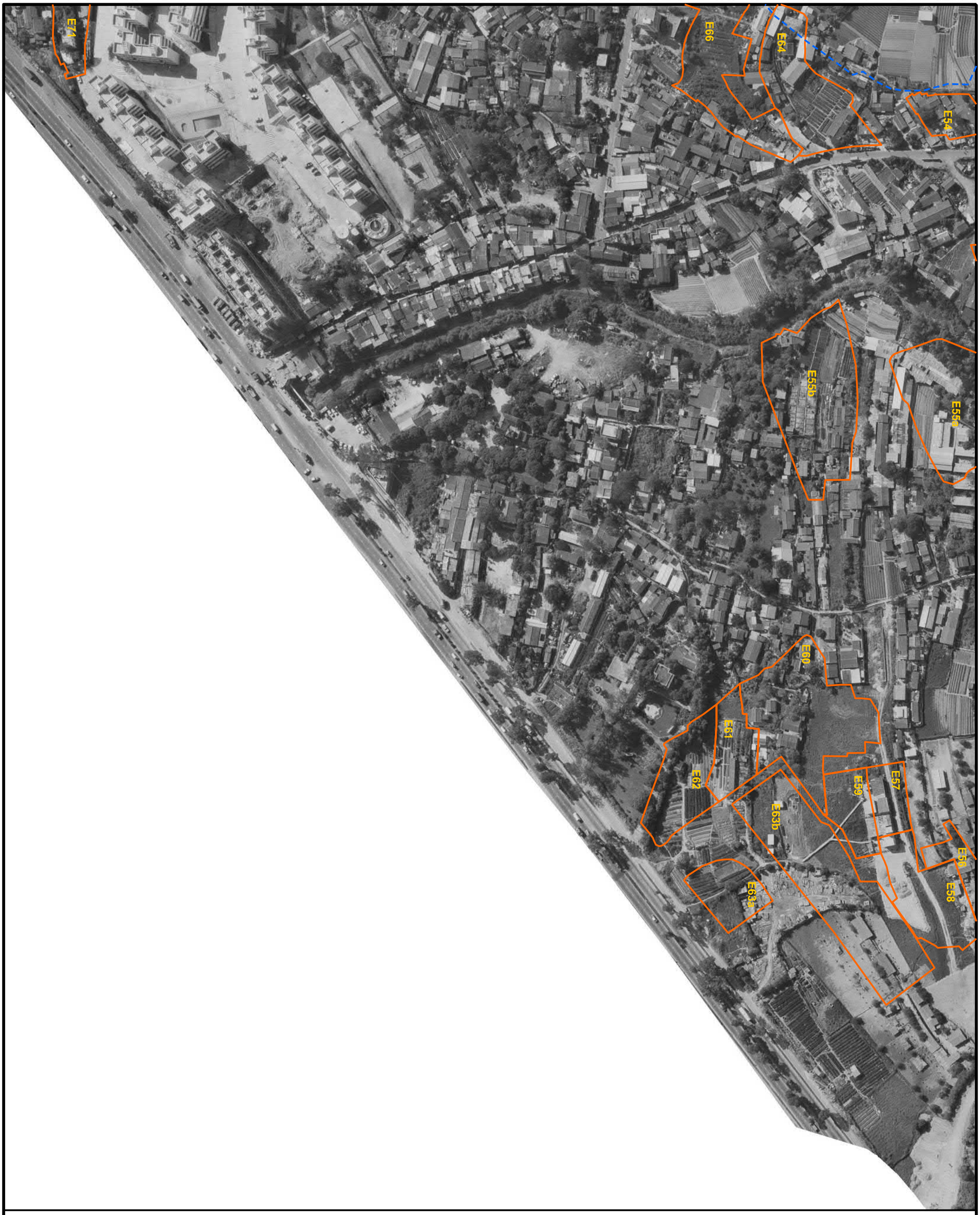

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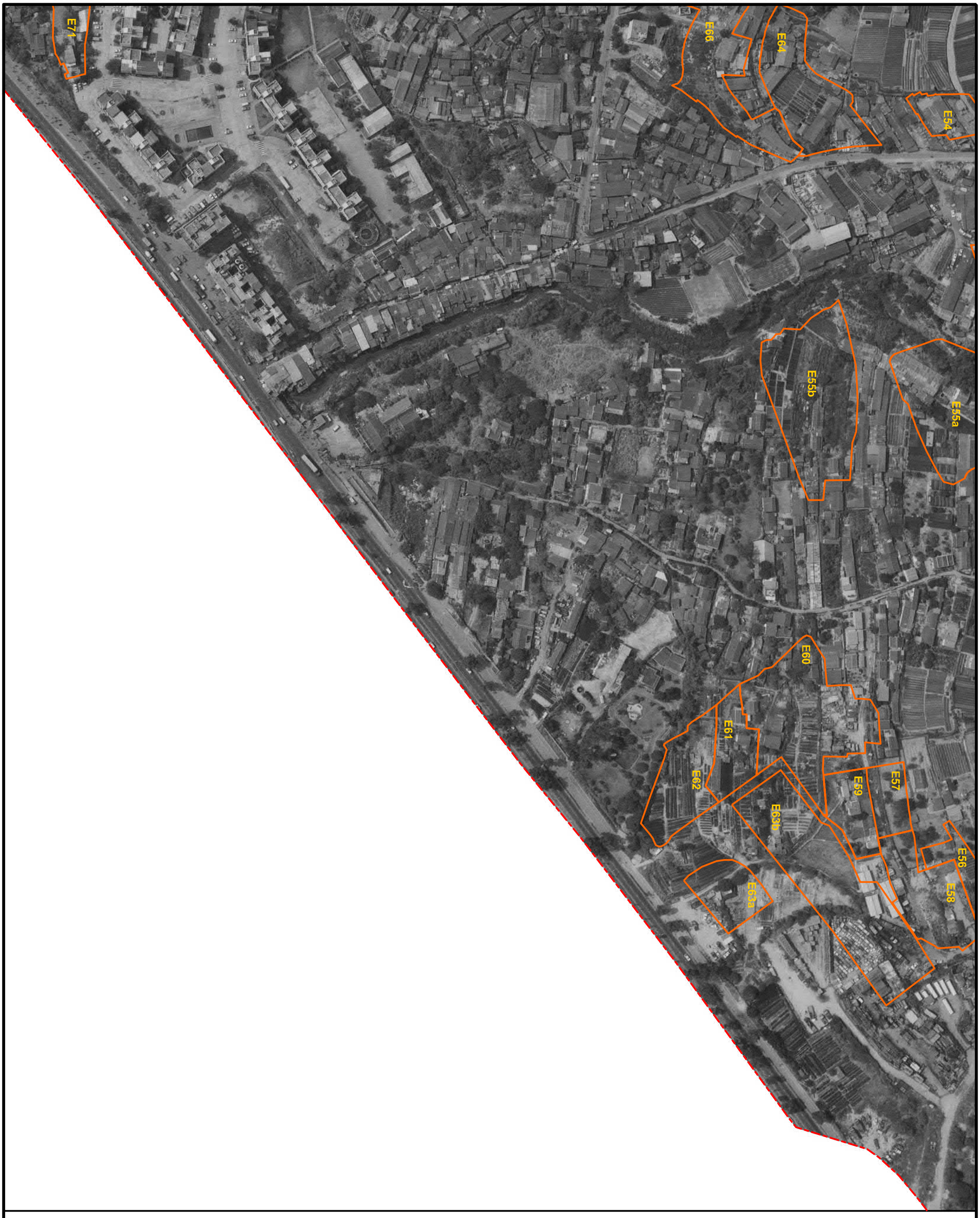

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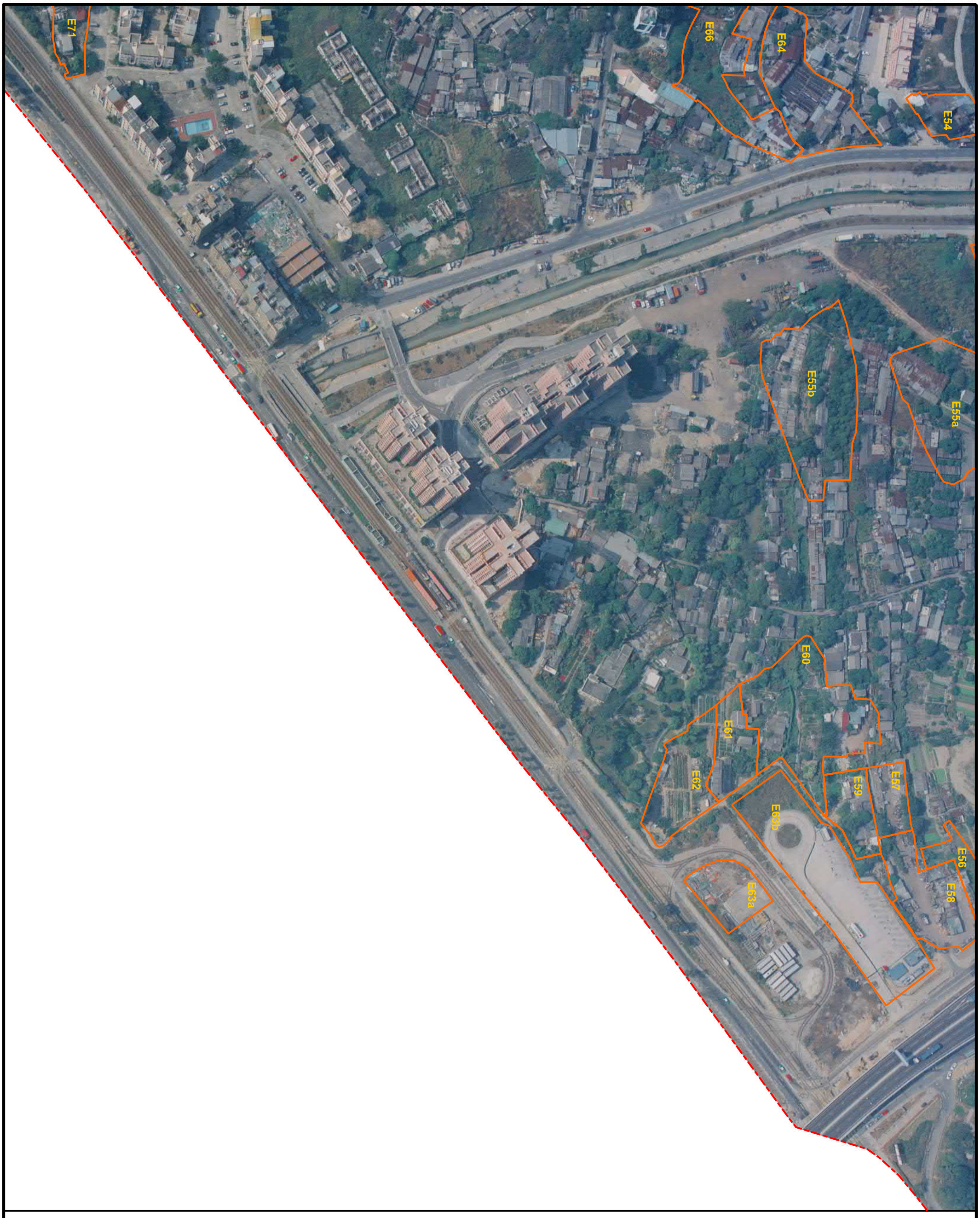

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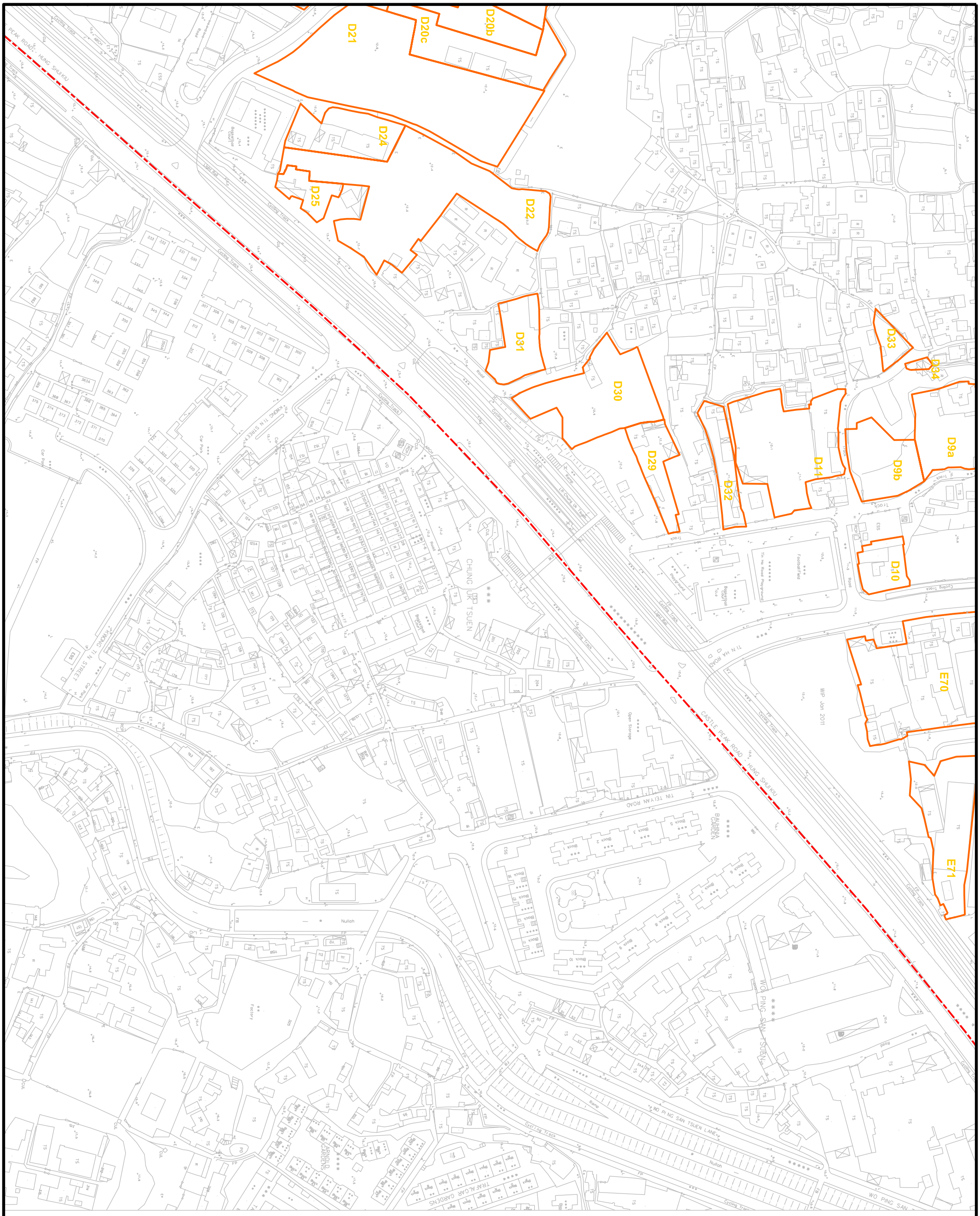

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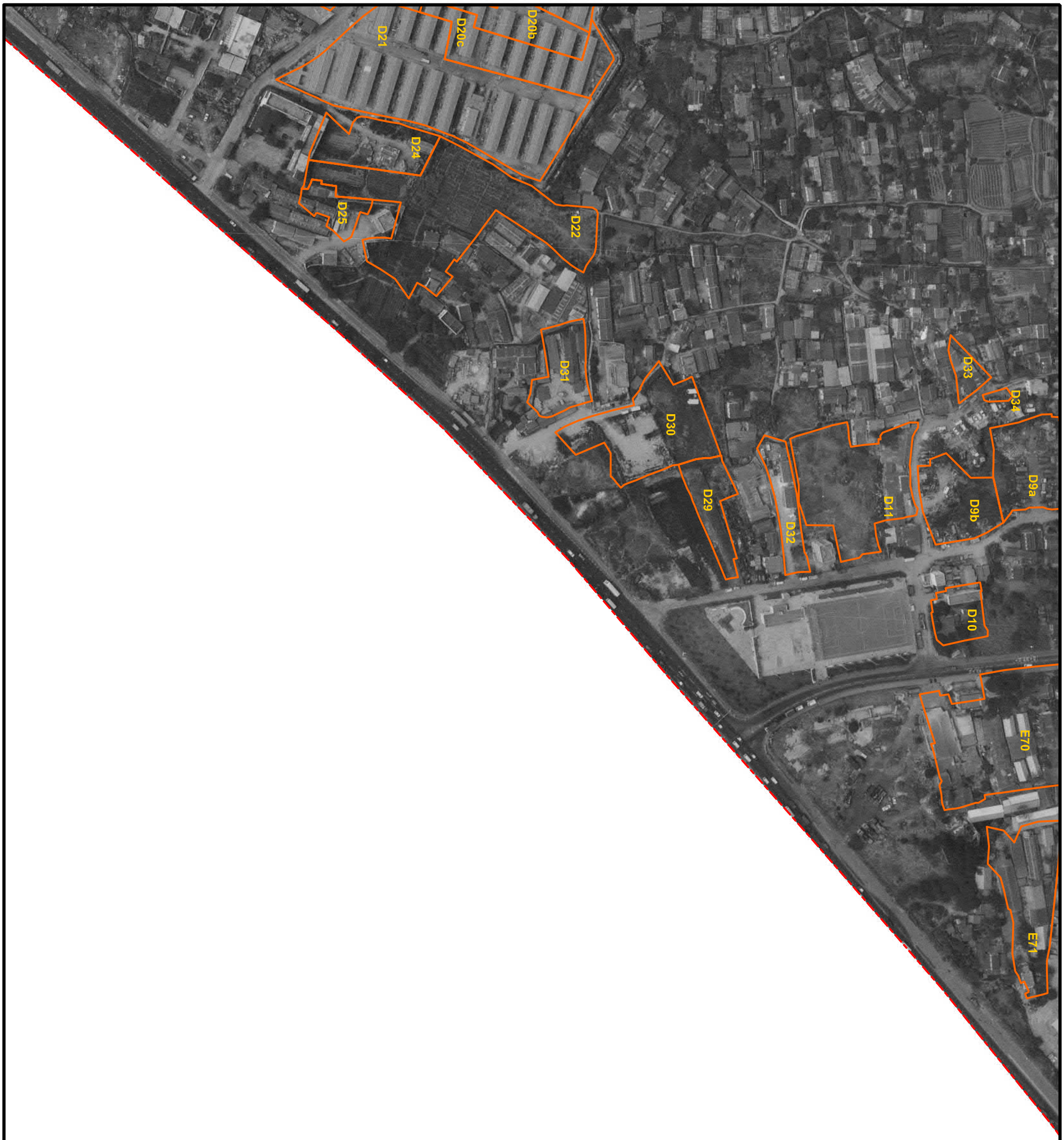

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PLANNING AND ENGINEERING STUDY - INVESTIGATION

AGREEMENT NO. CE 2/2011 (CE)

AERIAL PHOTOGRAPH (2010 - SHEET 29 OF 31)

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Appendix A2

Project No.: 60222570 Date: MAR.2016

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HUNG SHUI KIU NEW DEVELOPMENT AREA
PLANNING AND ENGINEERING STUDY - INVESTIGATION

AGREEMENT NO. CE 2/2011 (CE)

AERIAL PHOTOGRAPH (2013 - SHEET 29 OF 31)

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Appendix A2

Project No.: 60222570 Date: MAR.2016

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LEGEND

DEVELOPMENT SITE BOUNDARY

Rev	Description	By	Date
A	FIRST ISSUE	GL	12/25

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

HISTORICAL AERIAL PHOTOS - YEAR 2024

Drawing no.			Rev.
APPENDIX 4.1			A
Drawn: GL	Date: 12/25	Checked: RC	Approved: FC
Scale: 1:2000 @ A3		Status: PRELIMINARY	

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Filename : \\global\EastAsia\HKG\Group\CIENV\env\project\304204\13 Drawing Deliverables\report\xxx HSK Intensification S16\Appendix 4.1 - Historical Aerial Photos.dgn

Appendix 4.2

Photo Record of Site Survey

Photo Records

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Existing Condition of Site 4B-1</td><td>Photo 2
Existing Condition of Site 4B-2</td></tr>
<tr><td> </td><td> </td></tr>
<tr><td>Photo 3
Hardware Store at Site 4B-3 facing Hung Shui Kiu Tin Sam Road</td><td>Photo 4
Motorcycle Repair Shop at Site 4B-3 facing Hung Shui Kiu Tin Sam Road</td></tr>
</table>

Annex D Drainage Impact Assessment

ARUP

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Drainage Impact Assessment

Final

February 2026

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 304204

Arup Hong Kong Limited
Level 5 Festival Walk
80 Tat Chee Avenue
Kowloon
Hong Kong
arup.com

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Appendix C	Planned Drainage System for Site 4B-1, Site 4B-2, and Site 4B-3 under HSK/HT NDA in Accepted DSIA (For Reference)
Appendix D	Proposed Drainage Layout Plans for Site 4B-1, Site 4B-2, and Site 4B-3
Appendix E	Drainage Calculations

1. Introduction

1.1 Background

1.1.1 Ove Arup & Partners Hong Kong Limited was commissioned to conduct a drainage impact assessment in support of the Proposed Amendment to the Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan (HSK/HT OZP) No. S/HSK/2 at Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories (Development Sites) from "Residential (Group B) 3" to "Residential (Group A) 6" for Proposed Residential Development.

1.1.2 Falling within Area 4B of the HSK/HT OZP, the Development Sites consist of Site 4B-1, Site 4B-2 and Site 4B-3. They belong to Phase Stage 3 of the development plan of the HSK/HT NDA. The Development Sites contribute to an area of about 33,767 m^2, intersected by the Hung Shui Kiu Tin Sam Road and Tin Ha Road. The Development Sites are currently occupied by temporary structures for domestic and brownfield operation uses.

1.2 Scope of this Report

1.2.1 The scope of this report comprises the following:

- Obtain and examine existing and planned drainage works from related studies.
- Carry out appraisal on the drainage impact with respective to the previous studies and determine the additional impact with respective to the previous planned development.
- Confirm the drainage connection as planned in previous studies.
- Prepare a DIA report following DSD's procedures with proposed mitigation measures if any.

1.3 Structure of this Report

1.3.1 This section outlines the assessment of the drainage impact potentially induced by the proposed development parameters at Site 4B-1, Site 4B-2 and Site 4B-3 (i.e. the Development Sites) in HSK/HT NDA and includes:

- Estimation of change in drainage catchment arising from the Development Sites;
- Assessment of potential impact on the existing and planned drainage system imposed by the Development Sites; and
- Proposed preliminary drainage modification works, if considered necessary.

2. Planning Data and Drainage Design Parameters

2.1 Baseline Site Layout

2.1.1 The baseline site layout is based on the following planned and committed developments:

- S16 Planning Application No. A/HSK/452 (approved on 23 Jun 2023); and
- Planning Application No. A/HSK/474 – Minor Relaxation of Plot Ratio Restriction for Permitted Residential and Commercial Development (in Kiu Tau Wai).

2.2 Proposed Development

2.2.1 The proposed development information for the Development Sites is summarized in **Table 2.1**. The Indicative Scheme is shown in **Appendix A**.

Table 2.1 Proposed Development Information

Development Parameters	Proposed Development Sites		
	4B-1	4B-2	4B-3
Site Area (sqm)	9,061.64	16,089.40	8615.64
Density Zone	R2	R2	R2
Domestic Plot Ratio	5.0	5.0	5.0
Non-domestic Plot Ratio	0.2	0.2	0.2
Domestic GFA (sqm)	45,308	80,447	43,078
Non-domestic GFA (sqm)	1,812	3,218	1,723
Population	2,225	3,950	2,114

2.3 Drainage Parameters and Assumptions

2.3.1 The assumptions for drainage design have been adopted with reference to those outlined in the accepted DSIA (Report No. REP-031-07) (F3D) for the HSK/HT NDA. To ensure consistency in impact identification and the provision of drainage mitigation measures, as well as alignment with the accepted drainage impact assessments drainage design, the DSD's Stormwater Drainage Manual (SDM) 2018 has been adopted as the design standard.

3. Assessment of Drainage Impact

3.1 Existing Drainage System

3.1.1 Sites 4B-1, 4B-2, and 4B-3 are situated within a village area, where surface runoff is currently collected through a network of U-channels, catchpits, and drainage pipes. The stormwater is conveyed to the nearby external underground drainage system along the carriageway, directing flow toward Tin Sam Channel and the existing nullah adjacent to Hung Shui Kiu Main Street for final discharge into the Hung Shui Kiu Main Channel.

3.2 Proposed/Planned Drainage System in Conforming Design

Proposed Drainage System under HSK/HT NDA Second Phase Development in the Vicinity

3.2.1 Based on the drainage contract drawings under HSK/HT NDA Second Phase Development, drainage works have been proposed along Tin Ha Road, adjacent to Site 4B-1 and Site 4B-2. The abovementioned drainage system is shown in **Appendix B** for reference.

Planned Drainage System in HSK/HT NDA Remaining Phase Development in Accepted DSIA

3.2.2 With reference to the accepted DSIA under HSK/HT NDA as mentioned in **Section 2.3.1**, separate new drainage lead-ins comprising pipes with diameters ranging from 1,050 mm to 1,200 mm are proposed for Site 4B-1, Site 4B-2, and Site 4B-3 under Remaining Phase Development. They are proposed to be connected to the existing drainage system along Tin Ha Road and Hung Shui Kiu Tin Sam Road for stormwater conveyance. The collected runoff will eventually be discharged into the existing nullah adjacent to Hung Shui Kiu Main Street. The planned drainage system described in the accepted DSIA is shown in **Appendix C** for reference.

3.3 Drainage Impact

3.3.1 The change in the planned site area based on the latest development parameters is summarised in **Table 3.1**.

Table 3.1 Comparison of Drainage Catchment Area for the Development

Site Area (sqm)	Proposed Development Sites		
	4B-1	4B-2	4B-3
Baseline	9,798.29	16,981.09	9,269.01
Proposed	9,061.64	16,089.40	8,615.64
Difference	-7.52%	-5.25%	-7.05%

3.3.2 The drainage catchment area for the proposed development has generally decreased by approximately 7%. As the pavement characteristics remain unchanged (i.e. the area remains paved), the surface runoff from Site 4B-1, Site 4B-2, and Site 4B-3 is reduced compared to the accepted DSIA. As such, the drainage impact is considered negligible.

4. Proposed Drainage Modification Works

4.1.1 The design guidelines, standards and criteria used for the preliminary design of the proposed drainage system and the proposed drainage improvement schemes are as follows:

- "Stormwater Drainage Manual – Planning, Design and Management" (5th Edition, January 2018) published by DSD; and
- "Environment, Transport and Works Bureau Technical Circular (Works) No. 2/2006 - Drainage Impact Assessment Process for Public Sector Projects".

4.1.2 Upon the proposed development, the existing drainage system within the Development Sites will be demolished or diverted and replaced with dedicated drainage lead-ins for stormwater conveyance.

4.1.3 Based on the latest proposed development layouts for Site 4B-1, Site 4B-2, and Site 4B-3, the corresponding drainage lead-in locations have been further refined while making use of the existing drainage lead-in pipes as far as practicable. The proposed drainage layout plan is shown in **Appendix D**. A summary of the proposed drainage lead-in arrangement and its hydraulic performance is provided in **Table 4.1** below.

Table 4.1 Proposed Drainage Lead-in Arrangement and Hydraulic Performance

Site No.	Stormwater Terminal Manhole	Pipe Size (mm)	Connection Point	Catchment Area (m^2)	Peak Flow (m^3/s)	Capacity (m^3/s)	Utilization
4B-1	STMH4B.1-01	525 (Proposed)	SMH4B.1-01	7,083.89	0.45	0.57	78%
	STMH4B.1-02	375 (Proposed)	SMH4B.1-02	1,398.99	0.09	0.16	55%
	STMH4B.1-03	300 (Proposed)	SMH4B.1-03	578.76	0.04	0.07	50%
4B-2	STMH4B.2-01	825 (Proposed)	SMH4B.2-01	10,760.38	0.68	1.05	65%
	STMH4B.2-02	750 (Existing)	SMH4B.2-02	3,731.23	0.24	0.86	27%
	STMH4B.2-03	450 (Existing)	SMH4B.2-03	1,597.79	0.10	0.41	24%
4B-3	STMH4B.3-01	600 (Existing)	SMH4B.3-01	2,282.93	0.14	0.43	34%
	STMH4B.3-02	750 (Existing)	SMH4B.3-02	6,002.73	0.38	1.19	32%
	STMH4B.3-03	300 (Existing)	SMH4B.3-03	329.98	0.02	0.13	16%

4.1.4 Hydraulic capacity of the proposed drainage lead-in pipes on each site has been reviewed under **Appendix E** and confirmed remain well within the design capacity. As such, no drainage impact would be resulted upon the proposed drainage modification works.

5. Summary

5.1.1 This section reviews the changes in the drainage catchment area resulting from the revised development boundaries for Sites 4B-1, 4B-2, and 4B-3. It compares the updated scenario with the base case and evaluates the potential drainage implications.

5.1.2 The revised catchment area has decreased by approximately 7%, while pavement characteristics remain unchanged (i.e., the area remains fully paved). As a result, the surface runoff from the proposed development is correspondingly reduced.

5.1.3 The existing drainage system within the Development Sites is proposed to be demolished or diverted and replaced with dedicated drainage lead-ins for stormwater conveyance. The lead-in locations for Sites 4B-1, 4B-2, and 4B-3 have been further refined to align with the latest development layouts while making use of the existing drainage lead-in pipes as far as practicable. Hydraulic analysis confirms that the proposed connections remain well within their design capacity.

5.1.4 Based on the proposed drainage modifications, it is concluded that no adverse drainage impact is anticipated.

Appendix A

Indicative Scheme for Site 4B-1, Site 4B-2, and Site 4B-3

	4B-1					4B-2									4B-3			
Site Area (sqm)	9,488.29					16,392.09									8,977.83			
Revised Site Area (sqm)	9,061.64	-4%				16,089.40	-2%								8,615.64	-4%		
DPR	5.00					5.00									5.00			
NDPR	0.20					0.20									0.20			
D-GFA (sqm)	45,308					80,447									43,078			
ND-GFA (sqm)	1,812					3,218									1,723			
D-GFA Concession	1.265					1.265									1.265			
ND-GFA Concession	1.25					1.25									1.25			
D-CFA	57,314.88					########									54,493.92			
ND-CFA	2,265.41					4,022.35									2,153.91			
Carpark GFA	9,278.63					16,164.23									8,894.50			
Assumed Flat Size (sqm)	55					55									55			
No. of units	824					1463									783			
Person per flat	2.7					2.7									2.7			
Population	2225					3950									2114			
	Block A	Block B	Block C	Block D		Block A	Block B	Block C	Block D	Block E	Block F	Retail Block I	Retail Block II		Block A	Block B	Block C	Block D
Block Footprint (sqm)	494	494	559	559		667	667	667	559	559	559	194	2141		559	527	527	527
No. of dom. Storeys	27	27	27	27		24	24	28	28	28	28	-	-		22	22	28	28
Transfer Plate thickness (m)	3	3	3	3		3	3	3	3	3	3	-	-		3	3	3	3
Podium garden height (m)	6	6	6	6		6	6	6	6	6	6	-	-		6	6	6	6
Sky Garden height (m)																		
Tower height (m)	94.05	94.05	94.05	94.05		84.6	84.6	97.2	97.2	97.2	97.2				78.3	78.3	97.2	97.2
Podium storeys	2	2	2	2		2	2	2	2	2	2	1	1		2	2	2	2
Podium Height (m)	10	10	10	10		10	10	10	10	10	10	6	6		10	10	10	10
Site formation level (mPD)	11	11	11	11		10	10	10	10	10	10	10	10		10	10	10	10
Total BH (mPD)	115.05	115.05	115.05	115.05		104.6	104.6	117.2	117.2	117.2	117.2	16	16		98.3	98.3	117.2	117.2
Non-domestic Footprint (sqm)	6298.53					10405.12						194.00	2078.40		6199.64			
Non-domestic SC% (<10m)	69.51%					64.67%						1.21%	12.92%		71.96%			
Domestic Footprint (sqm)	2106.00					3678.00									2140.00			
Domestic SC% (10m and above)	23.24%					22.86%									24.84%			

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NOTATIONS

- Development Site Boundary
- Area for Footpath Widening
- Domestic Block
- Non-Domestic Podium with Rooftop Podium Garden
- Driveway / Emergency Vehicular Access
- Emergency Vehicular Access only
- At-grade Landscape Area

- 25 — No. of Storey
- +20.0 — Building Height at Main Roof Level in mPD
- +10.0 — Site Formation Level in mPD

Planned in HSK/HT ODP

- LO — Land Use Zoning
- (1) — Planning Area Number

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Application Site from “Residential (Group B)3” to “Residential (Group A)6”, Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

BLOCK PLAN

Drawing no.			Rev.
01			
Drawn	Date	Checked	Approved
ZL	JAN 2026	LH	WL
Scale		Status	

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Appendix B

Proposed Drainage System under HSK/HT NDA Second Phase Development in the Vicinity of Site 4B-1, Site 4B-2, and Site 4B-3 (For Reference)

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N

816000 E
818000 E
820000 E
836000 N
834000 N
832000 N

LAU FAU SHAN
TIN SHUI WAI
KONG SHAM WESTERN HIGHWAY
NGAU HOM SHEK
HA TSUEN
PING SHAN
CASTLE PEAK ROAD - PING SHAN
YUEN LONG HIGHWAY
YUEN TAU SHAN
HUNG SHUI KIU

SHEET 1
SHEET 2
SHEET 3
SHEET 4
SHEET 5
SHEET 6
SHEET 7
SHEET 8
SHEET 9
SHEET 10
SHEET 11
SHEET 12
SHEET 13
SHEET 14
SHEET 15
SHEET 16
SHEET 17
SHEET 18
SHEET 19
SHEET 20
SHEET 21
SHEET 22
SHEET 23
SHEET 24
SHEET 25
SHEET 26

Site 4B-3
Site 4B-2
Site 4B-1

0 100 200 300 400 500
METRES
1 : 10000

LEGEND

- BOUNDARIES OF THE SITE
- PROPOSED SITES TO BE FORMED
- DEVELOPMENT SITES

Rev	Description	By	Date
00	TENDER ISSUE	EF	03/24

Consultant

ARUP

Project Title

Contract No. YL/2023/03
Hung Shui Kiu/Ha Tsuen
New Development Area
Second Phase Development - Contract 3 -
Site Formation and Engineering
Infrastructure Works

Drawing title

DRAINAGE WORKS
OVERALL LAYOUT PLAN

Drawing no.	Rev.
278463/C3/DRA/1011	00

Drawn	Date	Checked	Approved
DT	03/24	EF	DL

Scale	Status
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817300 E
817400 E
817500 E
817600 E
833000 N
832900 N
832800 N

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/DRA/1112

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/DRA/1114

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/DRA/1108

50mm DIA.
TO BE MAINTAINED
ROAD GULLIES
VISIONED TO
NEW CARRIER DRAINS

EXISTING DN600
STORM PIPE
CONNECTED TO
BOX CULVERT TH-1

PROPOSED SINGLE CELL
BOX CULVERT TH-1
2800(D)x2200(W)

PROPOSED SINGLE CELL
BOX CULVERT TH-1
2800(D)x2200(W)

EXISTING DN450
DRAIN PIPE
CONNECT TO
BOX CULVERT
TH-1

LAY NEW CARRIER
DRAIN AND
RECONTRUCT ROAD
DRAINAGE SYSTEM
(ROAD GULLIES)

RECONSTRUCT
EXISTING
MANHOLE

D-BCTHR.1-4

DISCHARGE TO
BOX CULVERT TH-1

SMH13THR
SMH12THR
SMH11THR
SMH10THR
SMH09THR
SMH08THR

Ex.SMH1012208
CP-S5.36-1
LI-S5.36
CP36.02
CP36.01
CP36.03
CP36.04
CP37.06
CP37.05
CP37.04
CP37.03
CP37.02
CP37.01
CP37.10
LI-S5.37-2
CP37.09
CATCHPIT OVER
EXISTING 300 DIA.
DRAIN PIPE
CONNECT TO
EXISTING
MANHOLE
LI-S5.37-1
Ex.SCH1019584
Ex.SMH1038467
CP37.07
CP37.08
EXISTING 2x300 DIA.
DRAIN PIPES TO BE
MAINTAINED
CATCHPIT OVER
EXISTING 300 DIA.
DRAIN PIPE
CATCHPIT OVER
EXISTING 375 DIA.
DRAIN PIPE
EXISTING 525 DIA.
DRAIN PIPE
TO BE MAINTAINED
EXISTING 450
PIPE TO BE
MAINTAINED

SITE 5-36
(LOCAL OPEN
SPACE)

SITE 5-37
(GOVERNMENT
RESERVE)

Site 4B-2
Site 4B-3

HUNG SHUI KIU MAIN STREET
HUNG SHUI KIU TIN SAM ROAD
洪水橋大街
洪水橋田心路
新李屋村
SAN LEE
UK TSUEN
松盛花園
FLOURISH GARDEN
BELLEVUE COURT
瑞豐華庭
SHEFFIELD
VILLAS
22000 Channel
Cycling Track
Open Storage
Zion Church

METRES
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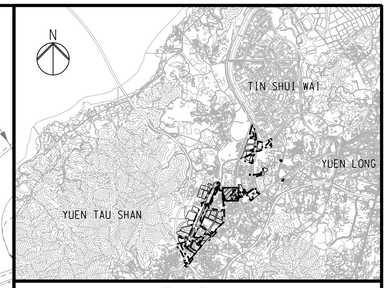

KEY PLAN

NOTES

1. FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NO. 278463/C3/DRA/1001.

LEGEND

DEVELOPMENT SITES

Rev	Description	By	Date
00	TENDER ISSUE	EF	03/24

Consultant

ARUP

Project Title

Contract No. YL/2023/03
Hung Shui Kiu/Ha Tsuen
New Development Area
Second Phase Development - Contract 3 -
Site Formation and Engineering
Infrastructure Works

Drawing title

DRAINAGE LAYOUT PLAN
(SHEET 9)

Drawing no.	Rev.
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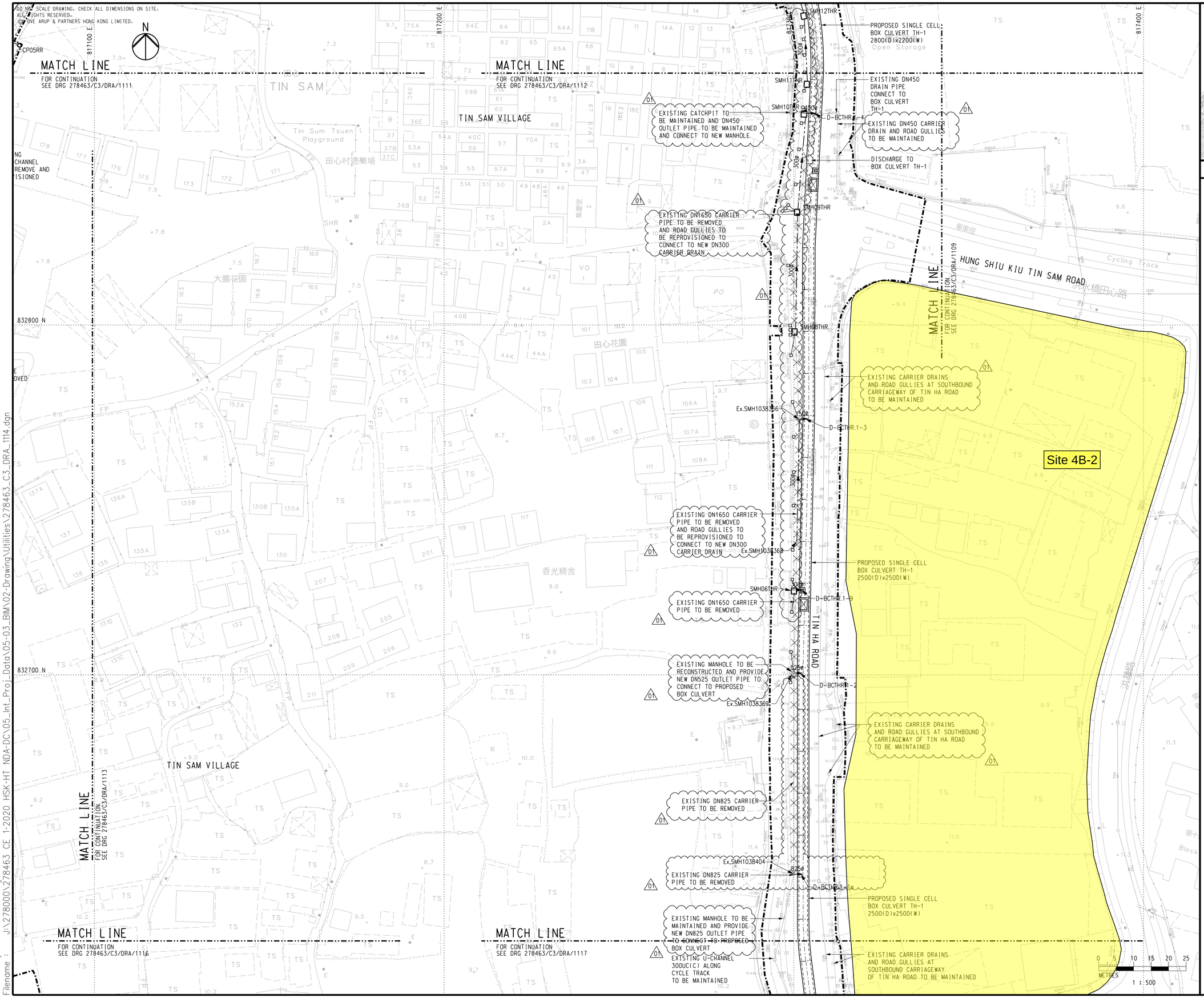

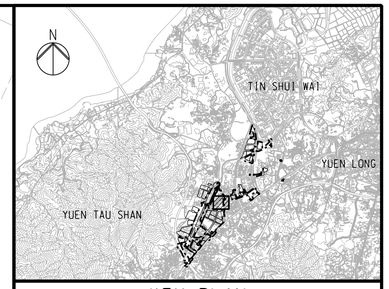

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DEVELOPMENT SITES

Rev	Description	By	Date
01	TENDER ADDENDUM NO. 1	EF	04/24
00	TENDER ISSUE	EF	03/24

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Hung Shui Kiu/Ha Tsuen
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Second Phase Development - Contract 3 -
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DRAINAGE LAYOUT PLAN
(SHEET 14)

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278463/C3/DRA/1114	01

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Status: TENDER

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817200 E
817300 E
817400 E
832600 N
832500 N
832400 N

SITE 4-25b
(COMMERCIAL & RESIDENTIAL DEVELOPMENT)

SITE 4-24
(PUBLIC HOUSING)

SITE 4-26
(RESIDENTIAL)

ROAD L16

EXISTING MANHOLE TO BE MAINTAINED AND PROVIDE NEW DN825 OUTLET PIPE TO CONNECT TO PROPOSED BOX CULVERT

EXISTING U-CHANNEL 300UC(C) ALONG CYCLE TRACK TO BE MAINTAINED

EXISTING DN825 CARRIER PIPE TO BE MAINTAINED

SINGLE CELL 2500(D)x2500(W) BOX CULVERT L6-1

PROPOSED SINGLE CELL BOX CULVERT TH-1 2500(D)x2500(W)

MATCH LINE
FOR CONTINUATION SEE DRG 278463/C3/DRA/1114

EXISTING CARRIER DRAINS AND ROAD GULLIES AT SOUTHBOUND CARRIAGEWAY OF TIN HA ROAD TO BE MAINTAINED

EXISTING ROAD GULLIES TO BE REMOVED

EXIST. DN675 CARRIER PIPE TO BE MAINTAINED AND CONNECT TO PROPOSED MANHOLE

EXIST. 300UC TO BE MAINTAINED

EXISTING DN675 CARRIER PIPE TO BE MAINTAINED

EXISTING 300UC TO BE MAINTAINED

EXISTING ROAD GULLIES AND CARRIER DRAINS TO BE MAINTAINED

EXSITING 2x300 DIA. STORM DRAINS TO BE MAINTAINED

EXISTING ROAD DRAINS TO BE MAINTAINED

4 NOS. GULLY WITH OVERFLOW WEIR TYPE K1-450V

MATCH LINE
FOR CONTINUATION SEE DRG 278463/C3/DRA/1117

MATCH LINE
FOR CONTINUATION SEE DRG 278463/C3/DRA/1120

Site 4B-1

Site 4B-2

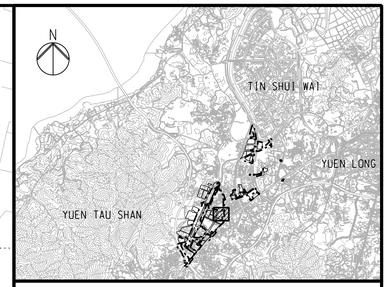
EXISTING CHURCH OF JESUS CHRIS OF LATIER - DAY SAINTS

EXISTING TIN HA ROAD PLAYGROUND TO BE RETAINED
田廈路遊樂場
Tin Ha Road Playground

HUNG LEONG ROAD
HUNG KEI ROAD
TIN HA ROAD
TIN HA ROAD
FANLING HIGHWAY

足球場 Football Field
籃球場 Basketball Court
籃球場 Basketball Court
FP Cycling Track
那穌基督後期聖徒教會
樂天園
李方園
恒安園
瑞恩園
23座 Block 2

METRES 0 5 10 15 20 25
1 : 500



KEY PLAN

NOTES

1. FOR GENERAL NOTES ADN LEGEND, REFER TO DRAWING NO.278463/C3/DRA/1001.

LEGEND

DEVELOPMENT SITES

Rev	Description	By	Date
01	TENDER ADDENDUM NO. 2	EF	05/24
00	TENDER ISSUE	EF	03/24

Consultant

ARUP

Project Title

Contract No. YL/2023/03
Hung Shui Kiu/Ha Tsuen
New Development Area
Second Phase Development - Contract 3 -
Site Formation and Engineering
Infrastructure Works

Drawing title

DRAINAGE LAYOUT PLAN
(SHEET 17)

Drawing no.	Rev.
278463/C3/DRA/1117	01

Drawn	Date	Checked	Approved
DT	03/24	EF	DL

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Appendix C

Planned Drainage System for Site 4B-1, Site 4B-2, and Site 4B-3 under HSK/HT NDA in Accepted DSIA (For Reference)

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FOR CONTINUATION
SEE DRG 278463/DIA/044
MATCH LINE

FOR CONTINUATION
SEE DRG 278463/DIA/045
MATCH LINE

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/DIA/049

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/DIA/048

833000 N
832500 N
815000 E
815500 E

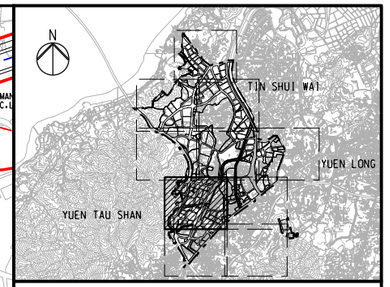
PROPOSED CONNECTION TO
PROPOSED DRAINAGE SYSTEM UNDER
HSK/HT NDA STAGE 2 WORKS
(PACKAGE A)

PROPOSED CONNECTION TO
EXISTING DRAINAGE SYSTEM

PROPOSED
OUTLET
I.L. 3.914

Site
4B-2

Site
4B-1



KEY PLAN

NOTES

1. FOR LEGEND, REFER TO DRAWING NO. 278463/DIA/041.

LEGEND

DEVELOPMENT SITES

Rev	Description	By	Date
A	FIRST ISSUE	EF	03/22

Consultant

ARUP

Project Title

Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction

Drawing title

PROPOSED DRAINAGE CATCHMENT PLAN -
REMAINING PHASE DEVELOPMENT
(SHEET 7 OF 9)

Drawing no.			Rev.
278463/DIA/047			A
Drawn	Date	Checked	Approved
RY	03/22	CF	DL
Scale		Status	
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FOR CONTINUATION SEE DRG 278463/DIA/045

MATCH LINE
FOR CONTINUATION SEE DRG 278463/DIA/046

MATCH LINE
FOR CONTINUATION SEE DRG 278463/DIA/047

Site 4B-3

Site 4B-2

Site 4B-1

PROPOSED CONNECTION TO EXISTING DRAINAGE SYSTEM

PROPOSED CONNECTION TO EXISTING MANHOLE SMH1038458

PROPOSED CONNECTION TO EXISTING MANHOLE SMH1038455

PROPOSED CONNECTION TO EXISTING MANHOLE SMH1011976

PROPOSED OUTFALL

MANHOLE_130 C.L. 7.000

MANHOLE_282 C.L. 7.000

MANHOLE_284 C.L. 7.000

JUNCTION_241 C.L. 6.400

JUNCTION_235 C.L. 6.400

JUNCTION_235_OUT C.L. 6.400

JUNCTION_136 C.L. 6.800

JUNCTION_135 C.L. 7.900

JUNCTION_234 C.L. 8.500

JUNCTION_441_OUT C.L. 8.500

JUNCTION_233 C.L. 8.700

JUNCTION_232 C.L. 8.400

JUNCTION_134 C.L. 9.700

JUNCTION_133 C.L. 9.700

PLUG_441 C.L. 9.000

PLUG_439 C.L. 9.000

PLUG_440 C.L. 9.000

PLUG_438 C.L. 10.500

PLUG_437 C.L. 9.000

MANHOLE_310 C.L. 9.000

MANHOLE_310_OUT C.L. 9.000

MANHOLE_304_OUT C.L. 11.000

MANHOLE_304 C.L. 11.000

MANHOLE_302 C.L. 11.000

MANHOLE_302_OUT 11.000

833000 N

832500 N

818500 E

N

TIN SHUI WAI

YUEN LONG

YUEN TAU SHAN

KEY PLAN

NOTES

1. FOR LEGEND, REFER TO DRAWING NO. 278463/DIA/041.

LEGEND

DEVELOPMENT SITES

Rev	Description	By	Date
A	FIRST ISSUE	EF	03/22

Consultant

ARUP

Project Title

Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction

Drawing title

PROPOSED DRAINAGE CATCHMENT PLAN - REMAINING PHASE DEVELOPMENT (SHEET 8 OF 9)

Drawing no.	Rev.
278463/DIA/048	A

Drawn	Date	Checked	Approved
RY	03/22	CF	DL

Scale	Status
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Appendix D

Proposed Drainage Layout Plans for Site 4B-1, Site 4B-2, and Site 4B-3

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N

817400 E
817500 E
817600 E
832900 N
832800 N
832700 N

EXISTING CATCHPIT TO BE RECONSTRUCTED TO A NEW MANHOLE SMH4B.3-02

EXISTING 750mm DIA. DRAINAGE PIPE TO BE MAINTAINED

EXISTING 750mm DIA. DRAINAGE PIPE TO BE MAINTAINED

EXISTING 600mm DIA. DRAINAGE PIPE TO BE MAINTAINED

STMH4B.2-02

SMH4B.3-02
STMH4B.3-02

SMH4B.3-01
STMH4B.3-01

SMH4B.2-03
STMH4B.2-03

STMH4B.3-03

EXISTING 450mm DIA. DRAINAGE PIPE TO BE MAINTAINED

EXISTING 300mm DIA. DRAINAGE PIPE TO BE MAINTAINED

EXISTING CATCHPIT TO BE RECONSTRUCTED TO A NEW MANHOLE SMH4B.3-03

1 +16.0 3731.23 Sq.m
2 +20.0 2282.93 Sq.m
25 +98.3 4894.95 Sq.m
27 +104.6
31 +117.2 1107.78 sq.m
2 +20.0 1597.79 Sq.m
329.98 sq.m
31 +117.2
2 +20.0 10760.38 Sq.m

SMH4B.2-01
MH4B.2-01

HUNG SHUI KIU TIN SAM ROAD
HUNG SHUI KIU MAIN STREET
HUNG YU ROAD
HUNG OAK ROAD
洪水橋田心路
洪水橋大街
洪優路
洪橡路
斜路 Ramp
道路 Road
Tin Sam Villa 田心居
Casa De Oro 金閣豪園
Open Storage 露天貨倉
Car Park 停車場
Cycling Track
Tennis Court 網球場
Basketball 籃球場
Badminton 羽毛球場
Children's Playground 兒童遊樂場
Shrubbery Area
Block 1 第一座
Block 2 第二座
Block 3 第三座
Block 5 第五座
Block 6 第六座
Block 7 第七座
Block 8 第八座
Block 9 第九座
Block 10 第十座

0 5 10 15 20 25 METRES
1 : 500

LEGEND

- SITE BOUNDARY
- PROPOSED DRAINAGE CATCHMENT AREA
- PROPOSED STORMWATER MANHOLE
- PROPOSED STORMWATER PIPE
- EXISTING DRAINAGE SYSTEM
- EXISTING DRAINAGE SYSTEM TO BE ABANDONED
- EXISTING STORMWATER CATCHPIT TO BE RECONSTRUCTED

Rev	Description	By	Date
B	SECOND ISSUE	HT	02/26
A	FIRST ISSUE	HT	10/25

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

PROPOSED DRAINAGE LAYOUT PLAN (SHEET 1)

Drawing no.	Rev.
304204/C/DIA/011	B

Drawn	Date	Checked	Approved
RY	10/25	JW	KK

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EXISTING CATCHPIT TO BE RECONSTRUCTED TO A NEW MANHOLE SMH4B.3-02

EXISTING 750mm DIA. DRAINAGE PIPE TO BE MAINTAINED

EXISTING 750mm DIA. DRAINAGE PIPE TO BE MAINTAINED

SMH4B.3-02

SMH4B.3-02

SMH4B.3-02

SMH4B.2-03

SMH4B.2-03

STMH4B.3-03

EXISTING 450mm DIA. DRAINAGE PIPE TO BE MAINTAINED

EXISTING 300mm DIA. DRAINAGE PIPE TO BE MAINTAINED

EXISTING CATCHPIT TO BE RECONSTRUCTED TO A NEW MANHOLE SMH4B.3-03

EXISTING 825mm DIA. DRAINAGE PIPE TO BE MAINTAINED

SMH4B.2-01

STMH4B.2-01

PROPOSED DRAINAGE WORKS UNDER HSK/HT NDA SECOND PHASE DEVELOPMENT CONTRACT

1 +16.0 — 3731.23 Sq.m
27 +104.6
2 +20.0
27 +104.6
31 +117.2
1597.79 Sq.m
31 +117.2
31 +117.2
10760.38 Sq.m
2 +20.0
31 +117.2
31 +117.2
785.36 Sq.m
2

25 +98.3 — 4894.95 Sq.m
25 +98.3
2 +20.0
31 +117.2
329.98 sq.m

817300 E
817400 E
817500 E
832800 N
832700 N
832600 N

HUNG LEUNG ROAD
HUNG YU ROAD
洪水橋田心路
洪福路
洪慶路
洪昌路
洪亮路
洪盛路
洪業路
洪基路
洪福路
洪興路
洪義路
洪水橋單車徑
Cycling Track
Footpath
Road
Block 1 第一座
Block 2 第二座
Block 3 第三座
Block 4 第四座
Block 5 第五座
Block 6 第六座
Block 7 第七座
Block 8 第八座
Block 9 第九座
Block 10 第十座
Block 11 第十一座
Block 12 第十二座
Block 13 第十三座
Block 14 第十四座
Block 15 第十五座
Club House 會所
監球場
PARKVIEW GARDEN 柏雨花園
Casa De Oro 金閣豪園
香光精舍
田心花園
西園
翠柏路
泥路

0 5 10 15 20 25 METRES
① : 500

LEGEND

- SITE BOUNDARY
- PROPOSED DRAINAGE CATCHMENT AREA
- PROPOSED STORMWATER TERMINAL MANHOLE
- PROPOSED STORMWATER PIPE
- PROPOSED DRAINAGE WORKS UNDER HSK/HT NDA SECOND PHASE DEVELOPMENT CONTRACT
- EXISTING DRAINAGE SYSTEM
- EXISTING DRAINAGE SYSTEM TO BE ABANDONED
- EXISTING STORMWATER CATCHPIT TO BE RECONSTRUCTED

Rev	Description	By	Date
B	SECOND ISSUE	HT	02/26
A	FIRST ISSUE	HT	10/25

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

PROPOSED DRAINAGE LAYOUT PLAN (SHEET 2)

Drawing no.			Rev.
304204/C/DIA/012			B
Drawn	Date	Checked	Approved
RY	10/25	JW	KK
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817200 E
817300 E
817400 E
817500 E
832600 N
832500 N
832400 N

10760.38 Sq.m
785.36 Sq.m
6298.53 sq.m
1398.99 Sq.m
578.76 Sq.m

PROPOSED DRAINAGE WORKS UNDER HSK/HT NDA SECOND PHASE DEVELOPMENT CONTRACT

EXISTING 375mm DIA. DRAINAGE PIPE TO BE UPGRADED

EXISTING CATCHPIT TO BE RECONSTRUCTED TO A NEW MANHOLE SMH4B.1-01

EXISTING 375mm DIA. DRAINAGE PIPE TO BE RECONSTRUCTED

SMH4B.1-01
SMH4B.1-02
STMH4B.1-02
STMH4B.1-03

EXISTING CATCHPIT TO BE RECONSTRUCTED TO A NEW MANHOLE SMH4B.1-03

EXISTING 600mm DIA. DRAINAGE PIPE TO BE MAINTAINED

EXISTING 300mm U-CHANNEL TO BE DIVERTED BEYOND THE SITE BOUNDARY

HUNG LEUNG ROAD
TIN HA ROAD
KAM YUE ROAD
Cycling Track
Club House
PARKVIEW GARDEN
Casa De Oro
Football Field
Basketball Court
Tin Ha Road Playground

LEGEND

- SITE BOUNDARY
- PROPOSED DRAINAGE CATCHMENT AREA
- PROPOSED STORMWATER TERMINAL MANHOLE
- PROPOSED STORMWATER PIPE
- PROPOSED DRAINAGE WORKS UNDER HSK/HT NDA SECOND PHASE DEVELOPMENT CONTRACT
- EXISTING DRAINAGE SYSTEM
- EXISTING DRAINAGE SYSTEM TO BE ABANDONED
- EXISTING STORMWATER CATCHPIT TO BE RECONSTRUCTED

Rev	Description	By	Date
B	SECOND ISSUE	HT	02/26
A	FIRST ISSUE	HT	10/25

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

PROPOSED DRAINAGE LAYOUT PLAN (SHEET 3)

Drawing no.	Rev.
304204/C/DIA/013	B

Drawn	Date	Checked	Approved
RY	10/25	JW	KK

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0 5 10 15 20 25 METRES
1 : 500

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Filename : V:\304204\ARUP\Civil\304204_C_DIA_013.dgn

Appendix E

Drainage Calculations

ARUP

Job No.	Sheet No.	Rev.
304204		B

Member/Location

Drg. Ref.

Made by HTY Date 2 Feb 2026 Chd. BT

Job Title: Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/21to rezone the Subject Site from "Residential (Group B) 3" to "Residential (Group A) 6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Calculation: **Hydraulic Assessments for Existing Drainage Pipe**

1. Update the Formulas

2. Update Pipe Size and IL from C3D Network

3. Update Catchment from Worksheet 1a

4. Export the Data in Worksheets 1a, 1b, and 1c to InfoWorks .csv

5. Export the Data in Worksheets 1b and 1c to SHP

Manning equation to calculate proposed drainage pipe capacity

1. Rational Method is used to estimate the peak runoff.

$Q = 0.278CiA$ where Q = peak runoff in m^3/s
C = runoff coefficient
i = rainfall intensity in mm/hr
A = catchment area in km^2

Design Parameters:

Rainfall Intensity:

Return Period T (years)	50
a	451.3
b	2.46
c	0.337
Rainfall Increase %	10.4%

Peak Runoff:

$C_{Paved\ Area}$	0.90
$C_{grassland}$	0.30
$C_{Area\ 3}$	0.50
$C_{Area\ 4}$	0.35

Design Equations

Rainfall Intensity
Rainfall Intensity (mm/hr) = $a / (t_d + b)^c$

where
t_d = duration in minutes (inlet time assumed to be 1 min)
a,b,c = Storm Constant

Peak Runoff
Peak Runoff (m^3/s) = $0.278*C*i*A$

where
C = Runoff Coefficient
i = Rainfall Intensity in mm/hr
A = Catchment Area in km^2

Full-bore Velocity (Manning Equation)
Full-bore Velocity (m/s) = $(1/n)*R^{(2/3)}*S^{(1/2)}$

where
n = Roughness Coefficient
R = Hydraulic Radius (m)
S = Gradient of the Channel (m/m)

Full-bore Velocity (Colebrook-White Equation)
Full-bore Velocity (m/s) = $-1*(32*g*R*S)^{(1/2)}*\log[ks/(14.8*R)+1.255*v/(R*(32*g*R*S)^{(1/2)})]$

where
ks = Roughness Coefficient (m)
R = Hydraulic Radius (m)
S = Gradient of the Channel (m/m)
v = kinematic viscosity of fuild = 0.00000114 m2/s

Table 1 Capacity Check - With Proposed Development

Location and Level/Depth Information									Pipe/Channel/BC/UC Information											Runoff Estimation												Pipeworks Capacity and Design					
																																Velocity		Capacity			
Remarks	US MH No.	DS MH No.	USGL (mPD)	DSGL (mPD)	USIL (mPD)	DSIL (mPD)	US Cover Depth (m)	DS Cover Depth (m)	Length (m)	Shape (UC/Circular/BC/RC)	Diameter of Pipe/Width of Channel (mm)	Diameter of Pipe/Width of Channel (m)	Height of Channel (m, For BC and RC only)	No of Cells or Pipes	Gradient (1 in)	Flow Area (m^2)	Wetted Perimeter (m)	Hydraulic Radius (m)	Colebrook-White Roughness Coefficient (mm)	Manning Roughness Coefficient	Additional Catchment Ref.	Additional Paved Area (m^2)	Additional Grassland Area (m^2)	Additional Area 3 (m^2)	Additional Area 4 (m^2)	Additional Effective Catchment Area (m^2)	Cumulative Effective Catchment Area (m^2)	t_m (min)	t_f (min)	t_c (min)	Intensity (mm/hr)	Peak Runoff per Pipe or Cell (m^3/s)	(32gRS)^0.5	Full-bore Velocity (m/s)	Check for Pipe (1~6m/s)	Full-bore Capacity per Pipe or Cell (m^3/s)	Utilization Ratio	Check (<80%)
Site 4B-1	STMH4B.1-01	SMH4B.1-01	11.00	11.00	8.80	8.77	1.68	1.71	2.50	Circular	525	0.525		1	71	0.216475	1.649336	0.13125	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	7083.89	0	0	0	6375.50	6375.50	5.00	0.02	5.02	252.94	0.45	0.76	2.65	OK	0.57	78%	OK
	SMH4B.1-01	Ex.SMH1038374	11.00	10.89	8.77	8.69	1.71	1.68	5.30	Circular	525	0.525		1	71	0.216475	1.649336	0.13125	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	0	0	0	0	0.00	6375.50	5.00	0.03	5.03	252.74	0.45	0.76	2.67	OK	0.58	78%	OK
	STMH4B.1-02	SMH4B.1-02	11.00	11.00	9.62	9.61	1.01	1.02	2.18	Circular	375	0.375		1	151	0.110447	1.178097	0.09375	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	1398.99	0	0	0	1259.09	1259.09	5.00	0.02	5.02	252.83	0.09	0.44	1.47	OK	0.16	55%	OK
	SMH4B.1-02	Ex.SMH1034197	11.00	11.68	9.61	9.55	1.02	1.76	8.50	Circular	375	0.375		1	153	0.110447	1.178097	0.09375	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	0	0	0	0	0.00	1259.09	5.00	0.10	5.10	252.02	0.09	0.44	1.46	OK	0.16	55%	OK
	STMH4B.1-03	SMH4B.1-03	11.00	11.00	9.90	9.89	0.80	0.81	2.30	Circular	300	0.300		1	225	0.070686	0.942478	0.075	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	578.76	0	0	0	520.88	520.88	5.00	0.04	5.04	252.70	0.04	0.32	1.04	OK	0.07	50%	OK
	SMH4B.1-03	Ex.SMH1038380	11.00	11.00	9.89	9.88	0.81	0.82	2.20	Circular	300	0.300		1	224	0.070686	0.942478	0.075	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	0	0	0	0	0.00	520.88	5.00	0.04	5.04	252.72	0.04	0.32	1.04	OK	0.07	50%	OK
Site 4B-2	STMH4B.2-01	SMH4B.2-01	10.00	10.00	8.31	8.30	0.87	0.87	2.00	Circular	825	0.825		1	227	0.534562	2.591814	0.20625	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	10760.38	0	0	0	9684.34	9684.34	5.00	0.02	5.02	252.92	0.68	0.53	1.96	OK	1.05	65%	OK
	SMH4B.2-01	Ex.SCH1019509	10.00	10.24	8.30	8.29	0.87	1.13	3.70	Circular	825	0.825		1	228	0.534562	2.591814	0.20625	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	0	0	0	0	0.00	9684.34	5.00	0.03	5.03	252.76	0.68	0.53	1.96	OK	1.05	65%	OK
	STMH4B.2-02	SMH4B.2-02	10.00	10.00	6.82	6.81	2.43	2.44	2.45	Circular	750	0.750		1	204	0.441786	2.356194	0.1875	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	3731.23	0	0	0	3358.11	3358.11	5.00	0.02	5.02	252.88	0.24	0.54	1.95	OK	0.86	27%	OK
	SMH4B.2-02	Ex.SMH1038447	10.00	10.00	6.81	6.78	2.44	2.47	5.70	Circular	750	0.750		1	204	0.441786	2.356194	0.1875	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	0	0	0	0	0.00	3358.11	5.00	0.05	5.05	252.56	0.24	0.54	1.96	OK	0.86	27%	OK
	STMH4B.2-03	STMH4B.2-03	10.00	10.00	6.94	6.89	2.61	2.66	3.00	Circular	450	0.450		1	61	0.159043	1.413717	0.1125	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	1597.79	0	0	0	1438.01	1438.01	5.00	0.02	5.02	252.90	0.10	0.76	2.60	OK	0.41	24%	OK
	STMH4B.2-03	Ex.SMH1034167	10.00	9.54	6.89	6.79	2.66	2.30	6.22	Circular	450	0.450		1	62	0.159043	1.413717	0.1125	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	0	0	0	0	0.00	1438.01	5.00	0.04	5.04	252.66	0.10	0.76	2.59	OK	0.41	24%	OK
Site 4B-3	STMH4B.3-01	SMH4B.3-01	10.00	10.00	7.68	7.66	1.72	1.74	4.60	Circular	600	0.600		1	256	0.282743	1.884956	0.15	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	2282.93	0	0	0	2054.64	2054.64	5.00	0.05	5.05	252.54	0.14	0.43	1.52	OK	0.43	34%	OK
	SMH4B.3-01	Ex.SMH1038483	10.00	10.59	7.66	7.62	1.74	2.37	11.35	Circular	600	0.600		1	270	0.282743	1.884956	0.15	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	0	0	0	0	0.00	2054.64	5.00	0.13	5.13	251.67	0.14	0.42	1.47	OK	0.42	34%	OK
	STMH4B.3-02	SMH4B.3-02	10.00	10.00	6.66	6.64	2.59	2.61	2.14	Circular	750	0.750		1	107	0.441786	2.356194	0.1875	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	6002.73	0	0	0	5402.46	5402.46	5.00	0.01	5.01	252.97	0.38	0.74	2.70	OK	1.19	32%	OK
	SMH4B.3-02	Ex.SMH1038486	10.00	10.13	6.64	6.53	2.61	2.85	12.20	Circular	750	0.750		1	111	0.441786	2.356194	0.1875	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	0	0	0	0	0.00	5402.46	5.00	0.08	5.08	252.25	0.38	0.73	2.66	OK	1.17	32%	OK
	STMH4B.3-03	SMH4B.3-03	10.00	10.00	7.46	7.44	2.24	2.27	1.80	Circular	300	0.300		1	72	0.070686	0.942478	0.075	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	329.98	0	0	0	296.98	296.98	5.00	0.02	5.02	252.93	0.02	0.57	1.85	OK	0.13	16%	OK
	SMH4B.3-03	Ex.SMH1034164	10.00	10.01	7.44	7.31	2.27	2.40	9.24	Circular	300	0.300		1	74	0.070686	0.942478	0.075	0.6		Pipe "SMH10cD1-SMH10aL32", SMH10L3	0	0	0	0	0.00	296.98	5.00	0.08	5.08	252.16	0.02	0.56	1.83	OK	0.13	16%	OK

Annex E Sewerage Impact Assessment

ARUP

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Sewerage Impact Assessment

Final

February 2026

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 304204

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1. Introduction

1.1 Background

1.1.1 Ove Arup & Partners Hong Kong Limited was commissioned to conduct a sewerage impact assessment in support of the Proposed Amendment to the Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan (HSK/HT OZP) No. S/HSK/2 at Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories (Development Sites) from "Residential (Group B) 3" to "Residential (Group A) 6" for Proposed Residential Development.

1.1.2 Falling within Area 4B of the HSK/HT OZP, the Development Sites consist of Site 4B-1, Site 4B-2 and Site 4B-3. They belong to Phase Stage 3 of the development plan of the HSK/HT NDA. The Development Sites contribute to an area of about 33,767 m^2, intersected by the Hung Shui Kiu Tin Sam Road and Tin Ha Road. The Development Sites are currently occupied by temporary structures for domestic and brownfield operation uses.

1.2 Scope of this Report

1.2.1 The scope of this report comprises the following:

- Obtain and examine existing and planned sewerage works in the surroundings from related studies.
- Estimate the sewage flows based on the proposed intensification schedule.
- Coordinate with various planned developments to determine the total sewage generated within the local sewerage catchment.
- Confirm adopting the planned sewerage disposal proposal.
- Prepare a SIA report with proposed mitigation measures.

1.3 Structure of this Report

1.3.1 This section outlines the assessment of the sewerage impact potentially induced by the proposed development parameters at Site 4B-1, Site 4B-2 and Site 4B-3 (i.e. the Development Sites) in HSK/HT NDA and includes:

- Estimation of sewage flows arising from the Development Sites;
- Assessment of potential impact on the existing and planned sewerage system imposed by the Development Sites; and
- Proposed preliminary sewerage system modification works, if considered necessary.

2. Planning Data and Sewage Flow Estimation

2.1 Baseline Population and Employment Data

2.1.1 The baseline sewerage catchments and population are based on the following planned and committed developments:

- S16 Planning Application No. A/HSK/452 (approved on 23 Jun 2023); and
- Planning Application No. A/HSK/474 – Minor Relaxation of Plot Ratio Restriction for Permitted Residential and Commercial Development (in Kiu Tau Wai).

2.2 Proposed Development

2.2.1 The proposed development information for the Development Sites is summarized in **Table 2.1**. The Indicative Scheme is shown in **Appendix A**.

Table 2.1 Proposed Development Information

Development Parameters	Proposed Development Sites		
	4B-1	4B-2	4B-3
Site Area (sqm)	9,061.64	16,089.40	8,615.64
Density Zone	R2	R2	R2
Domestic Plot Ratio	5.0	5.0	5.0
Non-domestic Plot Ratio	0.2	0.2	0.2
Domestic GFA (sqm)	45,308	80,447	43,078
Non-domestic GFA (sqm)	1,812	3,218	1,723
Population	2,225	3,950	2,114

2.3 Sewerage Parameters and Assumptions

2.3.1 The assumptions for sewage flow estimation have been adopted with reference to those stated in the accepted DSIA (Report No. REP-031-07) (F3D) for the HSK/HT NDA. The relevant sewerage parameters and assumptions are presented in the following paragraphs.

2.3.2 The adopted unit flow factors for domestic and commercial activities in accordance with EPD's Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning (GESF) are summarised in **Table 2.2**:

Table 2.2 Unit flow Factors for Different Land Uses

Land Use Specified in GESF	Unit Flow Factor (m^3/person/day)	Remark
Domestic		
Residential – Private (R2)	0.27 (1)	
Commercial		
J4 – Wholesale & Retail	0.28 (1)	Sum of flows due to employee (0.08m^3/person/day) & General territorial average (0.20m^3/person/day)
J11 – Community, Social & Personal Services	0.28 (1)	Sum of flows due to employee (0.08m^3/person/day) & General territorial average (0.20m^3/person/day)

Notes:

(1) Referenced from EPD's Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning Table T-1 and T-2.

2.3.3 As human activities fluctuates throughout the day, sewage flow is likewise not uniform with peaks in certain periods. As such, peaking factor is proposed to accommodate for potential spike in sewage flow. Peaking factor serves to cater for seasonal/diurnal fluctuation and normal amount of infiltration and inflow. Peaking factors (including stormwater allowance) have been adopted in accordance with EPD's GESF as shown in **Table 2.3**.

Table 2.3 Peaking Factors for Various Population Ranges

Population Range	Peaking Factor (including stormwater allowance) for facility with existing upstream sewerage	Peaking Factor (excluding stormwater allowance) for facility with new upstream sewerage
Sewers		
< 1,000	8	6
1,000 – 5,000	6	5
5,000 – 10,000	5	4
10,000 – 50,000	4	3
> 50,000	Max ($7.3/N^{0.15}$, 2.4)	Max ($6/N^{0.175}$, 1.6)
Sewage Treatment Works, Preliminary Treatment Works and Pumping Stations		
< 10,000	4	3
10,000 – 25,000	3.5	2.5
25,000 – 50,000	3	2
> 50,000	Max ($3.9/N^{0.065}$, 2.4)	Max ($2.6/N^{0.065}$, 1.6)

Notes:

(1) Referenced from EPD's GESF Table T-5; N = Contributing population in thousands.

2.3.4 Average dry weather flows (ADWF) were estimated by applying appropriate unit sewage flow factors according to their development type, and peak flows were calculated by multiplying the ADWF by the peaking factor, which account for the peak flows and provide adequate safety margin in planning sewage facilities. A return liquid allowance of 2.5% is also applied to all estimated ADWFs.

3. Assessment of Sewerage Impact

3.1 Existing Sewerage System

3.1.1 Sites 4B-1, 4B-2, and 4B-3 are situated within a village area, where sewage is currently collected by varies existing sewage lead-in pipes to external gravity sewer along Hung Kei Road, Tin Ha Road, and Hung Shui Kiu Tin Sam Road. The collected sewage is then conveyed towards existing Ha Tsuen Sewage Pumping Station (HTSPS) for final treatment at the San Wai Sewage Treatment Works (SWSTW).

3.2 Proposed/Planned Sewerage System in Conforming Design

Proposed Sewerage System under HSK/HT NDA Second Phase Development in the Vicinity

3.2.1 Based on the sewerage contract drawings under HSK/HT NDA Second Phase Development, sewage diversion works have been proposed along Tin Ha Road, adjacent to Site 4B-2. The abovementioned sewerage system is shown in **Appendix B** for reference.

Planned Sewerage System in HSK/HT NDA Remaining Phase Development in Accepted DSIA

3.2.2 With reference to the accepted DSIA as mentioned in **Section 2.3.1**, a new sewerage system with pipe sizes ranging from NS280 to NS315 is planned in the vicinity of Site 4B-1, 4B-2, and 4B-3. The system is proposed along Hung Yu Road, Hung Kei Road, and Hung Shui Kiu Tin Sam Road to facilitate sewage conveyance. The collected sewage will continue to flow through a series of new gravity sewers along Hung Shui Kiu Main Street, ultimately reaching the existing HTSPS for final treatment at the SWSTW. The planned sewerage system described in the accepted DSIA is shown in **Appendix C** for reference.

3.3 Sewerage Impact

3.3.1 The ADWF generated from the proposed development at the Development Sites is estimated in accordance with EPD's GESF and are summarised in **Table 3.1**.

Table 3.1 Estimated ADWF from the Proposed Development

Development and Type	GFA (m^2)	Population/ Employee	Unit Flow Factor (m^3/day/head)	Design ADWF (m^3/day) (1)
Residential – Private (R2)	168,833	8,289	0.27	2,294
J4 – Wholesale & Retail	6,753	270 (2)	0.28	78
J11 – Community, Social & Personal Services	*3070 flats*	86 (3)	0.28	24
			Total	2,396

Notes:

(1) Design ADWF includes a return liquid allowance of 2.5%.

(2) Assume 25 sqm per worker for retail, with reference to Table 2 of HKPSG Chapter 5.

(3) Take J11 employee to be 34 workers per 1200 flats residential services, with reference to assumptions in the accepted DSIA for the HSK/HT NDA.

3.3.2 In the Indicative Scheme formulated for the purpose of technical assessment, a swimming pool is proposed (subject to change at the detailed design stage). Since the discharge of the swimming pool will be only undertaken occasionally, the sewage from the swimming pool is planned to be discharged during non-peak hours to reduce the loading on public sewer. Thus, the swimming pool's backwashing flow will be excluded from the peak sewage flow of the proposed development.

3.3.3 The flow increment compared to the baseline scenario is summarised in **Table 3.2**.

Table 3.2 Sewage Flow Comparison for the Development

Site No.	ADWF (m^3/day) (1)		
	Base Case	Proposed	Change
4B-1	159	643	484
4B-2	276	1,142	866
4B-3	151	611	460
Total	586	2,396	+1,810

Notes:

(1) Design ADWF includes a return liquid allowance of 2.5%.

3.3.4 Based on the latest sewerage design, the sewage conveyance flow path is revised to minimize the length of proposed gravity sewer and making use of existing sewage lead-in pipes as far as practicable. The additional sewage flow generated from Site 4B-1, Site 4B-2, and Site 4B-3 are proposed to be conveyed via existing gravity sewer along Hung Yu Road, Hung Kei Road, and Hung Shui Kiu Tin Sam Road towards Tin Ha Road, ultimately reaching the existing HTSPS for final treatment at the SWSTW.

3.3.5 **Table 3.3** presents the pumping capacity of the existing HTSPS and a comparison of design sewage flow under base case and proposed condition.

Table 3.3 Sewage Pumping Capacity and Sewage Flow Comparison

SPS	ADWF (m^3/day) (1)		
	Pumping Capacity	Increment of Sewage Flow under Proposed Condition	Contribution
HTSPS	193,100	+1,810	0.9%

Notes:

(1) Design ADWF includes a return liquid allowance of 2.5%.

3.3.6 It is noted that the additional sewage flow from the proposed development will only contribute to approximately 0.9% of the existing HTSPS's total pumping capacity. As such, the sewerage impact to HTSPS under proposed condition is considered insignificant.

3.3.7 **Table 3.4** summarises the treatment capacity of the existing SWSTW with a comparison of sewage flow under base case and proposed condition.

Table 3.4 Treatment Works Capacity and Sewage Flow Comparison

Sewage Treatment Works	ADWF (m^3/day) (1)		
	Treatment Capacity	Increment of Sewage Flow under Proposed Condition	Contribution
SWSTW	200,000	+1,810	0.9%

Notes:

(1) Design ADWF includes a return liquid allowance of 2.5%.

3.3.8 It is noted that the additional sewage flow will only contribute to approximately 0.9% of the existing SWSTW's treatment capacity. As such, the sewerage impact to SWSTW under proposed condition is considered insignificant.

3.3.9 Based on the hydraulic checking in **Appendix E**, the nearby existing gravity sewer has sufficient capacity to cater for the sewage flow imposed by the proposed development.

4. Proposed Sewerage Modification Works

4.1.1 The design guidelines, standards and criteria used for the preliminary design of the proposed sewerage system and the proposed sewerage improvement schemes are as follows:

- EPD's Technical Paper Guidelines for Estimating Sewage Flows (GESF) for Sewerage Infrastructure Planning Version 1.0; and
- DSD's Sewerage Manual Part 1 (Key Planning Issues and Gravity Collection System) and Part 2 (Pumping Stations and Rising Mains), Third Edition, May 2013.

4.1.2 Based on the latest proposed development layouts for Site 4B-1, Site 4B-2, and Site 4B-3, their corresponding sewerage lead-in locations have been further refined. To facilitate DSD's inspection and maintenance, additional sewage manholes are also proposed on government land at downstream of the terminal manholes as close as possible to the lot boundary. The proposed sewerage layout plan is shown in **Appendix D**. The proposed arrangement is summarised in **Table 4.1** below.

Table 4.1 Proposed Sewerage Lead-in Arrangement and Hydraulic Performance

Site No.	Foul Water Terminal Manhole	Pipe Size (mm)	Connection Point	ADWF (m^3/day)	Peak Flow (l/s)	Capacity (l/s)	Utilization
4B-1	FTMH-4B.1-1	NS280 (Proposed)	FMH-101	322	22.33	71.29	31%
	FTMH-4B.1-2	NS280 (Proposed)	FMH-102	322	22.33	71.29	31%
4B-2	FTMH-4B.2-1	NS280 (Proposed)	FMH-201	761	52.87	82.51	64%
	FTMH-4B.2-2	NS280 (Proposed)	FMH-202	381	26.43	71.29	37%
4B-3	FTMH-4B.3	NS280 (Proposed)	FMH-301	611	42.44	71.29	60%

4.1.3 Along Tin Ha Road, it is identified that the existing outlet invert level of sewage manhole number FMH1026569 is higher than its inlets. As such, it is proposed to reconstruct a 50m-long existing sewer section between FMH1026569 and FMH1 to allow proper gravity flow. The proposed reconstruction works is shown in **Appendix D**.

4.1.4 Hydraulic capacity of the proposed sewage lead-in pipes for each site and nearby existing sewer has been reviewed under **Appendix E** and confirmed remain well within the design capacity. As such, no adverse sewerage impact is envisaged.

5. Summary

5.1.1 This report estimated the sewage flows generated from the proposed development at Site 4B-1, Site 4B-2, and Site 4B-3, assessed the potential impact and recommended sewerage modification works to mitigate the impact.

5.1.2 According to the assessment, the proposed development would induce a sewage flow of 2,396 m^3/day in ADWF (or additional ADWF of 1,810 m^3/day when compared to the base case). The sewage flow is proposed to be conveyed via existing sewerage network to HTSPS for final treatment at the SWSTW.

5.1.3 The hydraulic assessment suggested that the proposed development would incur no adverse sewerage impacts to other existing and proposed sewerage infrastructure, including the existing gravity sewers, HTSPS, and SWSTW.

5.1.4 The proposed sewerage lead-in connections for Site 4B-1, Site 4B-2, and Site 4B-3 are refined to suit the latest development layouts. Additional sewage manholes are also proposed on government land at downstream of the terminal manholes as close as possible to the lot boundary to facilitate DSD's inspection and maintenance.

5.1.5 It is proposed to reconstruct an existing sewer section between FMH1026569 and FMH1 along Tin Ha Road to allow proper gravity flow.

5.1.6 Upon implementing the proposed sewerage modification works, no adverse impact to the existing and planned sewerage system is envisaged due to the proposed development.

Appendix A

Indicative Scheme for Site 4B-1, Site 4B-2, and Site 4B-3

	4B-1					4B-2									4B-3			
Site Area (sqm)	9,488.29					16,392.09									8,977.83			
Revised Site Area (sqm)	9,061.64	-4%				16,089.40	-2%								8,615.64	-4%		
DPR	5.00					5.00									5.00			
NDPR	0.20					0.20									0.20			
D-GFA (sqm)	45,308					80,447									43,078			
ND-GFA (sqm)	1,812					3,218									1,723			
D-GFA Concession	1.265					1.265									1.265			
ND-GFA Concession	1.25					1.25									1.25			
D-CFA	57,314.88					########									54,493.92			
ND-CFA	2,265.41					4,022.35									2,153.91			
Carpark GFA	9,278.63					16,164.23									8,894.50			
Assumed Flat Size (sqm)	55					55									55			
No. of units	824					1463									783			
Person per flat	2.7					2.7									2.7			
Population	2225					3950									2114			
	Block A	Block B	Block C	Block D		Block A	Block B	Block C	Block D	Block E	Block F	Retail Block I	Retail Block II		Block A	Block B	Block C	Block D
Block Footprint (sqm)	494	494	559	559		667	667	667	559	559	559	194	2141		559	527	527	527
No. of dom. Storeys	27	27	27	27		24	24	28	28	28	28	-	-		22	22	28	28
Transfer Plate thickness (m)	3	3	3	3		3	3	3	3	3	3	-	-		3	3	3	3
Podium garden height (m)	6	6	6	6		6	6	6	6	6	6	-	-		6	6	6	6
Sky Garden height (m)																		
Tower height (m)	94.05	94.05	94.05	94.05		84.6	84.6	97.2	97.2	97.2	97.2				78.3	78.3	97.2	97.2
Podium storeys	2	2	2	2		2	2	2	2	2	2	1	1		2	2	2	2
Podium Height (m)	10	10	10	10		10	10	10	10	10	10	6	6		10	10	10	10
Site formation level (mPD)	11	11	11	11		10	10	10	10	10	10	10	10		10	10	10	10
Total BH (mPD)	115.05	115.05	115.05	115.05		104.6	104.6	117.2	117.2	117.2	117.2	16	16		98.3	98.3	117.2	117.2
Non-domestic Footprint (sqm)	6298.53					10405.12						194.00	2078.40		6199.64			
Non-domestic SC% (<10m)	69.51%					64.67%						1.21%	12.92%		71.96%			
Domestic Footprint (sqm)	2106.00					3678.00									2140.00			
Domestic SC% (10m and above)	23.24%					22.86%									24.84%			

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NOTATIONS

- Development Site Boundary
- Area for Footpath Widening
- Domestic Block
- Non-Domestic Podium with Rooftop Podium Garden
- Driveway / Emergency Vehicular Access
- Emergency Vehicular Access only
- At-grade Landscape Area

- 25 — No. of Storey
- +20.0 — Building Height at Main Roof Level in mPD
- +10.0 — Site Formation Level in mPD

Planned in HSK/HT ODP

- LO — Land Use Zoning
- (1) — Planning Area Number

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Application Site from “Residential (Group B)3” to “Residential (Group A)6”, Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

BLOCK PLAN

Drawing no.			Rev.
01			
Drawn	Date	Checked	Approved
ZL	JAN 2026	LH	WL
Scale		Status	

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Civil Engineering and Development Department

Appendix B

Proposed Sewerage System under HSK/HT NDA Second Phase Development in the Vicinity of Site 4B-1, Site 4B-2, and Site 4B-3 (For Reference)

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N

816000 E
818000 E
820000 E
836000 N
834000 N
832000 N

LAU FAU SHAN
TIN SHUI WAI
NGAU HOM SHEK
KONG SHAM WESTERN HIGHWAY
HA TSUEN
YUEN TAU SHAN
PING SHAN
CASTLE PEAK ROAD - PING SHAN
YUEN LONG HIGHWAY

SHEET 1
SHEET 2
SHEET 3
SHEET 4
SHEET 5
SHEET 6
SHEET 7
SHEET 8
SHEET 9
SHEET 10
SHEET 11
SHEET 12
SHEET 13
SHEET 14
SHEET 15
SHEET 16
SHEET 17
SHEET 18
SHEET 19
SHEET 20
SHEET 21
SHEET 22
SHEET 23
SHEET 24
SHEET 25
SHEET 26

0 100 200 300 400 500
METRES
1 : 10000

LEGEND

- BOUNDARIES OF THE SITE
- PROPOSED SITES TO BE FORMED
- CONCERNED DEVELOPMENT SITES IN THIS SIA

Rev	Description	By	Date
00	TENDER ISSUE	EF	03/24

Consultant

ARUP

Project Title

Contract No. YL/2023/03
Hung Shui Kiu/Ha Tsuen
New Development Area
Second Phase Development - Contract 3 -
Site Formation and Engineering
Infrastructure Works

Drawing title

SEWERAGE WORKS
OVERALL LAYOUT PLAN

Drawing no.			Rev.
278463/C3/SEW/1011			00
Drawn	Date	Checked	Approved
DT	01/8	EF	DL
Scale		Status	
1:10000 @ A1		TENDER	

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Civil Engineering and Development Department

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N

817100 E

817200 E

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/SEW/1110

833100 N

SITE 4-11
(DISTRICT OPEN SPACE)

EXISTING 600 DIA. SEWER TO BE REMOVED AND REPROVISIONED WITH 2x300 DIA. SEWER PIPE

EXISTING 400 DIA. SEWER PIPE TO BE REMOVED

EXISTING 400 DIA. SEWER PIPE TO BE REMOVED

EXISTING 400 DIA. SEWER PIPE TO BE REMOVED

EXISTING 400 DIA. SEWER PIPE TO BE REMOVED

DIVERTED SEWER

FMH1026421
FMH17
FMH16
FMH15
FMH14
FMH13
FMH12
FMH11
FMH10
FMH9

NS710

MTR (West Rail Line)

SAN LEE UK TSUEN

新圍屋村
SAN LEE
UK TSUEN

TIN HA ROAD

TIN SAM VILLAGE

Zion Church

露天貨倉
Open Storage

足球場
Football Field

田心
TIN SAM

833000 N

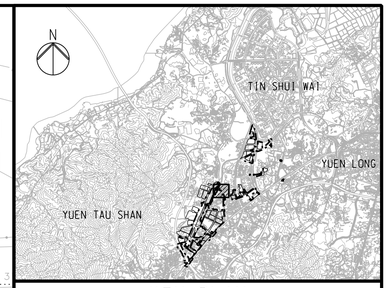
832900 N

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/SEW/1111

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/SEW/1114

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/SEW/1109

0 5 10 15 20 25
METRES
1 : 500



KEY PLAN

NOTES

1. FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NO. 278463/C3/SEW/1001.

CONCERNED DEVELOPMENT SITES IN THIS SIA

Rev	Description	By	Date
00	TENDER ISSUE	EF	03/24

Consultant

ARUP

Project Title

Contract No. YL/2023/03
Hung Shui Kiu/Ha Tsuen
New Development Area
Second Phase Development - Contract 3 -
Site Formation and Engineering
Infrastructure Works

Drawing title

SEWERAGE LAYOUT PLAN
(SHEET 12)

Drawing no.			Rev.
278463/C3/SEW/1112			00
Drawn	Date	Checked	Approved
DT	03/24	EF	DL
Scale		Status	
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N

817100 E

817200 E

817300 E

817400 E

832800 N

832700 N

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/SEW/1111

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/SEW/1112

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/SEW/1113

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/SEW/1116

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/SEW/1117

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/SEW/1110

TIN SAM

TIN SAM VILLAGE

TIN SAM VILLAGE

露天貨倉
Open Storage

Tin Sum Tsuen Playground

田心村遊樂場

大鵬花園

田心花園

香光精舍

洪水橋田心路

HUNG SHIU KIU TIN SAM ROAD

TIN HA ROAD

Cycling Track

EXISTING 600 DIA. SEWER TO BE MAINTAINED

EXISTING 400 DIA. SEWER TO BE MAINTAINED

EXISTING 500 DIA. SEWER TO BE MAINTAINED

EXISTING 500 DIA. SEWER TO BE REMOVED

EXISTING 400 DIA. SEWER TO BE REMOVED

EXISTING 500 DIA. SEWER TO BE ABONDONED

EXISTING 500 DIA. SEWER TO BE ABONDONED

DIVERTED 500 DIA. SEWER

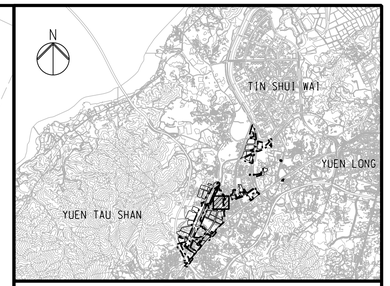
DIVERTED 500 DIA. SEWER

DIVERTED 500 DIA. SEWER

FMH9
FMH8
FMH7
FMH6
FMH5
FMH4
FMH3

NS710
NS560

0 5 10 15 20 25
METRES
1 : 500



KEY PLAN

NOTES

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CONCERNED DEVELOPMENT SITES IN THIS SIA

Rev	Description	By	Date
00	TENDER ISSUE	EF	03/24

Consultant

ARUP

Project Title

Contract No. YL/2023/03
Hung Shui Kiu/Ha Tsuen
New Development Area
Second Phase Development - Contract 3 -
Site Formation and Engineering
Infrastructure Works

Drawing title

SEWERAGE LAYOUT PLAN
(SHEET 14)

Drawing no.	Rev.
278463/C3/SEW/1114	00

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DT	03/24	EF	DL

Scale	Status
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817100 E | 817200 E | 817300 E | 817400 E

832600 N | 832500 N | 832400 N

N

EXISTING 500 DIA. SEWER TO BE ABANDONED

EXISTING 500 DIA. SEWER TO BE REMOVED

DIVERTED 500 DIA. SEWER

DIVERTED 500 DIA. SEWER

MATCH LINE
FOR CONTINUATION SEE DRG 278463/C3/SEW/1114

NS560

FMH1

FMH2

HUNG LEONG ROAD

HUNG KEI ROAD

TIN HA ROAD

NS450

FMH159a

FMH160b

FMH162a

ROAD L10

FMH161a

NS900

NS400

LI-S4.24-1

NS560

SITE 4-25b
(COMMERCIAL & RESIDENTIAL DEVELOPMENT)

LI-S4.25b-2

NS450

FMH163a

NS560

LI-S4.25b-3

NS450

FMH164a

ROAD 12

NS400

LI-S4.24-2

NS630

FMH164_1

SITE 4-24
(PUBLIC HOUSING)

SITE 4-26
(RESIDENTIAL)

NS630

LI-S4.25a-1

NS450

FMH165a

NS450

LI-S4.26-1

MATCH LINE
FOR CONTINUATION SEE DRG 278463/C3/SEW/1117

MATCH LINE
FOR CONTINUATION SEE DRG 278463/C3/SEW/1120

EXISTING CHURCH OF JESUS CHRIS OF LATIER - DAY SAINTS

那穌基督後期聖徒教會

EXISTING TIN HA ROAD PLAYGROUND TO BE RETAINED

田廈路遊樂場
Tin Ha Road Playground

足球場
Football Field

籃球場
Basketball Court

樂天園

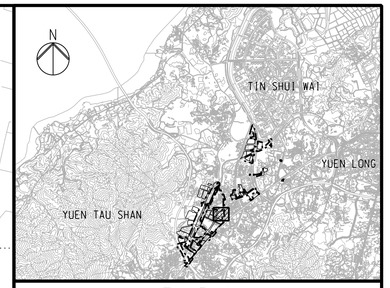
李方園

恒安園

瑞恩園

125A | 125 | 124A | 124B | 139A

0 5 10 15 20 25
METRES
1 : 500



KEY PLAN

NOTES

1. FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NO. 278463/C3/SEW/1001.

CONCERNED DEVELOPMENT SITES IN THIS SIA

Rev	Description	By	Date
00	TENDER ISSUE	EF	03/24

Consultant

ARUP

Project Title

Contract No. YL/2023/03
Hung Shui Kiu/Ha Tsuen
New Development Area
Second Phase Development - Contract 3 -
Site Formation and Engineering
Infrastructure Works

Drawing title

SEWERAGE LAYOUT PLAN
(SHEET 17)

Drawing no.	Rev.
278463/C3/SEW/1117	00

Drawn	Date	Checked	Approved
DT	03/24	EF	DL

Scale	Status
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Appendix C

Planned Sewerage System for Site 4B-1, Site 4B-2, and Site 4B-3 under HSK/HT NDA in Accepted DSIA (For Reference)

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FOR CONTINUATION
SEE DRG 278463/SIA/022
MATCH LINE

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/SIA/024

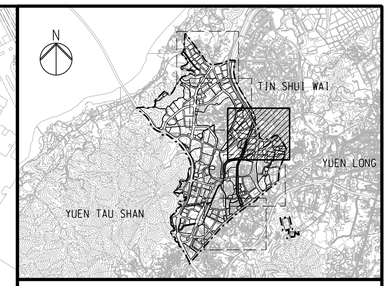
817500 E
818000 E
818500 E
834500 N
834000 N

1-11 1-12 1-13 1-14 1-15 1-16 1-17 1-18 1-19 1-20 1-21 1-22 1-23 1-24 1-25 1-26 1-27
5-1 5-2 5-3a 5-3b 5-4 5-5 5-6 5-7a 5-7b 5-7c 5-8 5-9 5-16 5-17 5-18a 5-18b 5-19 5-20 5-21 5-43

HA TSUEN SEWAGE PUMPING STATION

PUBLIC TRANSPORT INTERCHANGE

NULLAH



KEY PLAN

NOTES

1. FOR LEGEND, REFER TO DRAWING NO. 278463/SIA/021.

CONCERNED DEVELOPMENT SITES IN THIS SIA

Rev	Description	By	Date
A	FIRST ISSUE	EF	03/22

Consultant
ARUP

Project Title
Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction

Drawing title
PROPOSED SEWERAGE NETWORK LAYOUT PLAN
- REMAINING PHASE DEVELOPMENT
(SHEET 3 OF 5)

Drawing no.	Rev.
278463/SIA/023	A

Drawn	Date	Checked	Approved
RY	03/22	EH	DL

Scale: 1:2000 @ A1
Status: PRELIMINARY

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0 20 40 60 80 100
METRES
1 : 2000

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FOR CONTINUATION
SEE DRG 278463/SIA/023
MATCH LINE

817500 E
818000 E
818500 E
833500 N
833000 N

1-27 1-28 1-29 1-30 1-32

5-8 5-10 5-11 5-12 5-13 5-14 5-15 5-19 5-20 5-21 5-22 5-23 5-24 5-25 5-26 5-27 5-28 5-29 5-30 5-31 5-32 5-33 5-34 5-35 5-36 5-37 5-38 5-39b 5-39d 5-41 5-42 5-43

OU(C&R) RO DO LO GB NALLAH

FMH173A FMH174A FMH175A FMH191A FMH192A FMH193A FMH194A FMH195A FMH196A FMH190A
FMH234A FMH235 FMH236 FMH237 FMH253 FMH254 FMH255 FMH256 FMH257 FMH258 FMH259 FMH264A FMH265A FMH266A FMH267A FMH268A FMH269A FMH270A FMH271A FMH272A FMH273A FMH274A FMH275A FMH276A FMH277A FMH278A FMH279A FMH280A FMH281A FMH282A FMH283A FMH284A FMH285A FMH286A FMH287A FMH288A FMH289A FMH290A FMH291A FMH292A FMH293A FMH294A FMH295A FMH296A FMH297A FMH298A FMH299A FMH300A FMH301A FMH302A FMH303A

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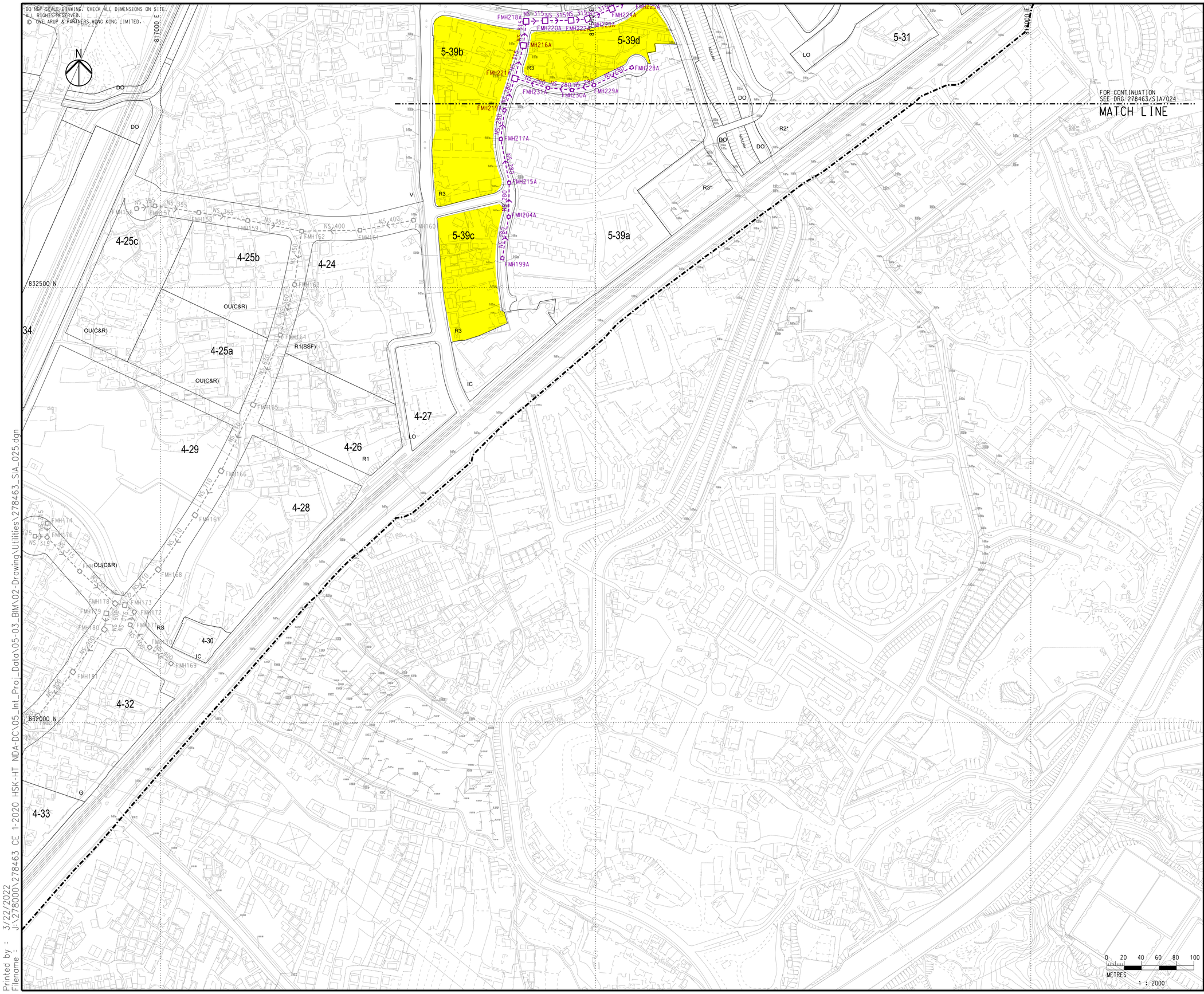

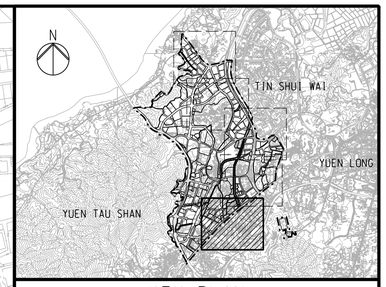

KEY PLAN

NOTES

1. FOR LEGEND, REFER TO DRAWING NO. 278463/SIA/021.

CONCERNED DEVELOPMENT SITES IN THIS SIA

Rev	Description	By	Date
A	FIRST ISSUE	EF	03/22

Consultant

ARUP

Project Title

Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction

Drawing title

PROPOSED SEWERAGE NETWORK LAYOUT PLAN
- REMAINING PHASE DEVELOPMENT
(SHEET 5 OF 5)

Drawing no.	Rev.
278463/SIA/025	A

Drawn	Date	Checked	Approved
RY	03/22	EH	DL

Scale	Status
1:2000 @ A1	PRELIMINARY

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METRES
1 : 2000

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Appendix D

Proposed Sewerage Layout Plan for Site 4B-1, Site 4B-2, and Site 4B-3

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817200 E
817400 E
817600 E
832800 N
832600 N
832400 N

NS315
FMH-202
FTMH-4B.2-2
CONNECT TO FMH1023964
300ø
FTMH-4B.2-1
FMH-201
CONNECT TO FMH1023967
FTMH-4B.3
FMH-301
NS315
CONNECT TO FMH1023960
RECONSTRUCTION OF EXISTING GRAVITY SEWER TO ADJUST THE GRADIENT OF THE PIPE (FMH1026569 - FMH1)
400ø
CONNECT TO FMH1026569
FMH-102
FTMH-4B.1-2
400ø
CONNECT TO FMH1026570
FMH-101
FTMH-4B.1-1

HUNG SHUI KIU TIN SAM ROAD
HUNG SHUI KIU MAU SAM TSUEN ROAD
TIN HA ROAD
HUNG PAK KA ROAD
HUNG TAI ROAD
CHUI PAK ROAD
KAM TUE ROAD
KING YUEN ROAD
CASTLE PEAK ROAD – HUNG SHUI KIU
WO PING SAN TSUEN

METRES 0 10 20 30 40 50
1 : 1000

LEGEND

- SITE BOUNDARY
- PROPOSED SEWAGE TERMINAL MANHOLE
- PROPOSED SEWAGE MANHOLE
- PROPOSED SEWAGE PIPE
- PROPOSED SEWERAGE WORKS UNDER HSK/HT NDA SECOND PHASE DEVELOPMENT CONTRACT
- EXISTING SEWAGE PIPE AND MANHOLE
- EXISTING SEWAGE SYSTEM TO BE ABANDONED
- DOWNSTREAM SEWERS AFFECTED BY THE PROPOSED DEVELOPMENT

Rev	Description	By	Date
C	THIRD ISSUE	BT	02/26
B	SECOND ISSUE	BT	12/25
A	FIRST ISSUE	BT	10/25

Consultant
ARUP

Project Title
Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title
PROPOSED SEWERAGE LAYOUT PLAN

Drawing no.			Rev.
304204/C/SIA/011			B
Drawn: RY	Date: 10/25	Checked: JW	Approved: KK
Scale: 1:1000 @ A1		Status: PRELIMINARY	

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817200 E
817400 E
817600 E
832800 N
832600 N
832400 N

SITE 5-39b
DESIGN ADWF:
1142 m3/DAY

NS315
FMH-202
FTMH-4B.2-2

CONNECT TO
FMH1023964

300ø

FTMH-4B.2-1
FMH-201

CONNECT TO
FMH1023967

SITE 5-39d
DESIGN ADWF:
611 m3/DAY

FTMH-4B.3
FMH-301
NS315

CONNECT TO
FMH1023960

PARKVIEW GARDEN
DESIGN ADWF:
208.7 m3/DAY

400ø
CONNECT TO
FMH1026569
FMH-102
FTMH-4B.1-2

SITE 5-39c
DESIGN ADWF:
643 m3/DAY

400ø
CONNECT TO
FMH1026570
FMH-101
FTMH-4B.1-1

LDS CHURCH
DESIGN ADWF:
16.6 m3/DAY

HUNG SHUI KIU - TIN SAM ROAD
TIN HA ROAD
CASTLE PEAK ROAD - HUNG SHUI KIU
WO PING SAN TSUEN

0 10 20 30 40 50
METRES
1 : 1000

LEGEND

- SITE BOUNDARY
- PROPOSED SEWAGE TERMINAL MANHOLE
- PROPOSED SEWAGE MANHOLE
- PROPOSED SEWAGE PIPE
- PROPOSED SEWERAGE WORKS UNDER HSK/HT NDA SECOND PHASE DEVELOPMENT CONTRACT
- EXISTING SEWAGE PIPE AND MANHOLE
- EXISTING SEWAGE SYSTEM TO BE ABANDONED
- PROPOSED SEWERAGE CATCHMENT AREA

Rev	Description	By	Date
B	SECOND ISSUE	BT	02/26
A	FIRST ISSUE	BT	12/25

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

PROPOSED SEWERAGE CATCHMENT AREA

Drawing no.			Rev.
304204/C/SIA/012			B
Drawn: RY	Date: 10/25	Checked: JW	Approved: KK
Scale: 1:1000 @ A1		Status: PRELIMINARY	

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Appendix E

Sewerage Calculations

Baseline											
Site No.	Zoning	Domestic GFA (m^2)	Average Flat Size (m^2)	Total Number of Flat	Population	UFF (m^3/head/day)	Employment	Commercial J11 UFF (m^3/head/day)	Total ADWF (m^3/day)	Design ADWF [1] (m^3/day)	Remarks
5-39b	Domestic (R3)	21396	80	267	722	0.37	8	0.28	269.3	276	- Residential - 15 Security Guards, 15 Cleaners & 4 Gardeners per 1200 units
5-39c	Domestic (R3)	12345	80	154	417	0.37	4	0.28	155.6	159	- Residential - 15 Security Guards, 15 Cleaners & 4 Gardeners per 1200 units
5-39d	Domestic (R3)	11679	80	146	394	0.37	4	0.28	147.2	151	- Residential - 15 Security Guards, 15 Cleaners & 4 Gardeners per 1200 units
								Total	572	586	

(1) Design ADWF includes a return liquid allowance of 2.5%

Proposed Development													
Site No.	Zoning	Domestic GFA (m^2)	Non-domestic GFA (m^2)	Total Number of Flat	Population	UFF (m^3/head/day)	Retail workers	Commercial J4 UFF (m^3/head/day)	Residential Services workers	Commercial J11 UFF (m3/head/day)	Total ADWF (m^3/day)	Design ADWF [1] (m^3/day)	Remarks
5-39b (4B-2)	Domestic (R2)	80447	3218	1463	3950	0.27	129	0.28	41	0.28	1114.1	1142	- Assume 1 worker per 25 sqm and 34 workers per 1200 flats for retail and residential services respectively.
5-39c (4B-1)	Domestic (R2)	45308	1812	824	2225	0.27	72	0.28	23	0.28	627.4	643	- Assume 1 worker per 25 sqm and 34 workers per 1200 flats for retail and residential services respectively.
5-39d (4B-3)	Domestic (R2)	43078	1723	783	2114	0.27	69	0.28	22	0.28	596.3	611	- Assume 1 worker per 25 sqm and 34 workers per 1200 flats for retail and residential services respectively.
										Total	2338	2396	

(1) Design ADWF includes a return liquid allowance of 2.5%

Estimation of backwash flow from proposed swimming pools

Proposed swimming pool

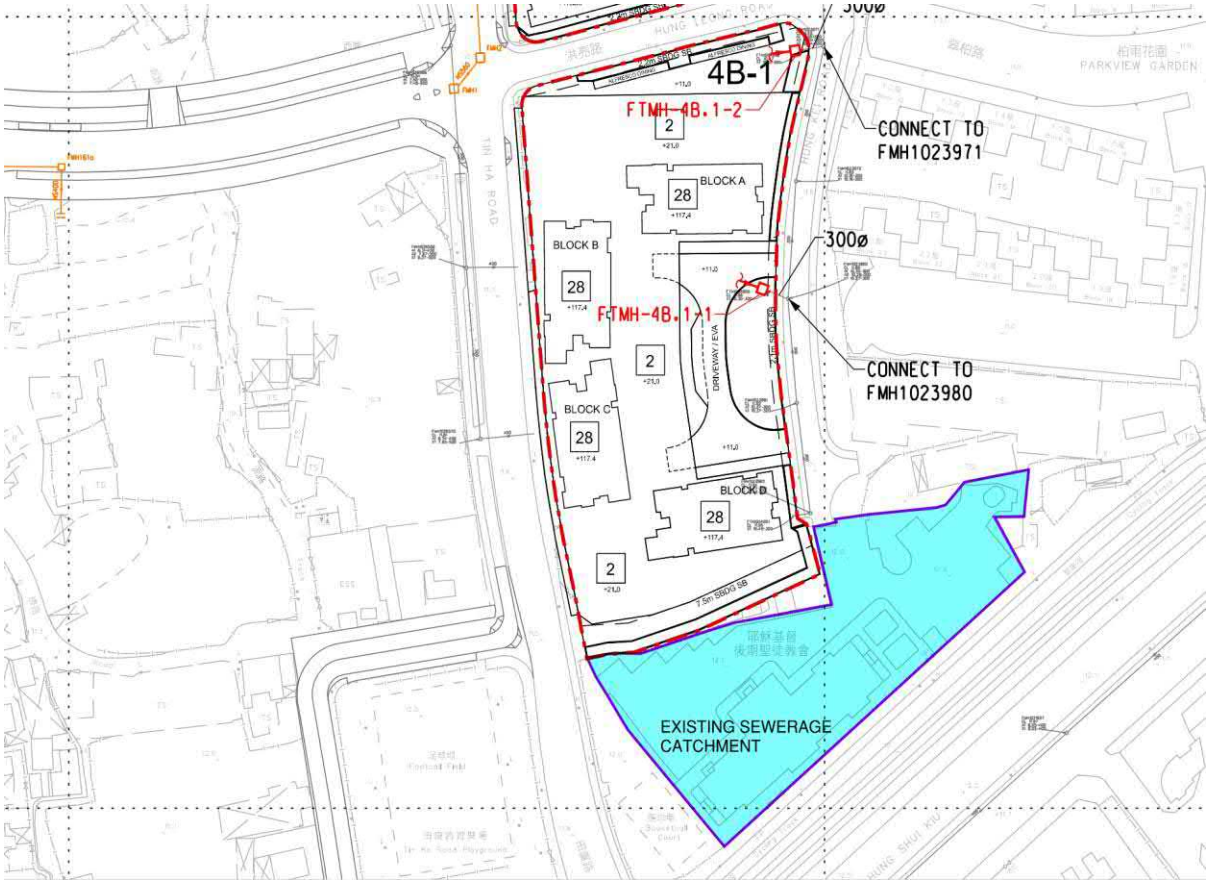
Pool footprint =	600	m	
Pool depth =	1.3	m	
Pool volume =	780	m^3	
Turnover rate =	6	hours	
Filter loading rate =	48	$m^3/m^2/hr$	
Filter area required =	780 / 6 / 48 =	2.71	m^2
Backwash flow rate =	0.5	$m^3/m^2/mins.$	
Backwash duration =	3	mins./day	
Daily backwash flow =	2.71 x 3 x 0.5 =	4.07	m^3/day

Site No.	Pool footprint (m^2)	Depth of water (m)	Backwash (m^3/day)
5-39b	600	1.3	4.07
5-39c	600	1.3	4.07
5-39d	600	1.3	4.07

Sewage Flow for Existing Sewerage Catchment

ADWF estimation								
Site	Zoning	Footprint of Church (m^2)	GFA (m^2)	Worker density (per 100m^2)	Employment	Commercial J11 UFF (m^3/head/day)	Total ADWF (m^3/day)	Design ADWF [(1)] (m^3/day)
LDS Church	IC	872	1744	3.3	58	0.28	16.2	16.6

(1) Design ADWF includes a return liquid allowance of 2.5%



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304204		

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Job Title: Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B) 3" to "Residential (Group A) 6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories
Sewerage Impact Assessment

Drg. Ref.

Made by GC Date Dec 2025 Chd. BT

Calculation: Table 1 - Estimated Sewage Flow from Existing Parkview Garden

Sewage Flow from Existing Parkview Garden

Use	Average Domestic Household Size	Population	Domestic Unit Flow Factor	Employment	J11 Unit Flow Factor	ADWF (m^3/day)	ADWF (including 2.5% return liquid allowance) (m^3/day)	Remarks
R3	2.8	540	0.37	13	0.28	203.56	208.65	193 flats in total (to FMH1023970).

*Note: Average Domestic Household Size data from 2021 Population Census.

Table 1a Sewerage Catchment Summary

Zoning (in ODP)	Catchment ID	Discharge Node	Additional Peak Flow from other Sources (m^3/s)	ADWF (m^3/day)	ADWF with 2.5% return liquid allowance (m^3/day)	Catchment Inflow Factors
IC	LDS Church	FMH1023982		16.2	16.6	
R3	Parkview Garden	FMH1023970		203.6	208.6	
R2	4B-2	FTMH-4B.2-1		742.7	761.3	
R2	4B-2	FTMH-4B.2-2		371.4	380.7	
R2	4B-1	FTMH-4B.1-1		313.7	321.5	
R2	4B-1	FTMH-4B.1-2		313.7	321.5	
R2	4B-3	FTMH-4B.3		596.3	611.2	

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Sewerage Impact Assessment

Calculation: **Hydraulic Checking on Proposed Sewerage Works**

Table 1c Capacity Check - Proposed Development

Location and Level/Depth Information									Pipe/Channel/BC/UC Information											Peak Flow Estimation							Pipeworks Capacity			
																											Velocity		Capacity	
Remarks	US MH No.	DS MH No.	USGL (mPD)	DSGL (mPD)	USIL (mPD)	DSIL (mPD)	DS MH BackDrop (DS_i - US_{i+1})	US Cover Depth (m)	DS Cover Depth (m)	Length (m)	Shape (UC/Circular/ BC/RC)	Nominal Diameter	Pipe Material	Diameter of Pipe/Width of Channel (mm)	Diameter of Pipe/Width of Channel (m)	No of Cells or Pipes	Gradient (1 in)	Flow Area (m^2)	Wetted Perimeter (m)	Hydraulic Radius (m)	Colebrook-White Roughness Coefficient (mm)	Catchment Ref.	Additional ADWF Discharged into USMH (m^3/day)	Cumulative ADWF (m^3/day)	Cumulative ADWF (m^3/s)	Cumulative Contributing Population (Head)	Peak Factor	Total Peak Flow per Pipe or Cell (m^3/s)	(32gRS)^0.5	Full-bore Velocity (m/s)	Full-bore Capacity per Pipe or Cell (m^3/s)	Utilization Ratio
Existing	FMH1023982	FMH1023981	11.94	11.92	10.46	10.37	0.000	1.18	1.25	27.4	Circular	DN300	Concrete	300	0.3	1	305	0.071	0.942	0.075	3	LDS Church	16.65	16.65	0.000	62	8.00	0.002	0.28	0.71	0.05	3%
Existing	FMH1023981	FMH1023980	11.92	11.89	10.37	10.3	0.030	1.25	1.29	25.7	Circular	DN300	Concrete	300	0.3	1	367	0.071	0.942	0.075	3	LDS Church	0.00	16.65	0.000	62	8.00	0.002	0.25	0.65	0.05	3%
Existing	FMH1023980	FMH1023972	11.89	11.83	10.27	10.18	0.000	1.32	1.35	29.1	Circular	DN300	Concrete	300	0.3	1	323	0.071	0.942	0.075	3	LDS Church	0.00	16.65	0.000	62	8.00	0.002	0.27	0.69	0.05	3%
Existing	FMH1023972	FMH1023971	11.83	11.62	10.18	10.06	0.020	1.35	1.26	34.1	Circular	DN300	Concrete	300	0.3	1	284	0.071	0.942	0.075	3	LDS Church	0.00	16.65	0.000	62	8.00	0.002	0.29	0.74	0.05	3%
Existing	FMH1023971	FMH1023970	11.62	11.46	10.04	9.95	0.000	1.28	1.21	24.7	Circular	DN300	Concrete	300	0.3	1	275	0.071	0.942	0.075	3	LDS Church	0.00	16.65	0.000	62	8.00	0.002	0.29	0.75	0.05	3%
Existing	FMH1023970	FMH1023969	11.46	11.42	9.95	9.65	0.020	1.21	1.47	22.8	Circular	DN300	Concrete	300	0.3	1	76	0.071	0.942	0.075	3	Parkview Garden, LDS Church	208.65	225.30	0.003	834	8.00	0.021	0.56	1.43	0.10	21%
Existing	FMH1023969	FMH1023968	11.42	11.19	9.63	9.09	0.020	1.49	1.80	30.5	Circular	DN300	Concrete	300	0.3	1	56	0.071	0.942	0.075	3	Parkview Garden, LDS Church	0.00	225.30	0.003	834	8.00	0.021	0.65	1.66	0.12	18%
Existing	FMH1023968	FMH1023967	11.19	10.84	9.07	8.51	0.030	1.82	2.03	35.3	Circular	DN300	Concrete	300	0.3	1	63	0.071	0.942	0.075	3	Parkview Garden, LDS Church	0.00	225.30	0.003	834	8.00	0.021	0.61	1.57	0.11	19%
Existing	FMH1023967	FMH1023964	10.84	10.54	8.48	7.91	0.230	2.06	2.33	37.6	Circular	DN300	Concrete	300	0.3	1	66	0.071	0.942	0.075	3	Parkview Garden, LDS Church, southern portion of 4B-2	0.00	986.60	0.011	3654	6.00	0.069	0.60	1.53	0.11	63%
Existing	FMH1023964	FMH1023965	10.54	10.35	7.68	7.58	0.010	2.36	2.27	25.3	Circular	DN500	Concrete	500	0.5	1	253	0.196	1.571	0.125	3	Parkview Garden, LDS Church, southern portion of 4B-2, northern portion of 4B-2, 4B-3	0.00	1978.46	0.023	7328	5.00	0.114	0.39	1.10	0.22	53%
Existing	FMH1023965	FMH1026668	10.35	10.10	7.57	7.50	0.000	2.28	2.10	17.7	Circular	DN500	Concrete	500	0.5	1	252	0.196	1.571	0.125	3	Parkview Garden, LDS Church, southern portion of 4B-2, northern portion of 4B-2, 4B-3	0.00	1978.46	0.023	7328	5.00	0.114	0.39	1.10	0.22	53%
Existing	FMH1026668	FMH1026666	10.10	9.93	7.50	7.43	0.010	2.10	2.00	28.6	Circular	DN500	Concrete	500	0.5	1	408	0.196	1.571	0.125	3	Parkview Garden, LDS Church, southern portion of 4B-2, northern portion of 4B-2, 4B-3	0.00	1978.46	0.023	7328	5.00	0.114	0.31	0.86	0.17	68%
Existing	FMH1026666	FMH1026667	9.93	9.50	7.42	7.33	0.020	2.01	1.67	32.9	Circular	DN500	Concrete	500	0.5	1	365	0.196	1.571	0.125	3	Parkview Garden, LDS Church, southern portion of 4B-2, northern portion of 4B-2, 4B-3	0.00	1978.46	0.023	7328	5.00	0.114	0.33	0.91	0.18	64%
Existing	FMH1026667	FMH1026680	9.50	8.94	7.31	7.04	1.040	1.69	1.40	54.4	Circular	DN500	Concrete	500	0.5	1	202	0.196	1.571	0.125	3	Parkview Garden, LDS Church, southern portion of 4B-2, northern portion of 4B-2, 4B-3	0.00	1978.46	0.023	7328	5.00	0.114	0.44	1.23	0.24	47%
Existing	FMH1026680	FMH1026562	8.94	9.20	6.00	5.79	0.040	2.44	2.91	14.7	Circular	DN500	Concrete	500	0.5	1	70	0.196	1.571	0.125	3	Parkview Garden, LDS Church, southern portion of 4B-2, northern portion of 4B-2, 4B-3	0.00	1978.46	0.023	7328	5.00	0.114	0.75	2.09	0.41	28%
New	FTMH-4B.1-1	FMH-101	11.00	11.00	9.06	9.03	0.160	1.69	1.72	3.0	Circular	NS280	HDPE (SDR17)	245.9	0.2459	1	100	0.047	0.773	0.061	0.3	southern portion of 4B-1	321.54	321.54	0.004	1191	6.00	0.022	0.44	1.50	0.07	31%
Connec to Ex.	FMH-101	FMH1026570	11.00	11.50	8.87	8.74	0.890	1.73	2.36	14.0	Circular	DN400	Concrete	400	0.4	1	108	0.126	1.257	0.100	3	southern portion of 4B-1	0.00	321.54	0.004	1191	6.00	0.022	0.54	1.45	0.18	12%
Existing	FMH1026570	FMH1026569	11.50	11.10	7.85	7.67	0.000	3.15	2.93	42.0	Circular	DN500	Concrete	500	0.5	1	233	0.196	1.571	0.125	3	southern portion of 4B-1	0.00	321.54	0.004	1191	6.00	0.022	0.41	1.14	0.22	10%
New	FTMH-4B.1-2	FMH-102	11.00	11.00	8.55	8.52	0.160	2.20	2.23	3.0	Circular	NS280	HDPE (SDR17)	245.9	0.2459	1	100	0.047	0.773	0.061	0.3	northern portion of 4B-1	321.54	321.54	0.004	1191	6.00	0.022	0.44	1.50	0.07	31%
Connec to Ex.	FMH-102	FMH1026569	11.00	11.10	8.36	8.31	0.640	2.24	2.39	14.0	Circular	DN400	Concrete	400	0.4	1	280	0.126	1.257	0.100	3	northern portion of 4B-1	0.00	321.54	0.004	1191	6.00	0.022	0.33	0.90	0.11	20%
Reconstruct Ex.	FMH1026569	FMH1	11.10	10.77	7.67	7.53	0.000	2.93	2.74	46.8	Circular	DN500	Concrete	500	0.5	1	334	0.196	1.571	0.125	3	southern portion of 4B-1, northern portion of 4B-1	0.00	643.09	0.007	2382	6.00	0.045	0.34	0.95	0.19	24%
New	FTMH-4B.2-1	FMH-201	10.00	10.00	8.58	8.54	0.000	1.17	1.21	3.0	Circular	NS280	HDPE (SDR17)	245.9	0.2459	1	75	0.047	0.773	0.061	0.3	southern portion of 4B-2	761.30	761.30	0.009	2820	6.00	0.053	0.51	1.74	0.08	64%
Connec to Ex.	FMH-201	FMH1023967	10.00	10.84	8.54	8.50	0.020	1.16	2.04	3.0	Circular	DN300	Concrete	300	0.3	1	75	0.071	0.942	0.075	3	southern portion of 4B-2	0.00	761.30	0.009	2820	6.00	0.053	0.56	1.44	0.10	52%
New	FTMH-4B.2-2	FMH-202	10.00	10.00	8.13	8.09	0.000	1.62	1.66	4.0	Circular	NS280	HDPE (SDR17)	245.9	0.2459	1	100	0.047	0.773	0.061	0.3	northern portion of 4B-2	380.65	380.65	0.004	1410	6.00	0.026	0.44	1.50	0.07	37%
New	FMH-202	FMH1023964	10.00	10.54	8.09	8.06	0.380	1.66	2.23	3.0	Circular	NS280	HDPE (SDR17)	245.9	0.2459	1	100	0.047	0.773	0.061	0.3	northern portion of 4B-2	0.00	380.65	0.004	1410	6.00	0.026	0.44	1.50	0.07	37%
New	FTMH-4B.3	FMH-301	10.00	10.00	8.31	8.28	0.000	1.44	1.47	3.0	Circular	NS280	HDPE (SDR17)	245.9	0.2459	1	100	0.047	0.773	0.061	0.3	4B-3	611.21	611.21	0.007	2264	6.00	0.042	0.44	1.50	0.07	60%
New	FMH-301	FMH1023960	10.00	9.55	8.28	8.25	0.060	1.47	1.05	3.0	Circular	NS280	HDPE (SDR17)	245.9	0.2459	1	100	0.047	0.773	0.061	0.3	4B-3	0.00	611.21	0.007	2264	6.00	0.042	0.44	1.50	0.07	60%
Existing	FMH1023960	FMH1023961	9.55	9.76	8.19	8.01	0.020	1.06	1.45	41.4	Circular	DN300	Concrete	300	0.3	1	230	0.071	0.942	0.075	3	4B-3	0.00	611.21	0.007	2264	6.00	0.042	0.32	0.82	0.06	73%
Existing	FMH1023961	FMH1023962	9.76	9.83	7.99	7.91	0.000	1.47	1.62	20.3	Circular	DN300	Concrete	300	0.3	1	254	0.071	0.942	0.075	3	4B-3	0.00	611.21	0.007	2264	6.00	0.042	0.30	0.78	0.06	77%
Existing	FMH1023962	FMH1023963	9.83	10.03	7.91	7.83	0.010	1.62	1.90	25.1	Circular	DN300	Concrete	300	0.3	1	313	0.071	0.942	0.075	3	4B-3	0.00	611.21	0.007	2264	6.00	0.042	0.27	0.70	0.05	86%
Existing	FMH1023963	FMH1023964	10.03	10.54	7.82	7.68	0.000	1.91	2.56	41.7	Circular	DN300	Concrete	300	0.3	1	298	0.071	0.942	0.075	3	4B-3	0.00	611.21	0.007	2264	6.00	0.042	0.28	0.72	0.05	84%

ARUP	Job No. 304204	Sheet No.	Rev.
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Calculation: **Hydraulic Checking on Proposed Sewerage Works in C3**	Made by GC	Date Dec 2025	Chd. BT

Table 1c Capacity Check - Proposed Development

Location and Level/Depth Information											Pipe/Channel/BC/UC Information										Peak Flow Estimation						Pipeworks Capacity and Design				
																												Velocity			Capacity	
US MH No.	DS MH No.	USGL (mPD)	DSGL (mPD)	USIL (mPD)	DSIL (mPD)	US DTIL (m)	DS DTIL (m)	DS MH BackDrop (DS_i - US_{i+1})	US Cover Depth (m)	DS Cover Depth (m)	Length (m)	Shape (UC/Circular/ BC/RC)	Nominal Diameter	Pipe Material	Diameter of Pipe/Width of Channel (mm)	Diameter of Pipe/Width of Channel (m)	No of Cells or Pipes	Gradient (1 in)	Flow Area (m^2)	Wetted Perimeter (m)	Hydraulic Radius (m)	Colebrook-White Roughness Coefficient (mm)	Additional ADWF (m^3/day)	Cumulative ADWF (m^3/day)	Cumulative ADWF (m^3/s)	Cumulative Contributing Population (Head)	Peak Factor	Total Peak Flow per Pipe or Cell (m^3/s)	(32gRS)^0.5	Full-bore Velocity (m/s)	Check for Pipe (1~3m/s)	Full-bore Capacity per Pipe or Cell (m^3/s)	Utilization Ratio
FMH1	FMH2	10.77	10.87	7.530	7.430	3.240	3.440	0.000	2.75	2.95	9.00	Circular	NS560	HDPE (SDR17)	491.8	0.4918	1	90	0.190	1.545	0.123	0.3	643.09	643.09	0.007	2382	6.00	0.045	0.65	2.45	OK	0.47	10%
FMH2	FMH3	10.87	10.53	7.430	6.960	3.440	3.570	0.000	2.95	3.08	53.22	Circular	NS560	HDPE (SDR17)	491.8	0.4918	1	113	0.190	1.545	0.123	0.3	0.00	643.09	0.007	2382	6.00	0.045	0.58	2.18	OK	0.41	11%
FMH3	FMH4	10.53	10.33	6.960	6.680	3.570	3.650	0.000	3.08	3.16	29.43	Circular	NS560	HDPE (SDR17)	491.8	0.4918	1	105	0.190	1.545	0.123	0.3	0.00	643.09	0.007	2382	6.00	0.045	0.61	2.26	OK	0.43	10%
FMH4	FMH5	10.33	10.15	6.680	6.460	3.650	3.690	0.000	3.16	3.20	24.59	Circular	NS560	HDPE (SDR17)	491.8	0.4918	1	112	0.190	1.545	0.123	0.3	0.00	643.09	0.007	2382	6.00	0.045	0.59	2.19	OK	0.42	11%
FMH5	FMH6	10.15	9.94	6.460	6.140	3.690	3.800	0.000	3.20	3.31	35.07	Circular	NS560	HDPE (SDR17)	491.8	0.4918	1	110	0.190	1.545	0.123	0.3	0.00	643.09	0.007	2382	6.00	0.045	0.59	2.22	OK	0.42	11%
FMH6	FMH7	9.94	9.68	6.140	5.710	3.800	3.970	0.000	3.31	3.48	47.62	Circular	NS560	HDPE (SDR17)	491.8	0.4918	1	111	0.190	1.545	0.123	0.3	0.00	643.09	0.007	2382	6.00	0.045	0.59	2.20	OK	0.42	11%
FMH7	FMH8	9.68	9.36	5.710	5.290	3.970	4.070	0.000	3.48	3.58	46.43	Circular	NS560	HDPE (SDR17)	491.8	0.4918	1	111	0.190	1.545	0.123	0.3	0.00	643.09	0.007	2382	6.00	0.045	0.59	2.21	OK	0.42	11%
FMH8	FMH9	9.36	9.21	5.290	4.930	4.070	4.280	0.000	3.45	3.66	39.56	Circular	NS710	HDPE (SDR17)	624.6	0.6246	1	110	0.306	1.962	0.156	0.3	1978.46	2621.54	0.030	9709	5.00	0.152	0.67	2.57	OK	0.79	19%
FMH9	FMH10	9.21	9.18	4.930	4.780	4.280	4.400	0.000	3.66	3.78	15.92	Circular	NS710	HDPE (SDR17)	624.6	0.6246	1	106	0.306	1.962	0.156	0.3	0.00	2621.54	0.030	9709	5.00	0.152	0.68	2.61	OK	0.80	19%
FMH10	FMH11	9.18	9.00	4.780	4.640	4.400	4.360	0.000	3.78	3.74	14.22	Circular	NS710	HDPE (SDR17)	624.6	0.6246	1	102	0.306	1.962	0.156	0.3	0.00	2621.54	0.030	9709	5.00	0.152	0.69	2.67	OK	0.82	19%

Annex F Water Supply Impact Assessment

ARUP

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B) 3" to "Residential (Group A) 6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Water Supply Impact Assessment

Final

February 2026

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 304204

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Kowloon
Hong Kong
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Appendix E	Water Demand Calculation

1. Introduction

1.1 Background

1.1.1 Ove Arup & Partners Hong Kong Limited was commissioned to conduct a water supply impact assessment in support of the Proposed Amendment to the Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan (HSK/HT OZP) No. S/HSK/2 at Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories (Subject Sites) from "Residential (Group B) 3" to "Residential (Group A) 6" for Proposed Residential Development.

1.1.2 Falling within Area 4B of the HSK/HT OZP, the Development Sites consist of Site 4B-1, Site 4B-2 and Site 4B-3. They belong to Phase Stage 3 of the development plan of the HSK/HT NDA. The Development Sites contribute to an area of about 33,767 m^2, intersected by the Hung Shui Kiu Tin Sam Road and Tin Ha Road. The Development Sites are currently occupied by temporary structures for domestic and brownfield operation uses.

1.2 Scope of this Report

1.2.1 The scope of this report comprises the following:

- Obtain and examine waterworks record and planned water supply system for the site and the surroundings;
- Estimate the water demand based on the proposed intensification schedule;
- Coordinate various planned developments to determine the total water demand within the local water supply zone; and
- Prepare a WSIA report and confirm water main connection strategy with respective to the previous studies.

1.3 Structure of this Report

1.3.1 This section outlines the assessment of the water supply impact potentially induced by the proposed development parameters at Site 4B-1, Site 4B-2 and Site 4B-3 (i.e. the Development Sites) in HSK/HT NDA and includes:

- Estimation of fresh and flushing water demand arising from the Development Sites;
- Assessment of potential impact on the existing and planned fresh and flushing water supply network imposed by the Development Sites; and
- Proposed preliminary water supply system modification works, if considered necessary.

2. Planning Data and Water Demand Estimation

2.1 Baseline Population and Employment Data

2.1.1 The baseline water supply and population are based on the following planned and committed developments:

- S16 Planning Application No. A/HSK/452 (approved on 23 Jun 2023); and
- Planning Application No. A/HSK/474 – Minor Relaxation of Plot Ratio Restriction for Permitted Residential and Commercial Development (in Kiu Tau Wai).

2.2 Proposed Development

2.2.1 The proposed development information for the Development Sites is summarized in **Table 2.1**. The Indicative Scheme is shown in **Appendix A**.

Table 2.1 Proposed Development Information

Development Parameters	Proposed Development Sites		
	4B-1	4B-2	4B-3
Site Area (sqm)	9,061.64	16,089.40	8,615.64
Density Zone	R2	R2	R2
Domestic Plot Ratio	5.0	5.0	5.0
Non-domestic Plot Ratio	0.2	0.2	0.2
Domestic GFA (sqm)	45,308	80,447	43,078
Non-domestic GFA (sqm)	1,812	3,218	1,723
Population	2,225	3,950	2,114

2.3 Water Demand Parameters and Assumptions

2.3.1 The assumptions for fresh and flushing water demand estimation adopted in this assessment are extracted from those stated in the accepted WSUIA (Report No. REP-032-06) (F3E) for the HSK/HT NDA.

2.3.2 The unit water demands are generally based on Water Supplies Department (WSD)'s Departmental Instruction (DI) No. 1309 and previous discussions with WSD during meetings. Where relevant rates are not available, e.g. for Commercial, Government Institution or Community and Hotel, assumptions based on previous studies for similar user types have been adopted. The residential and non-residential unit water demands are presented below.

Unit Water Demand

2.3.3 The unit fresh and flushing water demands for residential users adopted in this assessment are summarised in **Table 2.2**.

Table 2.2 Unit Water Demand

Site No.	Code	Fresh Water (m^3/head/day)		Flushing Water (m^3/head/day)	
		Resident	Employment	Resident	Employment
4B-1, 4B-2, and 4B-3	R2	0.34 (1)	-	0.104	0.05

Note:

(1) The fresh water demand has considered a residential unit demand of 0.30 m^3/head/day and a service trade unit demand of 0.04 m^3/head/day with reference to WSD's DI No. 1309.

2.3.4 The unit fresh and flushing water demands for non-residential users are summarised in the following paragraphs.

Service Trade – Fresh Water Supply

2.3.5 The relevant unit factor for use in estimating fresh water demand for service trade is assumed resemble that for an urban area, in particular, the Yuen Long district. Therefore, a factor of 0.04 m3/head/day has been adopted with reference to WSD's DI No. 1309.

Service Trade – Flushing Water Supply

2.3.6 No unit daily demand for flushing water demand is provided with reference to WSD's DI No. 1309 for this category of user.

Peaking Factors

2.3.7 The following peak demand factors are adopted:

- Peak flow rate in fresh water trunk main supplying from water treatment works to single service reservoir = 1.5 x mean daily fresh water demand of reservoir supply zone;
- Peak flow rate in fresh water distribution mains = 3 x mean daily fresh water demand;
- Peak flow rate in flushing water distribution mains = 2 x mean daily flushing water demand.

2.3.8 The maximum desirable flow velocity limit in **Table 2.3** below will be adopted for ultimate stage under normal water demand scenario (i.e. excluding fire-fighting demand scenario).

Table 2.3 Desirable Flow Velocity Limit

Fresh Water System		Flushing Water System	
Pipe Diameter	Flow Velocity Limit (m/s)	Pipe Diameter	Flow Velocity Limit (m/s)
> DN700	3	> DN1000	3
DN525 to DN700	2.5	DN800 to DN900	2.5
DN375 to DN450	2	DN525 to DN700	2
DN200 to DN300	1.5	DN300 to DN450	1.5

Residual Heads

2.3.9 The minimum residual heads of the proposed fresh and flushing water supply systems in HSK/HT NDA are based on **Table 2.4**.

Table 2.4 Minimum Residual Heads in Water Supply System

Water Supply System	Minimum Residual Heads (m)
Fresh water – Normal	20
Fresh water – Firefighting	17
Flushing water	15

Reservoir Volume

2.3.10 To determine the fresh water storage volume, a 10% contingency is firstly applied to the average daily demand. Further, the storage volume is estimated as 80% of mean daily demand in accordance with the WSD's guidelines.

2.3.11 The required capacity of flushing water storage volume is calculated as 64% of mean daily demand of flushing water service reservoir.

3. Assessment of Water Supply Impact

3.1 Proposed/Planned Water Supply System in Conforming Design

Water Supply Source

3.1.1 The Development Sites is located within the fresh water supply zone of HSK/HT NDA. Fresh water will be supplied by Tan Kwai Tsuen East FWSR (TKTE FWSR). Similarly, the Development Sites is located within the flushing water supply zone of HSK/HT NDA. The flushing water will be supplied by Tan Kwai Tsuen East Reclaimed Water Service Reservoir (TKTE ReWSR). With reference to the accepted WSUIA, both TKTE FWSR and TKTE ReWSR are scheduled to be commissioned by 2032 for the water supply of HSK/HT NDA development.

Proposed Water Supply System under HSK/HT NDA Second Phase Development in the Vicinity

3.1.2 Based on the water supply contract drawings under HSK/HT NDA Second Phase Development, new fresh and flushing water mains are proposed along Tin Ha Road, adjacent to the west boundary of Site 4B-1 and Site 4B-2. The abovementioned water supply system is shown in **Appendix B** for reference.

3.1.3 With reference to the accepted WSUIA as mentioned in **Section 2.3.1**, a new water supply system comprising DN600 fresh water mains and DN200 flushing water mains are proposed along the Hung Shui Kiu Tin Sam Road in the vicinity of Site 4B-2 and 4B-3. However, under the latest contract arrangement, these mains are not included in the contract drawings under HSK/HT NDA Second Phase Development. It is anticipated that these watermains will be implemented under HSK/HT NDA Remaining Phase Development. The proposed water supply system under HSK/HT NDA Second Phase Development are prepared in **Appendix C** for reference.

3.1.4 Referring to the planned water supply system under the Remining Phase Development, no water mains are available to directly supply the Development Sites at the time of the planning. The planned water supply system of HSK/HT NDA Remining Phase Development are prepared in **Appendix C** for reference.

3.2 Water Supply Impact

3.2.1 The fresh water and flushing water demands from the Development Sites based on the updated development parameters are summarised in **Table 3.1** and **Table 3.2**, respectively. The population intake for the proposed development sites is expected to occur in 2035.

Table 3.1 Fresh Water Mean Daily Demand (MDD) for the Proposed Development

Scenario	Code	Population (head)	No. of Flats	MDD for Proposed Development Sites (m^3/day)			Total Demand (m^3/day)
				4B-1	4B-2	4B-3	
Baseline	R3	1,533	568	163	282	154	599
Proposed	R2	8,289	3,070	757	1,343	719	2,819
Difference		6,756	2,502	+594	+1,061	+565	+2,220

Table 3.2 Flushing Water Mean Daily Demand (MDD) for the Proposed Development

Scenario	Code	Population (head)	No. of Flats	MDD for Proposed Development Sites (m^3/day)			Total Demand (m^3/day)
				4B-1	4B-2	4B-3	
Baseline	R3	1,533	568	29	51	28	108
Proposed	R2	8,289	3,070	236	419	224	880
Difference		6,756	2,502	+207	+368	+196	+772

3.2.2 Based on the latest water demand, the required storage capacity due to the Development Sites is estimated and presented in **Table 3.3**. It is noted that the additional fresh water demand will only contribute to 1.0% of the TKTE FWSR storage capacity; and additional flushing demand will only contribute to 1.7% of the TKTE ReWSR storage capacity. As such, the water supply impact to service reservoirs and HSK/HT NDA water supply network is considered insignificant.

Table 3.3 Change of Required Storage Volume

Service Reservoir	Storage Capacity (1) (m^3)	Change in Water Demand (2) (m^3/day)	Change in Required Storage Volume (m^3)
TKTE FWSR	188,050 (Designed by HSK)	+2,442	+1,954 (1.0%)
TKTE ReWSR	Approx. 32,000 (Reserved by others)	+849	+543 (1.7%)

Note:
(1) The storage capacities for TKTE FWSR and TKTE ReWSR are reserved for HSK and other developments.
(2) The water demand change has considered an additional 10% contingency applied to estimated required storage volume change.

3.2.3 As mentioned in **Section 3.1**, water mains are not available in WSIA for the direct supply of the Development Sites at the time of the planning. Based on the latest proposed development layouts for Site 4B-1, Site 4B-2, and Site 4B-3. The fresh and flushing water main are planned along Hung Kei Road and Hung Yu Road serving the Development Sites. The proposed arrangement is further elaborated in **Section 4**.

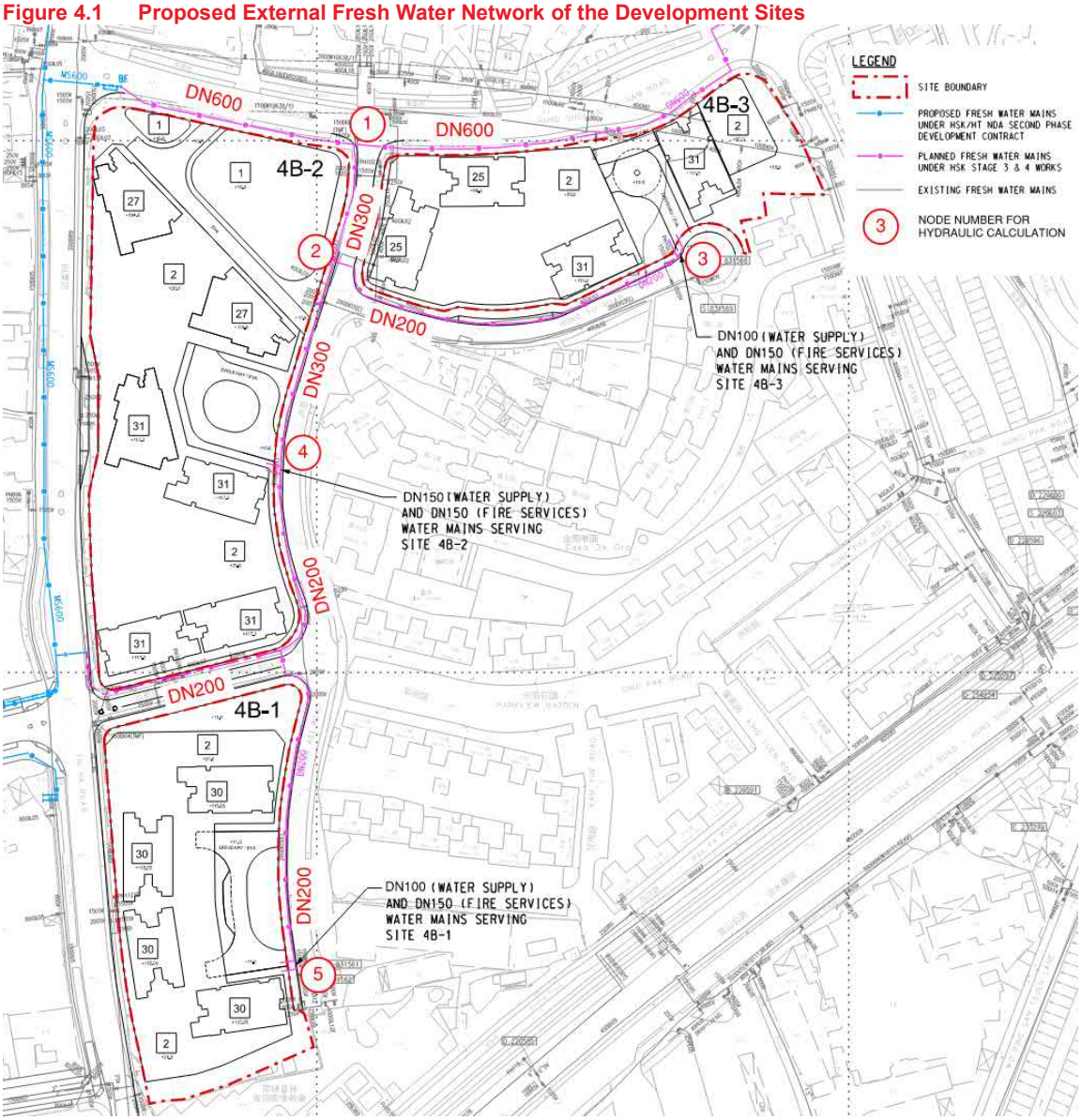
4. Proposed Water Supply Modification Works

4.1.1 The preliminary design of the proposed water supply system followed WSD's DI No. 1309 and other assumptions listed in **Section 2.3**.

4.1.2 Based on the latest proposed development layouts for Site 4B-1, Site 4B-2, and Site 4B-3, the preliminary design of external fresh and flushing water network is proposed as shown in **Figure 4.1** and **Figure 4.2**, respectively.

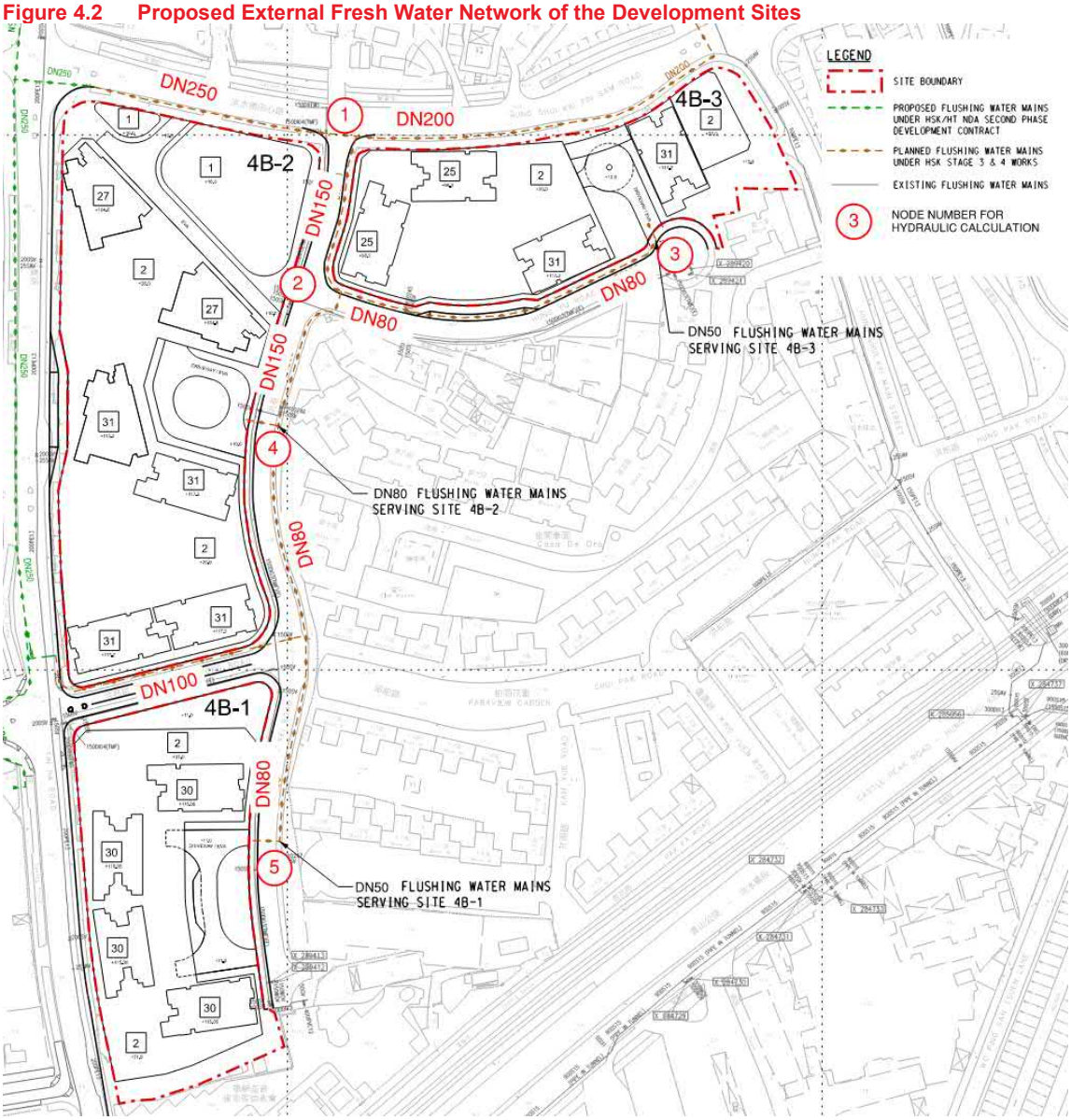
4.1.3 Fresh water will be supplied via the DN600 distribution main along Ting Ha Road and Hung Shui Kiu Tin Sam Road. DN200–300 local water mains are proposed within the road network to provide water supply to the development sites. The layouts of the proposed fresh water mains are shown in **Appendix D.**

Figure 4.1 Proposed External Fresh Water Network of the Development Sites



4.1.4 The flushing water main along Ting Ha Road under the HSK/NDA Phase 2 development will be upgraded from DN200 to DN250 to enhance the flushing water supply to the development sites. Flushing water will be supplied via the DN250 distribution main along Ting Ha Road and Hung Shui Kiu Tin Sam Road. DN80–150 local water mains are proposed within the road network to provide flushing water to the development sites. The layouts of the proposed flushing water mains are shown in **Appendix D.**

Figure 4.2 Proposed External Fresh Water Network of the Development Sites



4.1.5 The hydraulic performance of the proposed fresh and flushing water main was reviewed and summarized in **Table 4.1** and **Table 4.2**, respectively. No adverse water supply impact would be resulted upon implementing the proposed fresh and flushing water supply network.

Table 4.1 Hydraulic Performance of the Proposed Fresh Water Supply Network

From Node No.	To Node No.	Pipe Size (mm)	Internal Diameter (mm)	MDD (m^3/day)	Peak Flow (l/s)	Velocity (m/s)	Remark
1	2	DN300	282	2,819	98	1.6	Site 4B-1, 4B-2, 4B-3.
2	3	DN200	189	719	25	0.9	Site 4B-3
2	4	DN300	282	2,100	73	1.2	Site 4B-1, 4B-2
4	5	DN200	189	757	26	0.9	Site 4B-1

Table 4.2 Hydraulic Performance of the Proposed Flushing Water Supply Network

From Node No.	To Node No.	Pipe Size (mm)	Internal Diameter (mm)	MDD (m^3/day)	Peak Flow (l/s)	Velocity (m/s)	Remark
1	2	DN150	138	880	20	1.4	Site 4B-1, 4B-2, 4B-3
2	3	DN80	80	224	5	1.0	Site 4B-3
2	4	DN150	138	655	15	1.0	Site 4B-1, 4B-2
4	5	DN80	80	236	5	1.1	Site 4B-1

5. Summary

5.1.1 This report estimated the fresh and flushing water demands generated from the proposed development at Site 4B-1, Site 4B-2, and Site 4B-3 under the proposed condition, assessed the potential impact, and recommended water supply modification works.

5.1.2 According to the assessment, the updated development parameters from the proposed development would induce a fresh and flushing water demand of 2,819 m^3/day and 880 m^3/day respectively. When compared with the baseline scenario, this represents an additional fresh water demand of 2,220 m^3/day and an additional flushing water demand of 772 m^3/day.

5.1.3 The increased required storage volume is considered negligible comparing to the total storage volume of the TKTE FWSR and TKTE ReWSR. The marginal increase will not have any adverse impact on the water supply infrastructure within HSK/HT NDA.

5.1.4 The proposed water supply lead-in locations for Site 4B-1, Site 4B-2, and Site 4B-3 are refined to suit the latest development layouts.

5.1.5 Upon implementing the proposed modification works, no adverse impact to the existing/planned water supply system is envisaged due to the proposed development.

Appendix A

Indicative Scheme for Site 4B-1, Site 4B-2, and Site 4B-3

	4B-1					4B-2									4B-3			
Site Area (sqm)	9,488.29					16,392.09									8,977.83			
Revised Site Area (sqm)	9,061.64	-4%				16,089.40	-2%								8,615.64	-4%		
DPR	5.00					5.00									5.00			
NDPR	0.20					0.20									0.20			
D-GFA (sqm)	45,308					80,447									43,078			
ND-GFA (sqm)	1,812					3,218									1,723			
D-GFA Concession	1.265					1.265									1.265			
ND-GFA Concession	1.25					1.25									1.25			
D-CFA	57,314.88					########									54,493.92			
ND-CFA	2,265.41					4,022.35									2,153.91			
Carpark GFA	9,278.63					16,164.23									8,894.50			
Assumed Flat Size (sqm)	55					55									55			
No. of units	824					1463									783			
Person per flat	2.7					2.7									2.7			
Population	2225					3950									2114			
	Block A	Block B	Block C	Block D		Block A	Block B	Block C	Block D	Block E	Block F	Retail Block I	Retail Block II		Block A	Block B	Block C	Block D
Block Footprint (sqm)	494	494	559	559		667	667	667	559	559	559	194	2141		559	527	527	527
No. of dom. Storeys	27	27	27	27		24	24	28	28	28	28	-	-		22	22	28	28
Transfer Plate thickness (m)	3	3	3	3		3	3	3	3	3	3	-	-		3	3	3	3
Podium garden height (m)	6	6	6	6		6	6	6	6	6	6	-	-		6	6	6	6
Sky Garden height (m)																		
Tower height (m)	94.05	94.05	94.05	94.05		84.6	84.6	97.2	97.2	97.2	97.2				78.3	78.3	97.2	97.2
Podium storeys	2	2	2	2		2	2	2	2	2	2	1	1		2	2	2	2
Podium Height (m)	10	10	10	10		10	10	10	10	10	10	6	6		10	10	10	10
Site formation level (mPD)	11	11	11	11		10	10	10	10	10	10	10	10		10	10	10	10
Total BH (mPD)	115.05	115.05	115.05	115.05		104.6	104.6	117.2	117.2	117.2	117.2	16	16		98.3	98.3	117.2	117.2
Non-domestic Footprint (sqm)	6298.53					10405.12						194.00	2078.40		6199.64			
Non-domestic SC% (<10m)	69.51%					64.67%						1.21%	12.92%		71.96%			
Domestic Footprint (sqm)	2106.00					3678.00									2140.00			
Domestic SC% (10m and above)	23.24%					22.86%									24.84%			

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NOTATIONS

- Development Site Boundary
- Area for Footpath Widening
- Domestic Block
- Non-Domestic Podium with Rooftop Podium Garden
- Driveway / Emergency Vehicular Access
- Emergency Vehicular Access only
- At-grade Landscape Area

- 25 — No. of Storey
- +20.0 — Building Height at Main Roof Level in mPD
- +10.0 — Site Formation Level in mPD

Planned in HSK/HT ODP

- LO — Land Use Zoning
- (1) — Planning Area Number

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Application Site from “Residential (Group B)3” to “Residential (Group A)6”, Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

BLOCK PLAN

Drawing no.			Rev.
01			
Drawn	Date	Checked	Approved
ZL	JAN 2026	LH	WL
Scale		Status	

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Appendix B

Proposed Water Supply System under HSK/HT NDA Second Phase Development in the Vicinity of Site 4B-1, Site 4B-2, and Site 4B-3 (For Reference)

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LAU FAU SHAN
TIN SHUI WAI
KONG SHAM WESTERN HIGHWAY
NGAU HOM SHEK
HA TSUEN
PING SHAN
CASTLE PEAK ROAD – PING SHAN
YUEN LONG HIGHWAY
YUEN TAU SHAN
HUNG SHUI KIU

SHEET 1
SHEET 2
SHEET 3
SHEET 4
SHEET 5
SHEET 6
SHEET 7
INSET A
SHEET 8
SHEET 9
SHEET 10
SHEET 11
SHEET 12
SHEET 13
SHEET 14
SHEET 15
SHEET 16
SHEET 17
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SHEET 25
SHEET 26

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LEGEND

BOUNDARIES OF THE SITE

PROPOSED SITES TO BE FORMED

Rev	Description	By	Date
00	TENDER ISSUE	EF	03/24

Consultant

ARUP

Project Title

Contract No. YL/2023/03
Hung Shui Kiu/Ha Tsuen
New Development Area
Second Phase Development - Contract 3 -
Site Formation and Engineering
Infrastructure Works

Drawing title

WATER SUPPLY WORKS
OVERALL LAYOUT PLAN

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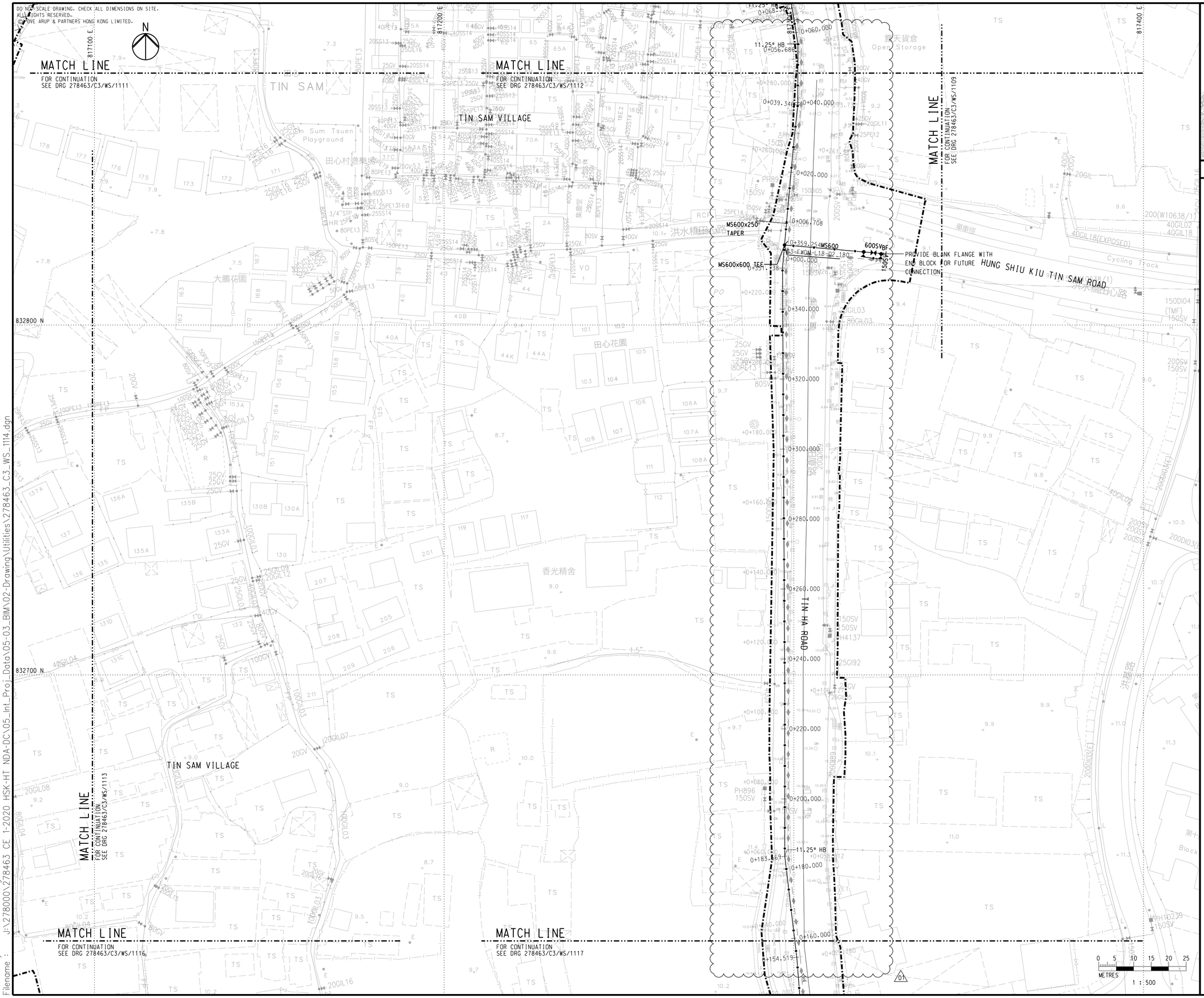

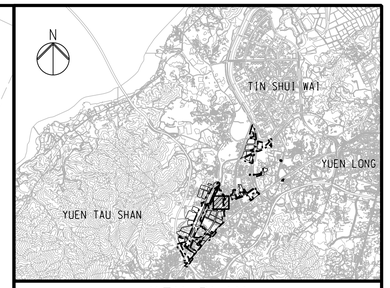

KEY PLAN

NOTES

1. FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NO. 278463/C3/WS/1101.

Rev	Description	By	Date
01	TENDER ADDENDUM NO. 2	EF	05/24
00	TENDER ISSUE	EF	03/24

Consultant

ARUP

Project Title

Contract No. YL/2023/03
Hung Shui Kiu/Ha Tsuen
New Development Area
Second Phase Development - Contract 3 -
Site Formation and Engineering
Infrastructure Works

Drawing title

FRESH WATER SUPPLY WORKS
LAYOUT PLAN
(SHEET 14)

Drawing no.	Rev.
278463/C3/WS/1114	01

Drawn	Date	Checked	Approved
DT	01/8	EF	DL

Scale	Status
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MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/WS/1114

PROPOSED CONNECTION TO EXISTING DN150 FRESH WATER MAIN

PROPOSED CONNECTION TO EXISTING WATER MAIN

CONNECTION TO PROPOSED IRRIGATION PIPE

ROAD L16

HUNG LEONG ROAD

HUNG KEI ROAD

TIN HA ROAD

FUTURE CONNECTION TO SITE 4-25b(BY OTHERS)

FUTURE CONNECTION TO SITE 4-24(BY OTHERS)

FUTURE CONNECTION TO SITE 4-24(BY OTHERS)

FUTURE CONNECTION TO SITE 4-26(BY OTHERS)

FUTURE CONNECTION TO SITE 4-24(BY OTHERS)

CONNECTION TO PROPOSED IRRIGATION PIPE

SITE 4-25b
(COMMERCIAL & RESIDENTIAL DEVELOPMENT)

SITE 4-24
(PUBLIC HOUSING)

SITE 4-26
(RESIDENTIAL)

EXISTING CHURCH OF JESUS CHRIS OF LATTER - DAY SAINTS

EXISTING TIN HA ROAD PLAYGROUND TO BE RETAINED
田廈路遊樂場
Tin Ha Road Playground

足球場
Football Field

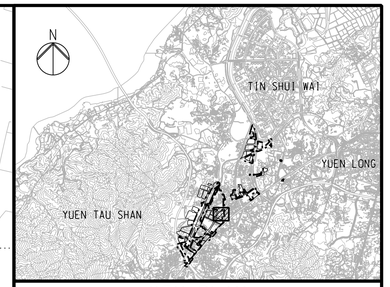
籃球場
Basketball Court

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/WS/1116

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/WS/1120

817100 E
817200 E
817300 E
817400 E
832600 N
832500 N
832400 N

0 5 10 15 20 25
METRES
1 : 500



KEY PLAN

NOTES

1. FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NO. 278463/C3/WS/1001.

Rev	Description	By	Date
01	TENDER ADDENDUM NO. 2	EF	05/24
00	TENDER ISSUE	EF	03/24

Consultant

ARUP

Project Title

Contract No. YL/2023/03
Hung Shui Kiu/Ha Tsuen
New Development Area
Second Phase Development - Contract 3 -
Site Formation and Engineering
Infrastructure Works

Drawing title

FRESH WATER SUPPLY WORKS
LAYOUT PLAN
(SHEET 17)

Drawing no.	Rev.
278463/C3/WS/1117	01

Drawn	Date	Checked	Approved
DT	01/8	EF	DL

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N

817100 E

817200 E

817300 E

817400 E

832800 N

832700 N

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/WS/1311

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/WS/1312

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/WS/1309

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/WS/1313

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/WS/1316

MATCH LINE
FOR CONTINUATION
SEE DRG 278463/C3/WS/1317

TIN SAM VILLAGE

TIN SAM VILLAGE

TIN HA ROAD

HUNG SHIU KIU TIN SAM ROAD

洪水橋田心路

Tin Sum Tsuen Playground

田心村遊樂場

大鵬花園

田心花園

香光精舍

集慶堂

露天貨倉
Open Storage

Cycling Track

單車徑

第十一座
Block 11

11.25° HB

+0+300.000

+0+291.205

+0+280.000

+0+273.733

+0+260.000

+0+261.533

+0+240.000

+0+226.881

+0+220.000

+0+200.000

+0+180.000

+0+160.000

+0+140.000

+0+120.000

+0+106.127

+0+100.000

+0+080.000

+0+060.000

+0+058.812

+0+040.000

+0+027.780

+0+020.000

NS250×250 TEE

NS250

NS250

NS250

200SV

25SAV

200PE

150DI(EW)

150DI04(TMF)

150SV

150DI03(TMF)(E)

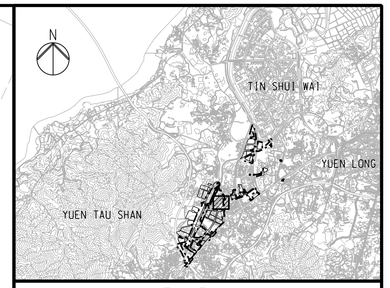
150DI03(TMF)(W)

PROVIDE BLANK FLANGE WITH END BLOCK FOR FUTURE CONNECTION

01

METRES 0 5 10 15 20 25
1 : 500

KEY PLAN



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1. FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NO. 278463/C3/WS/1301.

Rev	Description	By	Date
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00	TENDER ISSUE	EF	03/24

Consultant

ARUP

Project Title

Contract No. YL/2023/03
Hung Shui Kiu/Ha Tsuen
New Development Area
Second Phase Development - Contract 3 -
Site Formation and Engineering
Infrastructure Works

Drawing title

FLUSHING WATER SUPPLY WORKS
LAYOUT PLAN
(SHEET 14)

Drawing no.	Rev.
278463/C3/WS/1314	01

Drawn	Date	Checked	Approved
DT	01/8	EF	DL

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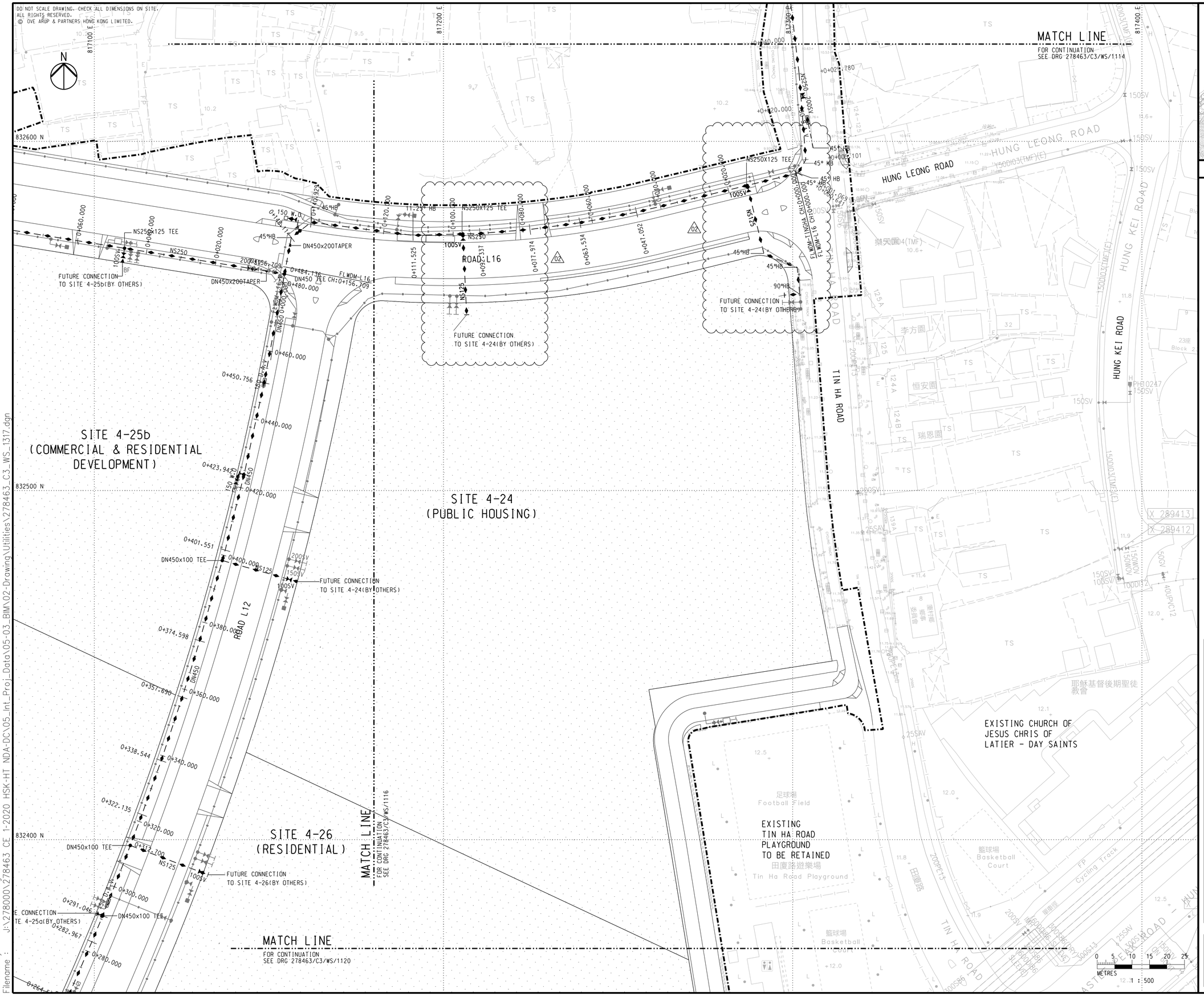

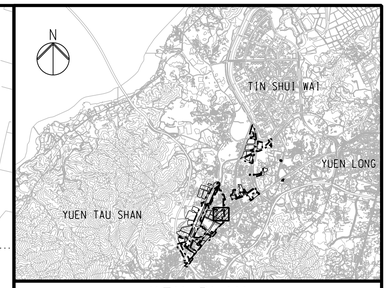

KEY PLAN

NOTES

1. FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NO. 278463/C3/WS/1001.

Rev	Description	By	Date
02	TENDER ADDENDUM NO. 3	EF	05/24
01	TENDER ADDENDUM NO. 2	EF	05/24
00	TENDER ISSUE	EF	03/24

Consultant

ARUP

Project Title

Contract No. YL/2023/03
Hung Shui Kiu/Ha Tsuen
New Development Area
Second Phase Development - Contract 3 -
Site Formation and Engineering
Infrastructure Works

Drawing title

FLUSHING WATER SUPPLY WORKS
LAYOUT PLAN
(SHEET 17)

Drawing no.			Rev.
278463/C3/WS/1317			02
Drawn	Date	Checked	Approved
DT	03/24	EF	DL
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Appendix C

Planned Water Supply System for Site 4B-1, Site 4B-2, and Site 4B-3 under HSK/HT NDA in Accepted WSUIA (For Reference)

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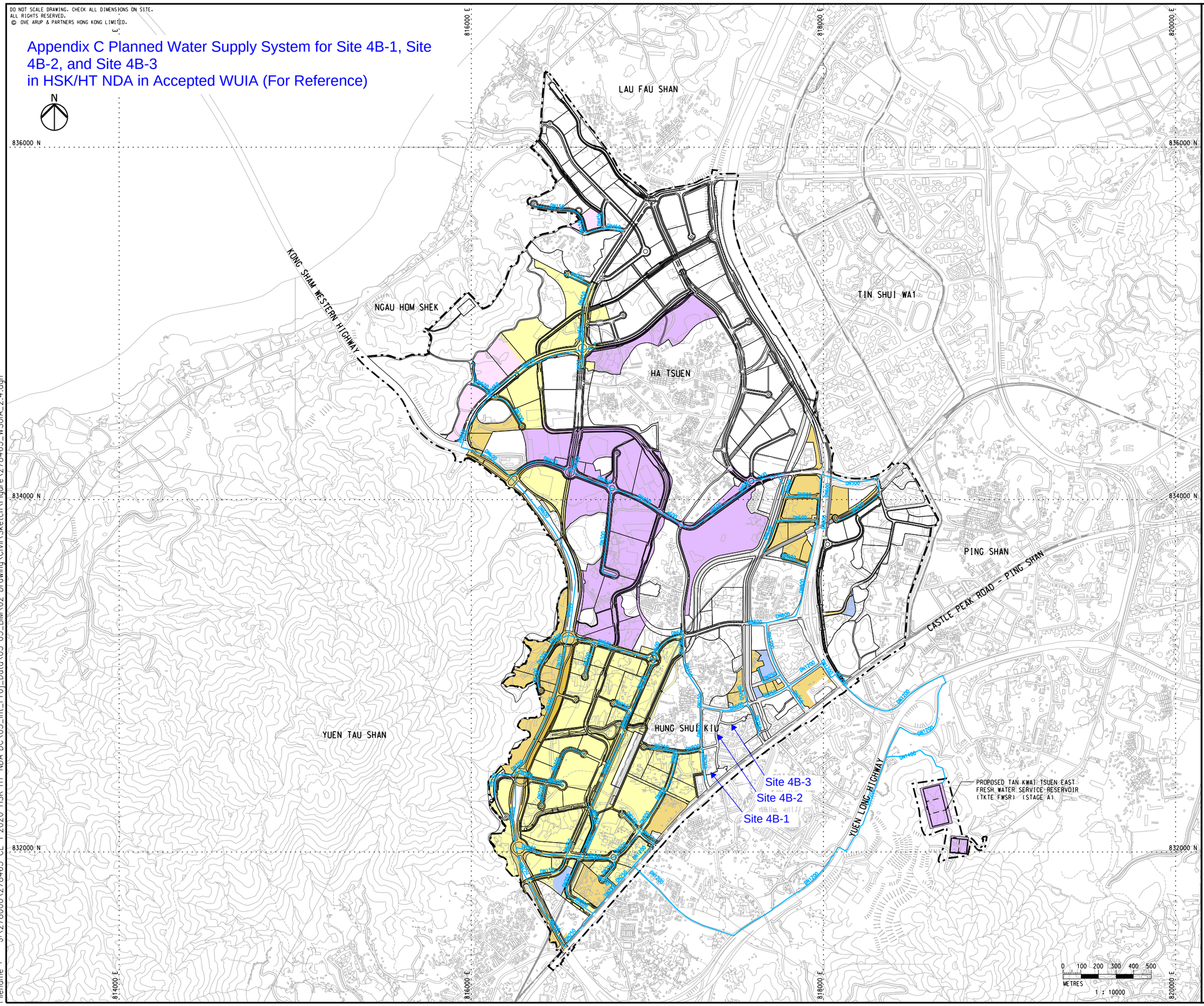
Appendix C Planned Water Supply System for Site 4B-1, Site 4B-2, and Site 4B-3 in HSK/HT NDA in Accepted WUIA (For Reference)



LEGEND

- HSK/HT NDA BOUNDARY
- 200 PROPOSED FRESH WATER DISTRIBUTION MAIN

FIRST PHASE DEVELOPMENT

- ADVANCE WORKS PHASE 1 & 2
- STAGE 1 WORKS

SECOND PHASE DEVELOPMENT

- ADVANCE WORKS PHASE 3
- STAGE 2 WORKS (PACKAGE A)
- STAGE 2 WORKS (PACKAGE B)

Rev	Description	By	Date
E	FIFTH ISSUE	EF	10/22
D	4TH ISSUE	EF	08/22
C	THIRD ISSUE	EF	05/22
B	SECOND ISSUE	EF	12/21
A	FIRST ISSUE	EF	06/21

Consultant

ARUP

Project Title

Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction

Drawing title

PROPOSED STAGE II
FRESH WATER SUPPLY SYSTEM
(STAGE 2 OF
HSK/HT NDA DEVELOPMENT)

Drawing no.			Rev.
278463/WSUIA/2.4			E
Drawn	Date	Checked	Approved
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Scale		Status	
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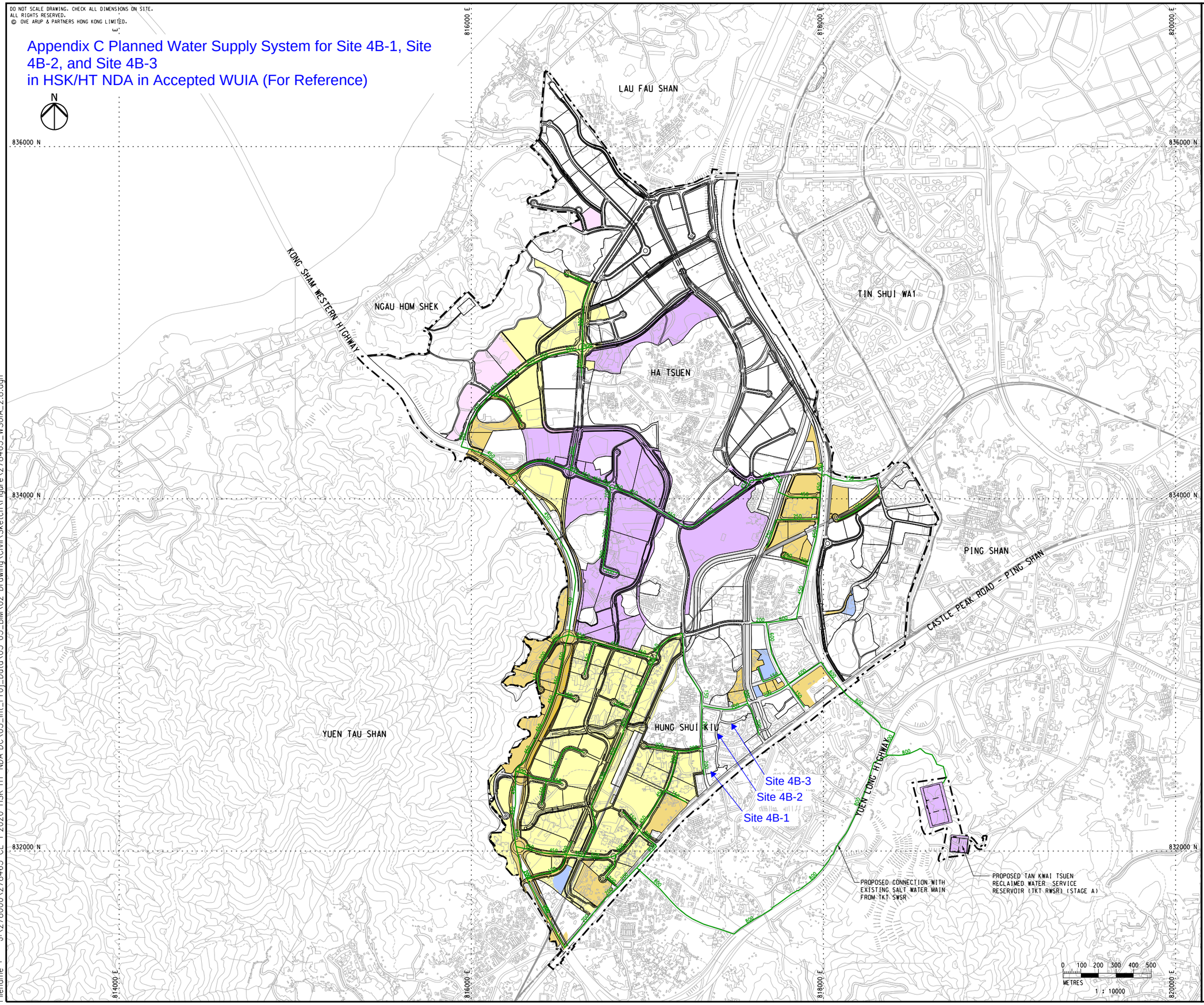
Appendix C Planned Water Supply System for Site 4B-1, Site 4B-2, and Site 4B-3 in HSK/HT NDA in Accepted WUIA (For Reference)



LEGEND

- HSK/HT NDA BOUNDARY
- 200 PROPOSED FLUSHING WATER DISTRIBUTION MAIN

FIRST PHASE DEVELOPMENT

- ADVANCE WORKS PHASE 1 & 2
- STAGE 1 WORKS

SECOND PHASE DEVELOPMENT

- ADVANCE WORKS PHASE 3
- STAGE 2 WORKS (PACKAGE A)
- STAGE 2 WORKS (PACKAGE B)

Rev	Description	By	Date
E	FIFTH ISSUE	EF	10/22
D	4TH ISSUE	EF	08/22
C	THIRD ISSUE	EF	05/22
B	SECOND ISSUE	EF	12/21
A	FIRST ISSUE	EF	06/21

Consultant

ARUP

Project Title

Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction

Drawing title

PROPOSED STAGE II FLUSHING WATER SUPPLY SYSTEM (STAGE 2 OF HSK/HT NDA DEVELOPMENT)

Drawing no.	Rev.
278463/WSUIA/2.8	E

Drawn	Date	Checked	Approved
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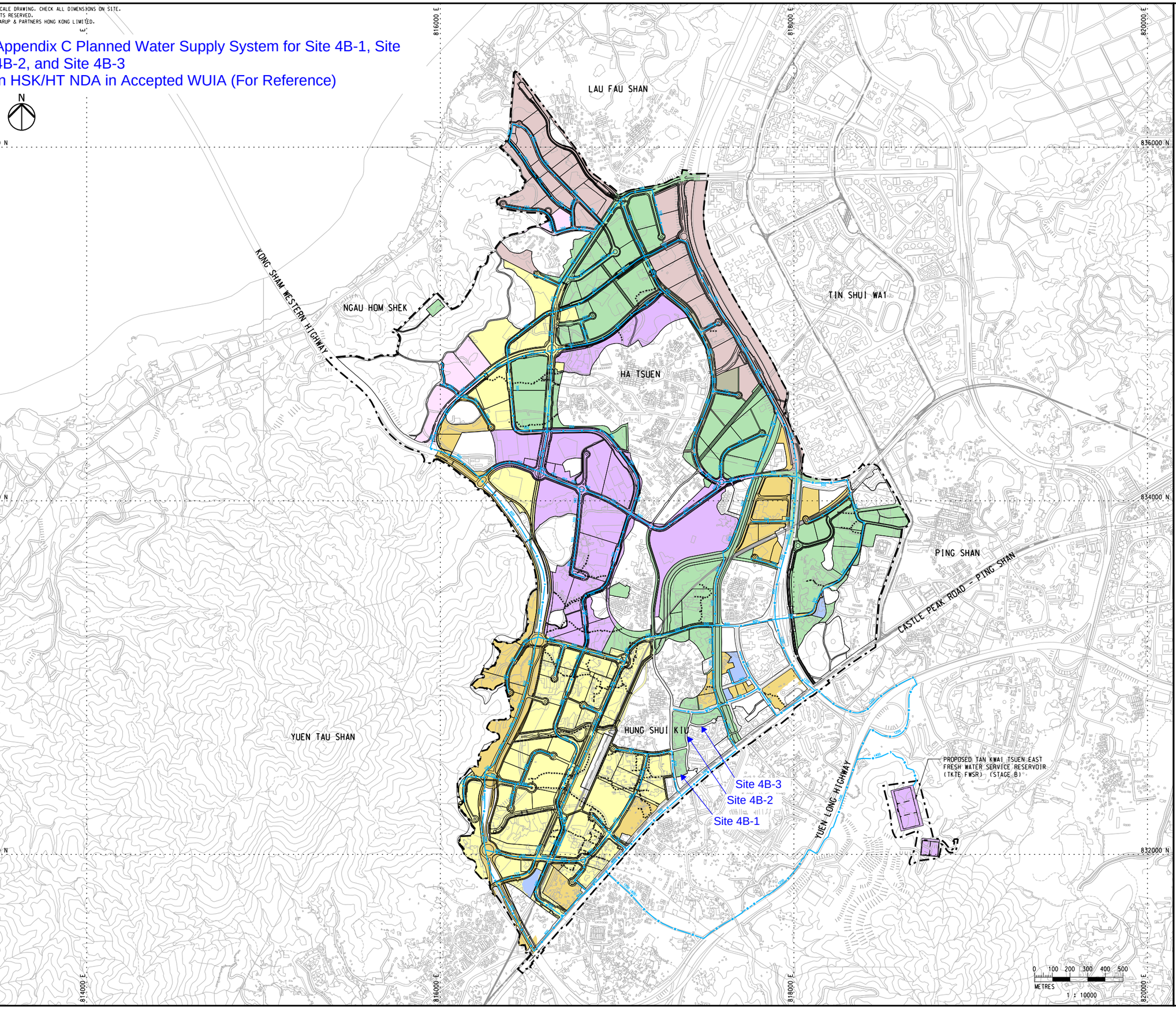
Appendix C Planned Water Supply System for Site 4B-1, Site 4B-2, and Site 4B-3 in HSK/HT NDA in Accepted WUIA (For Reference)



LEGEND

- HSK/HT NDA BOUNDARY
- 200 PROPOSED FRESH WATER DISTRIBUTION MAIN

FIRST PHASE DEVELOPMENT

- ADVANCE WORKS PHASE 1 & 2
- STAGE 1 WORKS

SECOND PHASE DEVELOPMENT

- ADVANCE WORKS PHASE 3
- STAGE 2 WORKS (PACKAGE A)
- STAGE 2 WORKS (PACKAGE B)

REMAINING PHASE DEVELOPMENT

- STAGE 3 WORKS
- STAGE 4 WORKS

Rev	Description	By	Date
E	FIFTH ISSUE	AK	10/22
D	4TH ISSUE	AK	08/22
C	THIRD ISSUE	AK	05/22
B	SECOND ISSUE	AK	12/21
A	FIRST ISSUE	EF	06/21

Consultant

ARUP

Project Title

Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction

Drawing title

PROPOSED STAGE III
FRESH WATER SUPPLY SYSTEM
(STAGE 3 AND STAGE 4 OF
HSK/HT NDA DEVELOPMENT)

Drawing no.			Rev.
278463/WSUIA/2.5			E
Drawn	Date	Checked	Approved
RY	06/21	CF	DL
Scale		Status	
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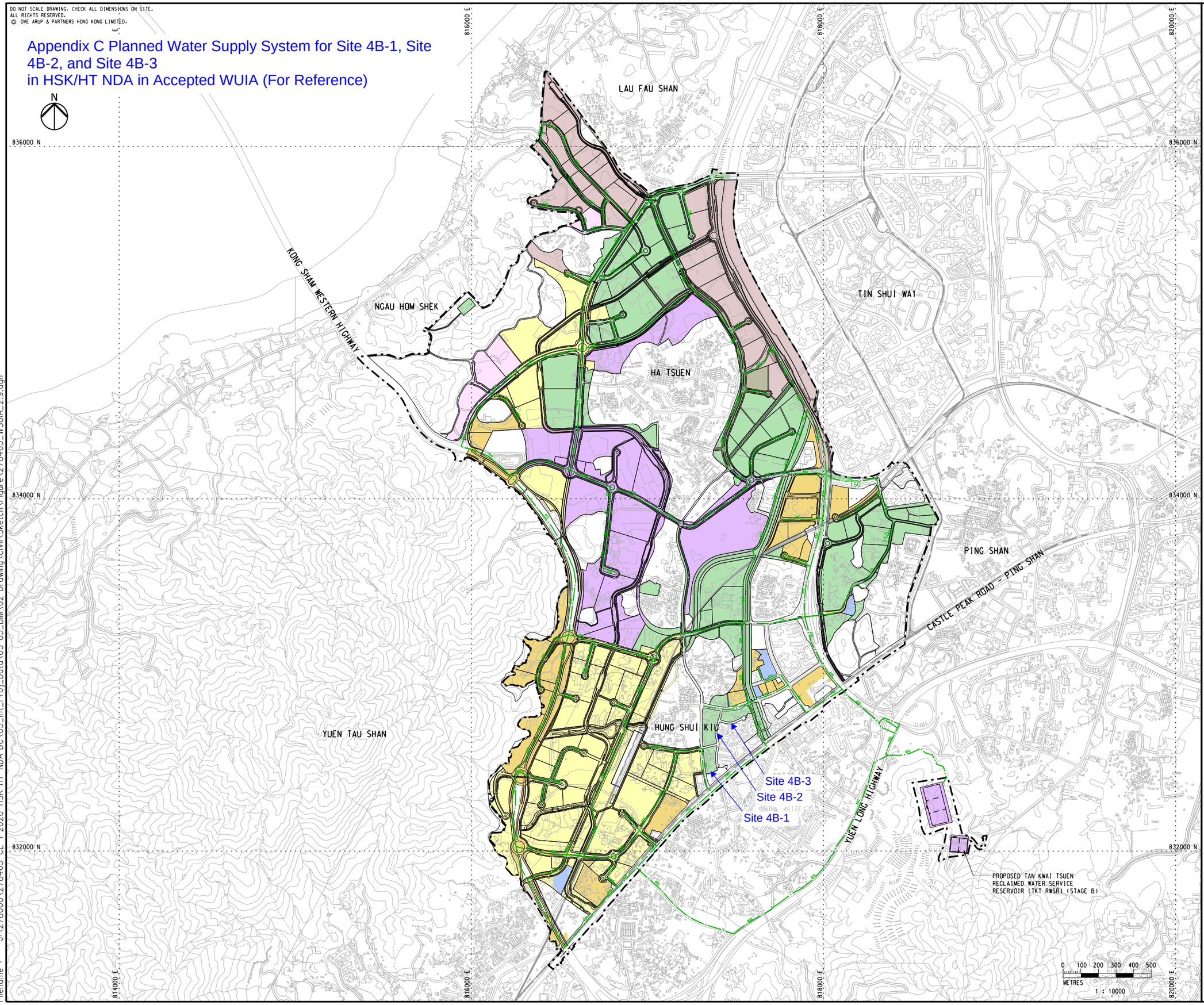
Appendix C Planned Water Supply System for Site 4B-1, Site 4B-2, and Site 4B-3 in HSK/HT NDA in Accepted WUIA (For Reference)



LEGEND

- HSK/HT NDA BOUNDARY
- 200 PROPOSED FLUSHING WATER DISTRIBUTION MAIN

FIRST PHASE DEVELOPMENT

- ADVANCE WORKS PHASE 1 & 2
- STAGE 1 WORKS

SECOND PHASE DEVELOPMENT

- ADVANCE WORKS PHASE 3
- STAGE 2 WORKS (PACKAGE A)
- STAGE 2 WORKS (PACKAGE B)

REMAINING PHASE DEVELOPMENT

- STAGE 3 WORKS
- STAGE 4 WORKS

Rev	Description	By	Date
E	FIFTH ISSUE	AK	10/22
D	4TH ISSUE	AK	08/22
C	THIRD ISSUE	AK	05/22
B	SECOND ISSUE	AK	12/21
A	FIRST ISSUE	EF	06/21

Consultant

ARUP

Project Title

Agreement No. CE 1/2020 (CE)
Hung Shui Kiu / Ha Tsuen
New Development Area Package A
Works for Second Phase Development
– Design and Construction

Drawing title

PROPOSED STAGE III FLUSHING WATER SUPPLY SYSTEM (STAGE 3 AND STAGE 4 OF HSK/HT NDA DEVELOPMENT)

Drawing no.	Rev.
278463/WSUIA/2.9	E

Drawn	Date	Checked	Approved
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Appendix D

Proposed Water Supply Layout Plans for Site 4B-1, Site 4B-2, and Site 4B-3

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817200 E
817400 E
817600 E
832800 N
832600 N
832400 N

DN100 (WATER SUPPLY)
AND DN150 (FIRE SERVICES)
WATER MAINS SERVING
SITE 4B-3

DN150 (WATER SUPPLY)
AND DN150 (FIRE SERVICES)
WATER MAINS SERVING
SITE 4B-2

DN100 (WATER SUPPLY)
AND DN150 (FIRE SERVICES)
WATER MAINS SERVING
SITE 4B-1

NOTES

1. THE ALIGNMENT FOR PLANNED WATER MAINS IS SHOWN AS INDICATIVE ONLY.

LEGEND

- SITE BOUNDARY
- PROPOSED FRESH WATER MAINS UNDER HSK/HT NDA SECOND PHASE DEVELOPMENT CONTRACT
- PLANNED FRESH WATER MAINS UNDER HSK STAGE 3 & 4 WORKS
- EXISTING FRESH WATER MAINS

Rev	Description	By	Date
A	FIRST ISSUE	JY	10/25

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

PROPOSED FRESH WATER SUPPLY LAYOUT PLAN

Drawing no.	Rev.
304204/C/WSIA/011	A

Drawn	Date	Checked	Approved
RY	10/25	JW	KK

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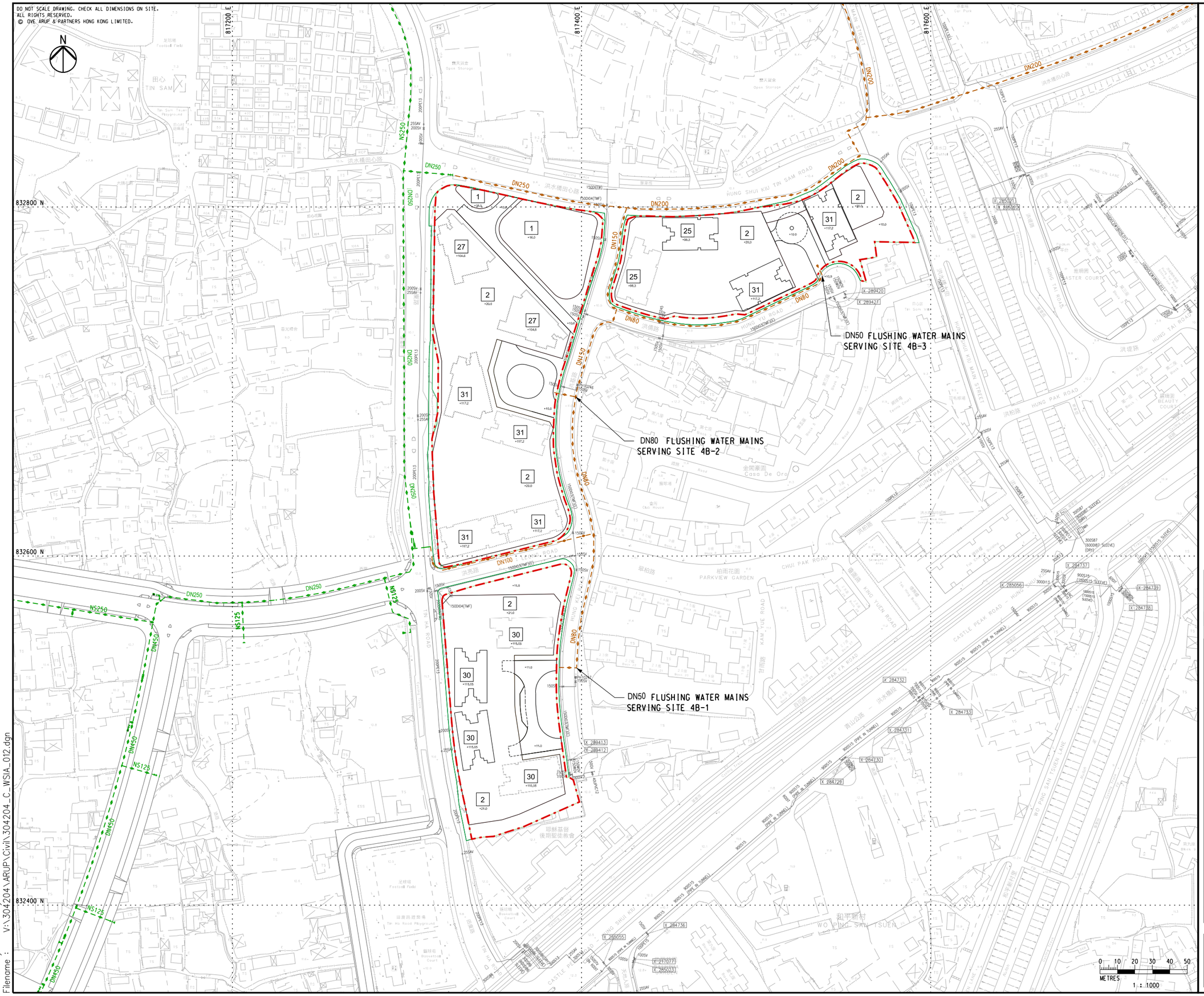

NOTES

1. THE ALIGNMENT FOR PLANNED WATER MAINS IS SHOWN AS INDICATIVE ONLY.

LEGEND

- SITE BOUNDARY
- PROPOSED FLUSHING WATER MAINS UNDER HSK/HT NDA SECOND PHASE DEVELOPMENT CONTRACT
- PLANNED FLUSHING WATER MAINS UNDER HSK STAGE 3 & 4 WORKS
- EXISTING FLUSHING WATER MAINS

Rev	Description	By	Date
A	FIRST ISSUE	JY	10/25

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D.124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

PROPOSED FLUSHING WATER SUPPLY LAYOUT PLAN

Drawing no.	Rev.
304204/C/WSIA/012	A

Drawn	Date	Checked	Approved
RY	10/25	JW	KK

Scale: 1:1000 @ A1

Status: PRELIMINARY

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Civil Engineering and Development Department

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Filename : V:\304204\ARUP\Civil\304204_C_WSIA_012.dgn

Appendix E

Water Demand Calculation

Appendix E - Water Demand Calculation for the Application Site

FRESH WATER										
Site	Domestic Zoning	Estimated Population	Unit Rate for Dometsic (m^3/head/day)	Commercial Zoning	Retail GFA (m^2)	No. of employee	Unit Rate for Commercial (m^3/head/day)	Residential (m3/day)	Non-residential (m3/day)	Total Demand (m^3/day)
4B-1	R2	2225	0.34	Service Trade	1812	95	0	757	0	757
4B-2	R2	3950	0.34	Service Trade	3218	170	0	1343	0	1343
4B-3	R2	2114	0.34	Service Trade	1723	91	0	719	0	719
Total								**2819**	**0**	**2819**

FLUSHING WATER										
Site	Domestic Zoning	Estimated Population	Unit Rate for Dometsic (m^3/head/day)	Commercial Zoning	Retail GFA (m^2)	No. of employee	Unit Rate for Commercial (m^3/head/day)	Residential (m3/day)	Non-residential (m3/day)	Total Demand (m^3/day)
4B-1	R2	2225	0.104	Service Trade	1812	95	0.05	231	5	236
4B-2	R2	3950	0.104	Service Trade	3218	170	0.05	410	9	419
4B-3	R2	2114	0.104	Service Trade	1723	91	0.05	220	5	224
Total								**861**	**19**	**880**

Annex G Utilities Impact Assessment

ARUP

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Utilities Impact Assessment

v.2 | January 2026

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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1. Introduction

1.1 Background

1.1.1 Ove Arup & Partners Hong Kong Limited was commissioned to conduct a Utilities Impact Assessment in support of the Proposed Amendment to the Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan (HSK/HT OZP) No. S/HSK/2 at Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories (Development Sites) from "Residential (Group B) 3" to "Residential (Group A) 6" for Proposed Residential Development.

1.1.2 Falling within Area 4B of the HSK/HT OZP, the Development Sites consist of Site 4B-1, Site 4B-2 and Site 4B-3. They belong to Remaining Phase of the development plan of the HSK/HT NDA. The Development Sites contribute to an area of about 33,767 m^2, intersected by the Hung Shui Kiu Tin Sam Road and Tin Ha Road. The Development Sites are currently occupied by temporary structures for domestic and brownfield operation uses.

1.2 Scope of this Report

1.2.1 The report presents the UIA on the Proposed Residential Development from "Residential (Group B) 3" to "Residential (Group A) 6".

1.2.2 The report formulates the proposed utilities with mitigation measure with an aim to minimize impacts on existing system and to the general public.

1.2.3 The report further substantiates the feasibility of the project in terms of capability and serviceability of the systems and satisfies the requirement of maintenance authorities.

1.2.4 The objectives of this report set out as follows:

- To assess the utilities demands for the developments suggested;
- To assess the impacts on utilities main and demands for the developments;
- To ensure that the interfaces with the works facilities are properly resolved, and that adequate mitigation and protection measure are practically developed for construction and operation phases of the developments and incorporated for future development into the detailed design.

2. Utilities Impact Assessment

2.1 Methodology and Design Criteria

2.1.1 Utilities required for the assessment at Proposed Residential Development from "Residential (Group B) 3" to "Residential (Group A) 6" includes power supply, gas supply and telecommunication services.

2.1.2 For the purposes of the Study, the general requirements for utility installation are made reference from the Hong Kong Planning Standards and Guidelines (HKPSG) Chapter 7.

2.1.3 The relevant information from utility service providers listed in **Table 2.1.1** have been obtained to identify the existing and planned utility services and their capacities to extend the services into the proposed development.

Table 2.1.1 Utility Service Providers Serving the Development Sites

Utilities	**Utility Services Provider**
Power Supply	China Light and Power Hong Kong Limited (CLP)
Gas Supply	The Hong Kong and China Gas Company (HKCG)
Telecommunication	HKT Limited
	HGC Global Communications Limited

2.1.4 According to Highways Department technical circular 3/90, the general requirements for the installation of various utilities are summarised in **Table 2.1.2**.

Table 2.1.2 Typical Cover and Separation of Installed Underground Utilities

Common Utilities	**Minimum cover**		**Separation from other Utilities and Planning**
	Footpath/ Areas without vehicular Traffic	Road/Areas with Vehicular Traffic	
CLP cables			
132kV	1000mm	1200mm	Working clearance of 300mm from other utilities
11kV	750mm	900mm	150mm (1m between 132kV and 11kV)
HKCG pipes			
• Low pressure	700mm	1100mm	600mm for steel gas pipes
• Intermediate pressure	1000mm	1100mm	300mm for other gas pipes
HKT cables	450mm	900mm	Working clearance of 300mm from other utilities, or as required by the service provider
HGC cables	450mm	900mm	

2.2 Power Supply

2.2.1 Power supply record plans showing the extend of existing power supply network has been obtained from CLP. The existing and power supply network is presented in **Appendix A**.

2.2.2 The electric vehicle (EV) charging requirement for new parking spaces should follow the latest Technical Guidelines for EV Charging-enabling for Car Parks of New Building Developments and the latest version of HKPSG and other relevant guidelines. The preliminary loading of electric vehicle (EV) was taken into consideration.

2.2.3 With reference to load density figures of other similar development, the total power demand for the development proposal suggested is estimated to be 13.5 MVA. As all the study sites 4B-1, 4B-2 & 4B-3 are not categorized as high load density development under CLP's planning. As such, the provision of a general 11kV transformer rooms within sites is deemed sufficient, and the provision of 132kV customer's substations is not required.

2.2.4 The power demand of each site is presented in **Table 2.2.1**:

Table 2.2.1 Power Demand of Development Sites

Site	Power demand (MVA)
4B-1	3.7
4B-2	6.3
4B-3	3.5

2.2.5 During the detailed design stage, it is essential to coordinate with CLP to ensure that there is sufficient electricity capacity to support additional power demand from the new proposed development without compromising the reliability and stability of the power supply.

2.2.6 There are existing 11kV cables run along the Hung Shui Kiu Tin Sam Road, Hung Yu Road, Hung Kei Road, Hung Leong Road, Tin Ha Road. The network ultimately connects to the nearby CLP 132kV ESS. To support the new developments, it is proposed to liaise with CLP to install new 11kV cable circuits via the footpath from the nearby CLP 132kV ESS or any cable joint pit nearby, which shall be further liaised with CLP in detailed design stage. It is essential to perform coordination and assessment with CLP and relevant authorities to determine if there is enough underground space for catering the additional new cables leading to the sites.

2.3 Gas supply

2.3.1 Gas supply record plans have been obtained from HKCG. Currently, there is no existing gas main within the proposed development. The existing gas network in the vicinity of the Study Area is presented in **Appendix B**. Existing services in the vicinity of the proposed development comprise:

2.3.2 750mm Dia High Pressure Steel pipe gas main running along Yuen Long Highway

2.3.3 600mm Dia High Pressure Steel pipe gas main running along Hung Tin Road.

2.3.4 It is proposed to connect the gas pipes to Hung Shui Kiu Main Street.

2.3.5 The gas supply network will be developed in the detailed design stage of the proposed development. It is proposed that mainlines shall be developed with polyethylene or with the materials as required by HKCG. Adherence to HKCG standards for mains and equipment, the network shall be maintained during detailed design and construction.

2.4 Telecommunications

2.4.1 With reference to various record plans provided by telecommunication services providers, the existing telecom services in the vicinity of the Study Area comprise the following:

2.4.2 HKT telecommunication cable ducting is presented in **Appendix C1**

2.4.3 HGC telecommunication cable ducting is presented in **Appendix C2**

2.4.4 The telecommunication ducting shall be extended from existing plant room or telephone exchange building, and cable ducting system. Telecommunication service provider shall review and predict the demand and propose any upgrade work required for the proposed development in detailed design stage.

2.4.5 From the Appendix C1 and C2, it has been identified that existing telecommunication network cables are located within the development area. Where any such cables are found to conflict with the proposed construction works, the diversion of these existing cables shall be carried out in coordination with relevant telecommunication services providers to achieve minimal service disruption to existing network operation.

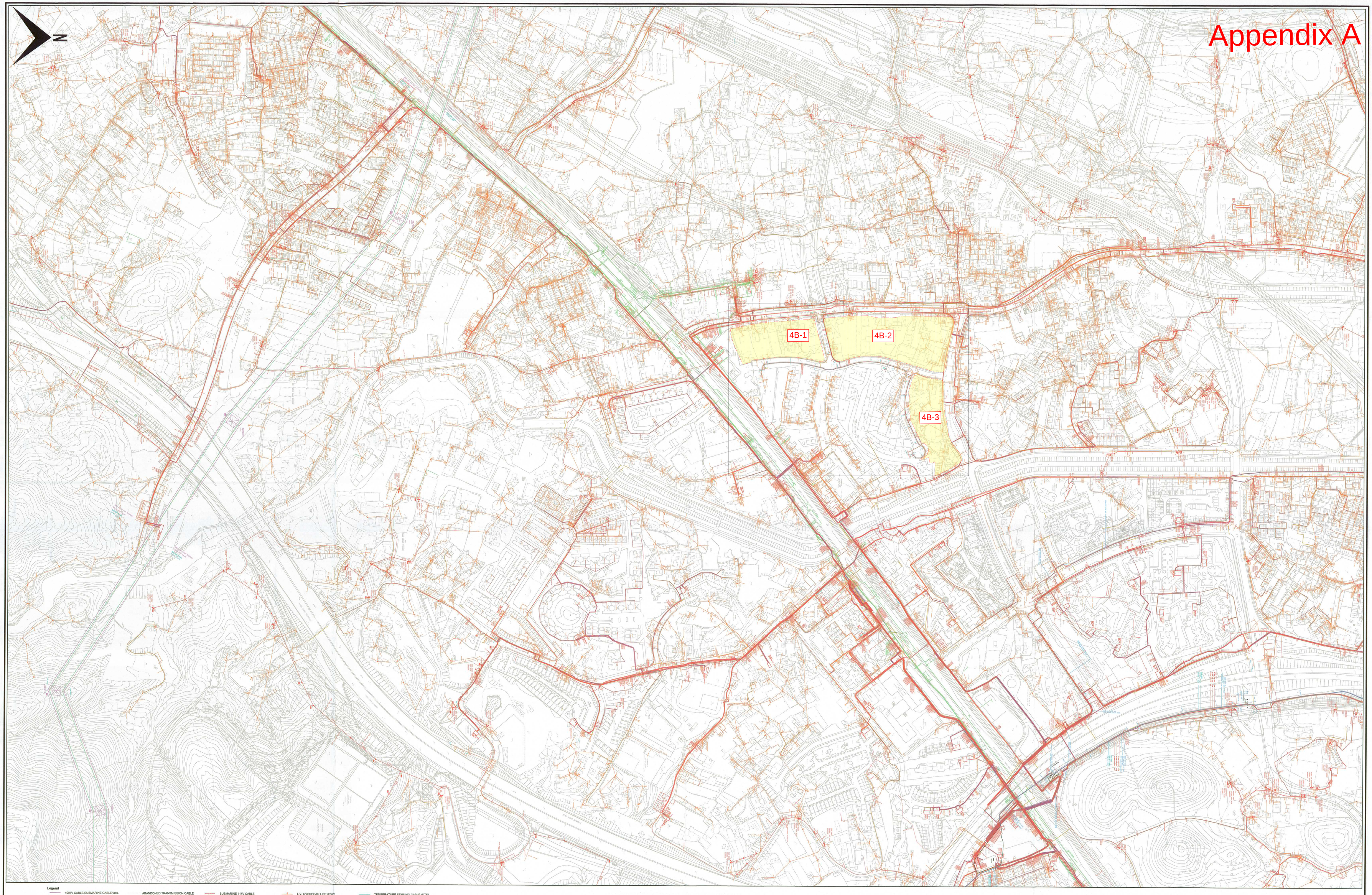
3. Conclusion

3.1.1 In conclusion, the UIA demonstrates that the Proposed Amendment can be supported by existing and planned infrastructure, provided that recommended mitigation and protection measures are implemented during construction and operation. Ongoing collaboration with utility providers and relevant authorities will be essential to resolve interfaces and ensure compliance with maintenance requirements. This approach will help safeguard the interests of both future residents and the general public and facilitate the implementation of the Proposed Amendment.

Appendix A

Existing Power Supply Network

Appendix A



Legend

- 400kV CABLE/SUBMARINE CABLE/OHL
- THROUGH DUCT 400kV CABLE
- AS BUILT 400kV CABLE
- 400kV OVERHEAD LINE TOWER
- 132kV CABLE/SUBMARINE CABLE/OHL
- THROUGH DUCT 132kV CABLE
- AS BUILT 132kV CABLE
- 132kV OVERHEAD LINE TOWER
- 132kV TERMINAL OHL POLE
- 132kV DOUBLE OHL POLE
- 132kV SINGLE OHL POLE
- ABANDONED TRANSMISSION CABLE
- 33kV CABLE
- THROUGH DUCT 33kV CABLE
- AS BUILT 33kV CABLE
- 33kV SUBMARINE CABLE
- 33kV OVERHEAD LINE
- 33kV STEEL POLE
- 33kV WOOD POLE
- 11kV CABLE
- THROUGH DUCT 11kV CABLE
- AS BUILT / ABANDONED 11kV CABLE
- SUBMARINE 11kV CABLE
- 11kV OVERHEAD LINE
- 11kV STEEL POLE
- 11kV WOOD POLE
- POLE MOUNT TRANSFORMER
- L.V. CABLE
- THROUGH DUCT L.V. CABLE
- AS BUILT / ABANDONED L.V. CABLE
- L.V. OVERHEAD LINE (1 PHASE)
- L.V. OVERHEAD LINE (3 PHASE)
- L.V. OVERHEAD LINE (ABC)
- L.V. OVERHEAD LINE (PVC)
- L.V. OVERHEAD LINE (Wet Mounted)
- L.V. STEEL POLE
- L.V. WOOD POLE
- L.V. PILLAR
- PILOT CABLE
- THROUGH DUCT PILOT CABLE
- AS BUILT / ABANDONED PILOT CABLE
- FIBRE OPTIC
- THROUGH DUCT FIBRE OPTIC
- AS BUILT FIBRE OPTIC
- TEMPERATURE SENSING CABLE (DTS)
- AERIAL EARTH WIRE (AEW)
- OVERHEAD LINE FIBRE OPTIC
- OVERHEAD LINE FIBRE OPTIC
- SHALLOW COVER INSTALLATION
- CLP 400/132/66kV SUBSTATION
- CLP 33kV SUBSTATION
- CLP 11kV SUBSTATION
- 400kV CABLE JOINT BAY
- 132kV CABLE JOINT BAY
- DUCT LINE

CLP 中電

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CLP Facility Records Map

06NW18C 06NW12A
06NW13A 06NW17C

Scale: (1:2000)
Printed On: 20-04-2023

Reference no. : N-2023-0592-003

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Appendix B

Existing Gas Network

Appendix B

煤氣 Towngas
香港中華煤氣有限公司
The Hong Kong and China Gas Company Limited

輸氣操作部

時間：14:52:42

比例：1 : 5000

圖例：

LPA 現有低壓A管道（20千帕以下）	HP 現有高壓管道
LPB 現有低壓B管道（20 - 75千帕）	調壓站
MP 現有中壓管道（75 - 700千帕）	沿海管道
IPA 現有次高壓A管道（400 - 700千帕）	管理閥的地面標誌/閥門箱蓋
IPB 現有次高壓B管道（400 - 700千帕）	閥門
HP 現有高壓管道（700千帕以上）	排氣杆
PE 設有防探管保護的聚乙烯管道	CP 陰極保護裝置
PE* 現有非開挖管道（聚乙烯管道）	鋼管管道
HP* 現有高壓管道（鋼管管道）	水平鑽探（非）
PE* 沒有防探管保護的聚乙烯管道	管道連接處

圖例顯示的管道位置只作參考之用。其實際位置和深度仍須以人手開挖探孔確定。在煤氣管道設施附近施工期間，必須要加倍小心。

檢查日期： Nov 18 2021

坐標 xy (818670,833077)

圖例上的地圖資料乃得到 地政總署 准許翻印。
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Appendix C

Telecommunication Cable Ducting

Appendix C1

4B-3

4B-2

4B-1

HKT	
OUTSIDE PLANT SERVICES	
EXCH. AREA : LFS,TSI,YLG	
SURVEY MAP No.	06NW07A,06NW07B,06NW07C,06NW07D,06NW08A 06NW08C,06NW12A,06NW12B,06NW12C,06NW12D 06NW13A,06NW13C,06NW17A,06NW17B,06NW18A
UU REF. No.	278463/02.DP/DL/PM/EH/PY/AW/PL/CC/0341
PREP. EMPC	SCALE 1:2000
CKD. Chan, Ethan Y C	DATE 20/10/2021
DWG. No.	HKT-20211020-00-11-R-HKT-05

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3. THE POSITION OF PLANT INDICATED ON THIS DRAWING IS APPROXIMATELY ONLY. ACTUAL DEPTH AND POSITION OF PLANT MUST BE ESTABLISHED BEFORE COMMENCEMENT OF ANY EXCAVATION WORKS. DURING EXCAVATION, HAND WAY DIGGING EXERCISE CARE MUST BE EXERCISED WHEN EXCAVATIONS ARE MADE IN PROXIMITY TO SUCH PLANT.
4. REACH NETWORKS HONG KONG LIMITED'S PLANT INCLUDED.

KEY OF PLANT	EXISTING	PROPOSED
MANHOLE		
JOINT BOX		
DUCT		
CABLE		
POLE		
CABINET		
BURIED COUPLING		

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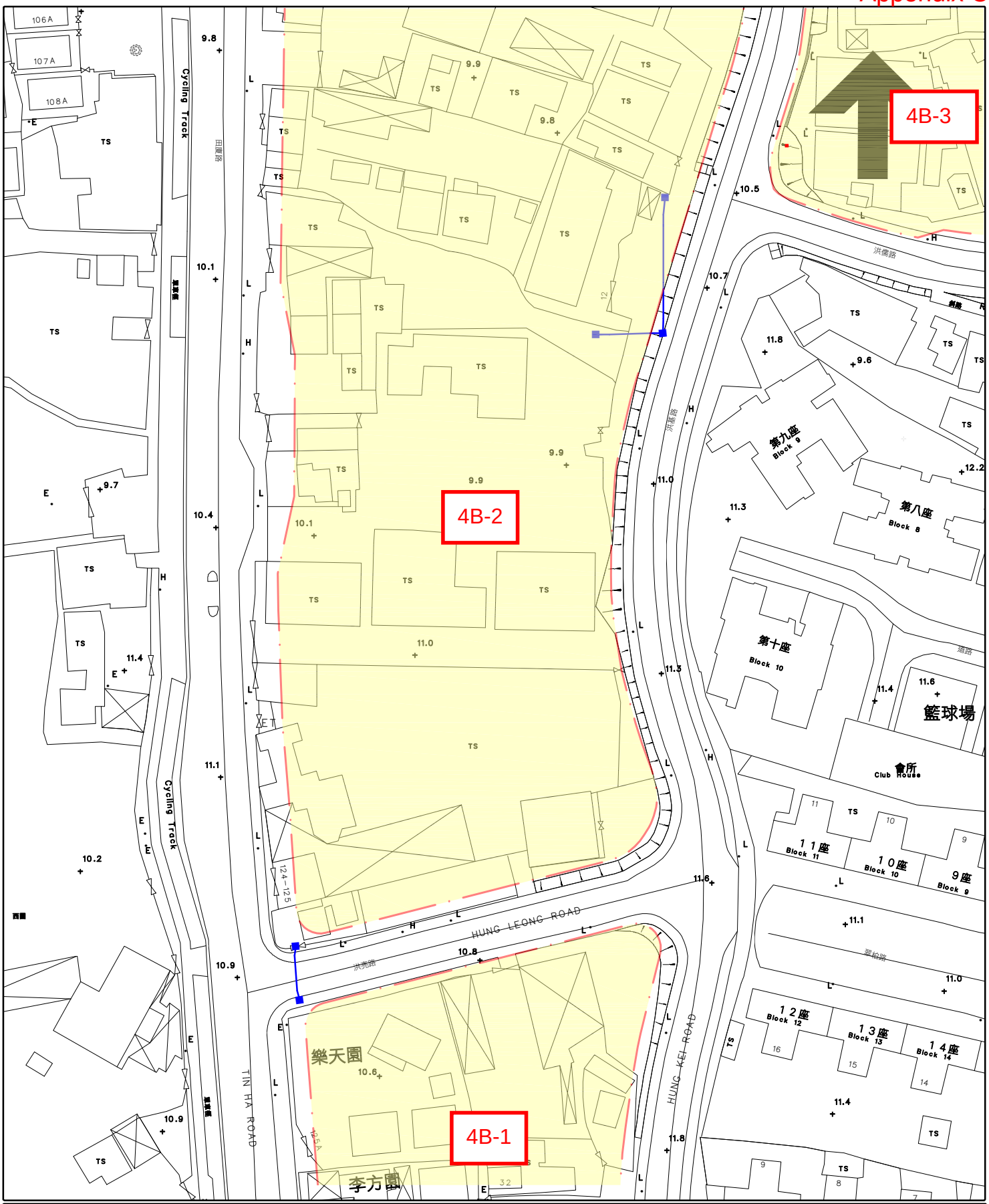
Appendix C2



HGC-NMP-20230928-0009

06NW12D1	DAISYCTY	SC Cheung
HGC-TMN-0001-07	2023-9-28	2023-9-28

Annex H Landscape and Tree Preservation Proposal

ARUP

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Landscape and Tree Preservation Proposal

Final | January 2026

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Appendix

Appendix A	Tree Assessment Schedule
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Table

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Table 4.2.1	Indicative Hard Landscape Materials Schedule
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Table 4.4.1	Summary of Local Open Space Provision
Table 4.4.2	Summary of Green Coverage

1. Introduction

1.1 Background

1.1.1 This report contains the Landscape and Tree Preservation Proposal which forms part of the Supporting Planning Statement for Proposed Amendment to the Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan (HSK/HT OZP) No. S/HSK/2, in support of the rezoning from "Residential (Group B)3" ("R(B)3") to "Residential (Group A)6" ("R(A)6") at Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories (the Development Sites).

1.1.2 The Landscape Proposal intends to demonstrate the overall landscape design of the Indicative Scheme at the Development Sites and provide other relevant information as required in the Planning Department's Practice Note for Professional Persons No. 1/2019. The LMP is attached in **Figure 1.5** to **Figure 1.5b**.

1.2 Land Use Zoning

1.2.1 The Development Sites are under "Residential (Group B) 3" ("R(B)3") zone of the Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 (the "OZP"). Please refer to **Figures 1.1** for the approved OZP.

2. Site Description

2.1 Existing Site Context

2.1.1 The Development Sites consist of Site 4B-1, Site 4B-2 and Site 4B-3. They belong to Remaining Phase of the development plan of the HSK/HT NDA. The Development Sites contribute to an area of about 33,767m^2, intersected by the Hung Shui Kiu Tin Sam Road and Tin Ha Road. The Development Sites are currently occupied by temporary structures for domestic and brownfield operation uses, with existing tree plantings observed along the site boundaries.

Diagram 1 Aerial Photo

Diagram 2 Existing Site Condition

3. Existing Trees

3.1 Key Findings

3.1.1 A total of 210 nos. of individually surveyed trees belonging to 32 species are recorded within the site boundary and summarized in the following table. The general health and form of the existing trees were average to poor condition. No OVT is identified within the survey area.

3.1.2 Tree Survey Plan showing the locations of exiting tree within the survey boundary is attached in **Figure 1.2 to Figure 1.2b**. Details of tree condition are included in the Tree Assessment Schedule in **Appendix A**. Photographic records are shown in **Appendix B**.

Table 3.1.1 Summary of Identified Surveyed Trees

Scientific name	Chinese name	Quantity
Albizia lebbeck	大葉合歡	1
Aleurites moluccanus	石栗	3
Alstonia scholaris	糖膠樹	39
Aporusa dioica	銀柴	1
Artocarpus heterophyllus	菠蘿蜜	3
Averrhoa carambola	楊桃	1
Bauhinia sp.	羊蹄甲屬	31
Bombax ceiba	木棉	21
Bridelia tomentosa	土蜜樹	6
Caryota mitis	魚尾葵	1
Celtis sinensis	朴樹	2
Cinnamomum camphora	樟樹	33
Clausena lansium	黃皮	2
Dimocarpus longan	龍眼	17
Ficus hispida	對葉榕	1
Ficus microcarpa	榕樹	4
Ficus religiosa	菩提樹	1
Ficus variegata	青果榕	3
Ficus virens	黃葛樹	2
Leucaena leucocephala	銀合歡	3
Litchi chinensis	荔枝	1
Litsea glutinosa	潺槁樹	2

Scientific name	Chinese name	Quantity
Litsea monopetala	假柿樹	1
Macaranga tanarius	血桐	10
Mangifera indica	杧果	2
Melia azedarach	苦楝	1
Michelia x alba	白蘭	4
Morus alba	桑樹	7
Plumeria rubra	雞蛋花	1
Psidium guajava	番石榴	4
Spathodea campanulata	火焰木	1
Sterculia nobilis	蘋婆	1
		210

3.2 Impacts of Existing Trees

3.2.1 All the existing trees are overlapping with the development layout, they are inevitably affected during the work stage. Given their low amenity value and poor form/structure, and low survival rate after transplanting, these trees will be proposed to be felled with compensation. As noted in the previously approved TPRP, the existing trees within the site are also considered to be of poor form and amenity value, and were similarly proposed for felling.

3.3 Preliminary Compensatory Tree Planting Proposal

3.3.1 To compensate the tree loss, total 210 newly trees will be compensated within the landscape areas at ground floor and podium gardens. Furthermore, based on the Indicative Scheme formulated for the purpose of technical assessment for this Proposed Amendment, opportunities to maximise planting have been explored, including additional 273 new trees (subject to change at detailed design stage). The proposed compensatory tree locations are indicated in the Compensatory Tree Planting Plan (**Figure 1.4**).

4. Landscape Design Proposal

4.1 Landscape Design Objectives

4.1.1 The design objectives for the proposed Indicative Landscape Master Plan are to:

- Provide a quality and sustainable environment with adequate landscape area for the enjoyment of the residents of the Proposed Amendment;
- Provide sufficient landscape treatment along the boundary to minimize the potential visual impact of the built form;
- Incorporate new trees and shrubs to enhance the greenery; and
- Fully integrate the landscape with the architecture where each exterior component draws upon the merits of the corresponding interior/ building component.

4.1.2 The ground floor landscape design establishes a vibrant and welcoming gateway plaza that serves as a key arrival point for residents and visitors. A signature dry fountain feature is positioned at the plaza to create a strong sense of arrival. Adjacent to the entrance plaza, a F&B deck is thoughtfully integrated to offer a comfortable resting spot where visitors can relax and enjoy refreshments from nearby retail outlets. Ornamental tree and shrub plantings are proposed along the Proposed Amendment to soften the built form and maximize the greenery.

4.1.3 The podium level landscape is designed as a multi-functional green oasis, offering both passive and active recreational spaces for building occupants. Key passive features include an open lawn, zen garden, pocket garden, and sun deck, each providing tranquil environments for relaxation, social interaction, and quiet contemplation. A meadow garden trail with pollinator-friendly plantings is introduced to attract insects and birds, offering both ecological value and outdoor learning opportunities.

4.1.4 For active engagement, the podium accommodates a range of facilities including a sports court, swimming pool, and children's play area, ensuring that users of all ages have access to leisure and wellness activities. The layout promotes inclusivity, health, and community interaction, while maintaining a cohesive green aesthetic that complements the overall architectural vision. Please refer to **Figure 1.5** to **Figure 1.5b** for the details of the landscape proposal.

4.2 Hardscape Design Proposal

Proposed materials

4.2.1 The materials and finishes for the exterior landscape spaces are specified to compliment the quality of the architectural finishes for the future users.

Table 4.2.1 Indicative Hard Landscape Materials Schedule

Material	Colour	Finish
Granite slab	Light earth tone with subtle colour variations or warm grey	Non-Slip Surface
Wood deck	Wood colour	Non-Slip Surface
EPDM safety surfacing	Vibrant Colour	Non-Slip Surface

Paving

4.2.2 The focus of the landscape area is to provide a high quality and inviting 'face' to the development through incorporation of quality natural/ artificial stone paving.

- Natural granite/ artificial granite with R12 slip resistance to ensure safety for driveways and access ramps;
- Natural granite/ artificial granite slabs for feature paving at the entrances;
- Natural stone/ artificial stone for pedestrian footpaths;
- Natural stone/ artificial stone and homogenous tiles for water feature;
- Water and insect resistant non-slip wood for decking
- EPDM safety surfacing for outdoor children's play areas and gym areas

Site Furniture

4.2.3 Site furniture will include benches, litter bins and movable planters.

4.3 Softscape Design Proposal

4.3.1 To enhance the landscape features and the local biodiversity of existing environment, 8 native species and 4 exotic species are proposed throughout the site. A summary of plant materials (categories of planting, species list and size) is provided in Table 4.3.1 below. The proposed planting plan is shown in **Figure 1.4**.

Table 4.3.1 Proposed Tree Planting

Botanical Name	Symbol	Chinese Name	Origin	Specification (1)	Quantity
Camphora officinarum	Cam. off.	樟樹	Native	Heavy Standard Tree	73
Bridelia tomentosa	Bri. tom.	土蜜樹	Native	Standard Tree	15
Celtis sinensis	Cel. sin.	朴樹	Native	Standard Tree	16
Ilex rotunda var. microcarpa	Ile. rot.	小果鐵冬青	Native	Standard Tree	48
Cleistocalyx nervosum	Cle. ner.	水翁	Native	Standard Tree	25
Cinnamomum burmannii	Cin. bur.	陰香	Native	Heavy Standard Tree	39
Bauhinia variegata L.	Bau. var.	宮粉羊蹄甲	Native	Standard Tree	46
Terminalia mantaly	Ter. man.	細葉欖仁	Exotic	Standard Tree	49
Melaleuca bracteata	Mel. bra.	黃金串錢柳	Exotic	Light Standard Tree	44
Sapium sebiferum	Sap. seb.	烏桕	Native	Light Standard Tree	53
Magnolia grandiflora	Mag. gra.	荷花玉蘭	Exotic	Light Standard Tree	38
Plumeria rubra	Plu. rub.	紅雞蛋花	Exotic	Light Standard Tree	37
					483

Specification:
Light Standard Tree shall be in accordance with CEDD General Specification clause 3.13.
Standard Tree shall be in accordance with CEDD General Specification clause 3.14.
Heavy Standard Tree shall be in accordance with CEDD General Specification clause 3.13.
Conifers shall be in accordance with CEDD General Specification clause 3.19 and have a root ball at lease 750mm in diameter and 400mm deep.

Table 4.3.2 Proposed Shrub and Groundcover Plantings

Botanical Name	Chinese Name	Origin	Size (Height x Spread) (mm)	Spacing (mm)
Shrub				
Camellia sinensis	茶花	Native	400 x 300	300
Ardisia crenata	朱砂根	Native	400 x 300	300
Gardenia jasminoides	梔子	Native	300 x 250	250
Ixora chinensis	龍船花	Native	300 x 250	250
Groundcover				
Asparagus densiflorus cv. Sprengeri	非洲天門冬	Exotic	250 x 200	200
Nephrolepis exaltata var. bostoniensis	波士頓蕨	Exotic	250 x 200	200
Lawn				
Axonopus affonis	大葉油草	Exotic	N/A	N/A

Minimum Soil Depth for Planting

4.3.2 According to the General Specification for Building 2012 Edition – Section 25, the proposed soil depths shall make reference to the following requirements:

Table 4.3.3 Minimum Soil Depth for Planting

Plant Category	Minimum Soil Depth
Trees	1,200mm
Small palms and shrubs	600mm
Ground covers/ turf and climbers	300mm

4.4 Provision of Local Open Space and Green Coverage

4.4.1 In accordance with Hong Kong Planning Standard and Guidelines (HKPSG), the standards of provision of open space set out in Section 1.8.4 of HKPSG Chapter 4. In public housing developments and comprehensive residential, developments, the standard of provision for Local Open Space is 1m² per person throughout the Territory. The provision of local open space is summarized as follows:

Table 4.4.1 Summary of Local Open Space Provision

	Area
Proposed Population	8,289
Local Open Space Provision	Not less than 8,289sqm

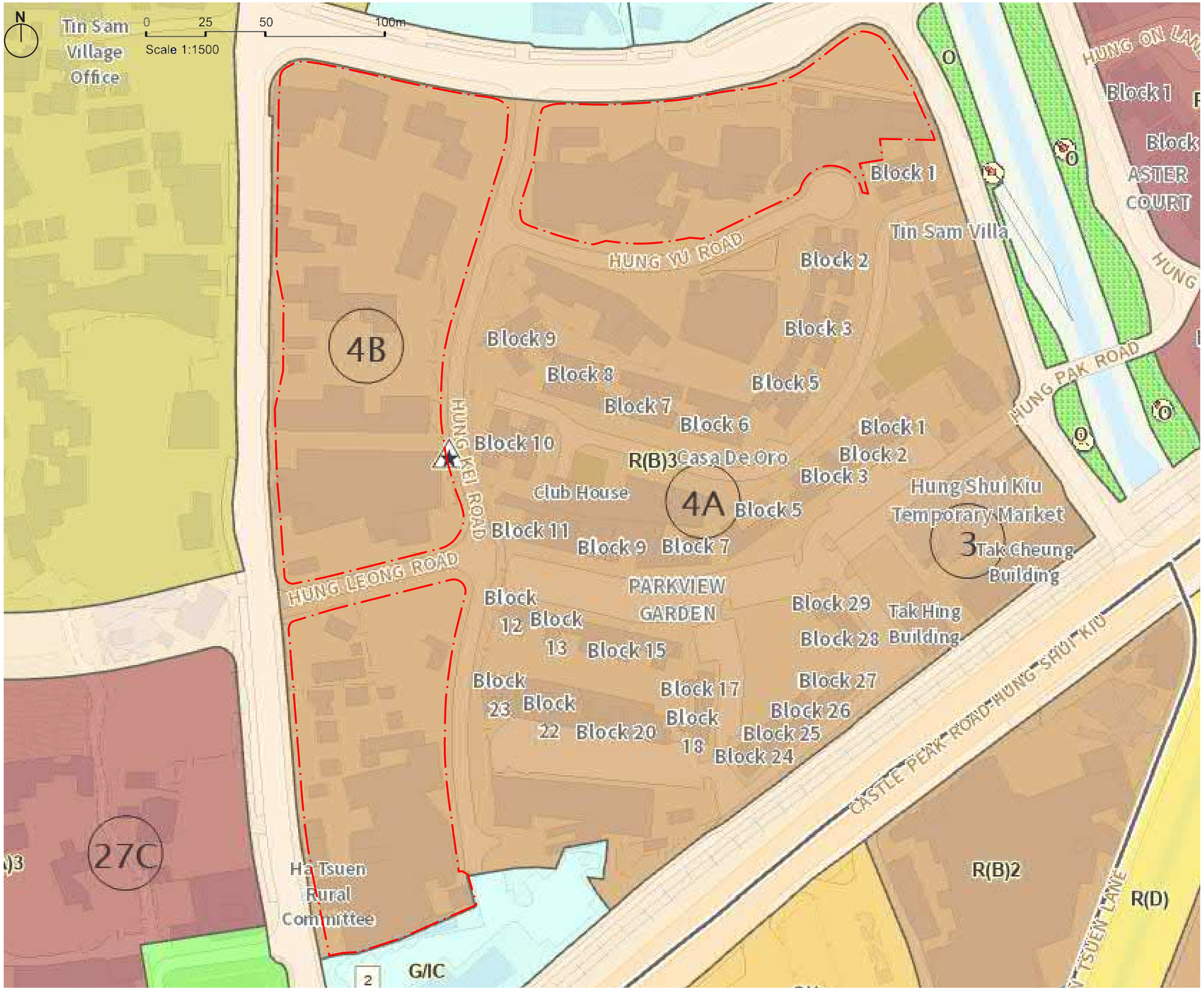
4.4.2 According to PNAP APP-152, for a site above 20,000sqm in area, the total greenery area should be 30% or more. The green coverage in terms of total planting areas are summarized as follows:

Table 4.4.2 Summary of Green Coverage

	Area
Total Development Site Area	33,767sqm
Overall Greenery	Not less than 10,130.1sqm (30% of the total site area)

4.4.3 As shown above, not less than 8,289sqm local open space is provided in the Proposed Amendment, which has met the relevant guidelines on local open space provision. In addition, the Proposed Amendment has provided not less than 30% greenery area, which has beyond the minimum requirements on green coverage. Please refer to **Figure 1.6 and Figure 1.7** for the Local Open Space Provision and Calculation of Green Coverage.

Figures



LEGEND

DEVELOPMENT SITE BOUNDARY		
	G/IC	Government, Institution or Community
	O	Open Space
	OU	Other Specified Uses
	R(A)	Residential (Group A)
	R(B)	Residential (Group B)
	V	Village Type Development

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Outline Zoning Plan

Drawing no.			Rev.
FIG 1.1			
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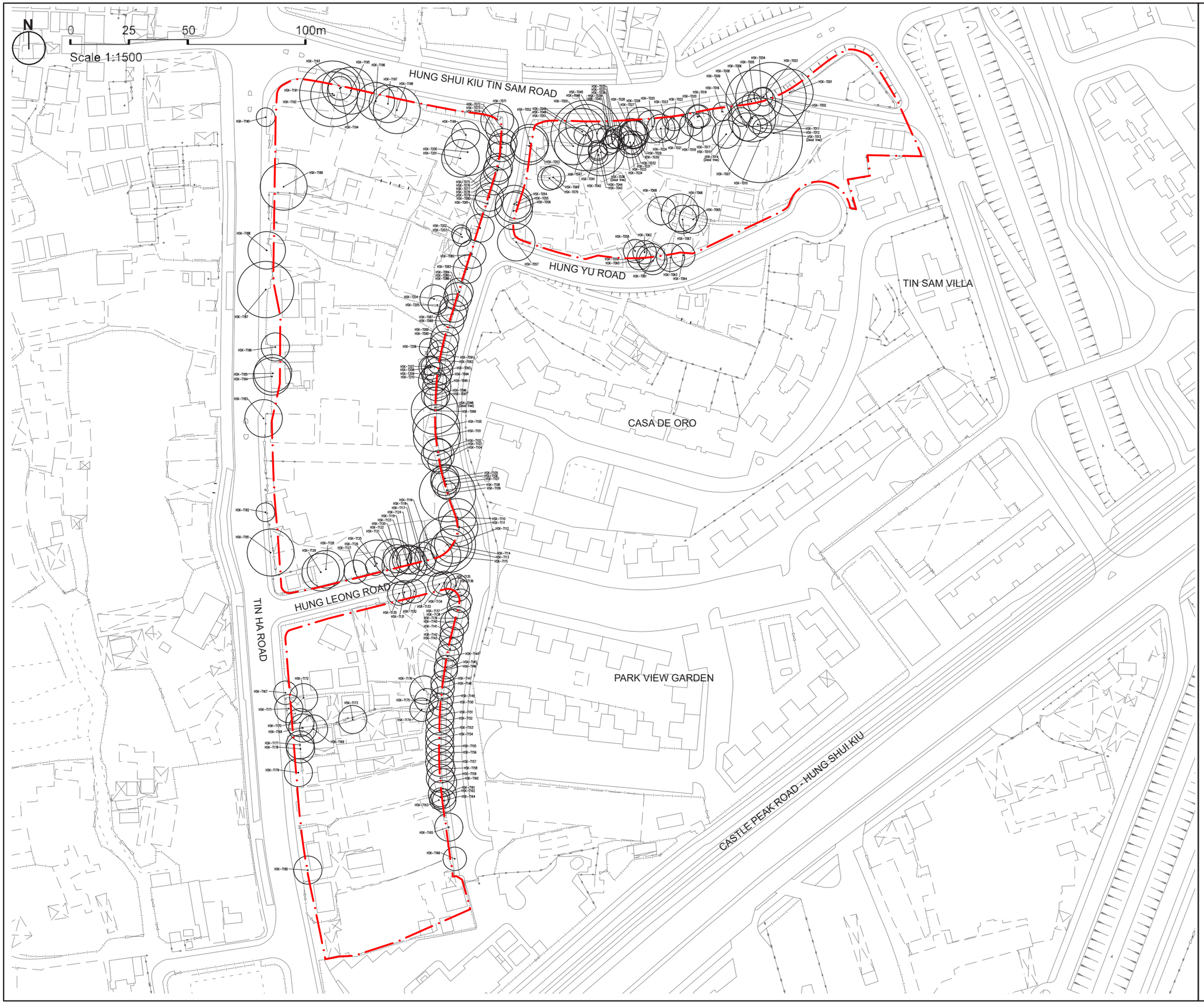

LEGEND

- DEVELOPMENT SITE BOUNDARY
- EXISTING TREE

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

TREE SURVEY PLAN - OVERALL

Drawing no.			Rev.
FIG 1.2			
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Scale: 1:1500@A3		Status	

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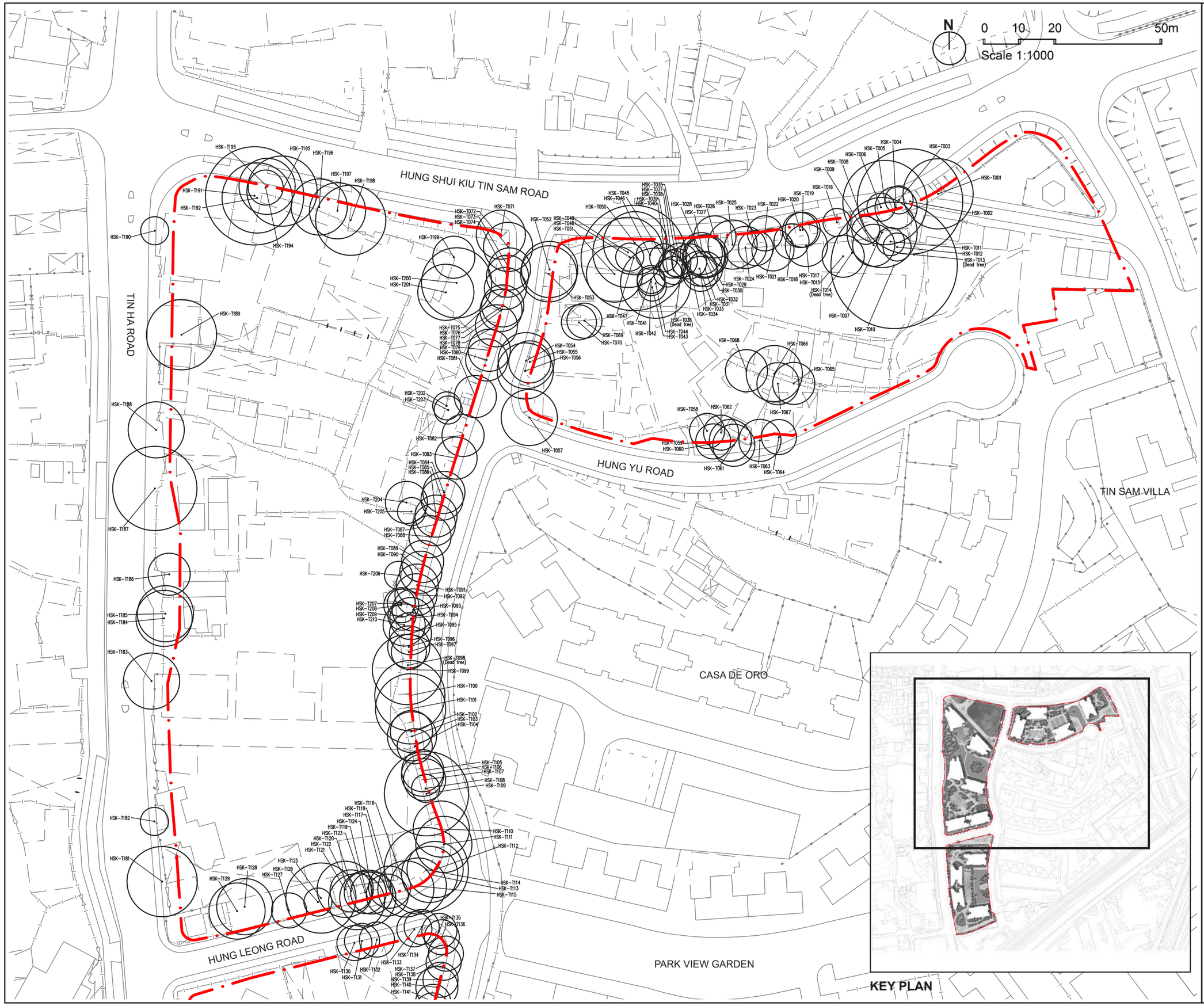

LEGEND

- DEVELOPMENT SITE BOUNDARY
- EXISTING TREE

KEY PLAN

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

TREE SURVEY PLAN - SHEET 1 OF 2

Drawing no.		Rev.
FIG 1.2a		
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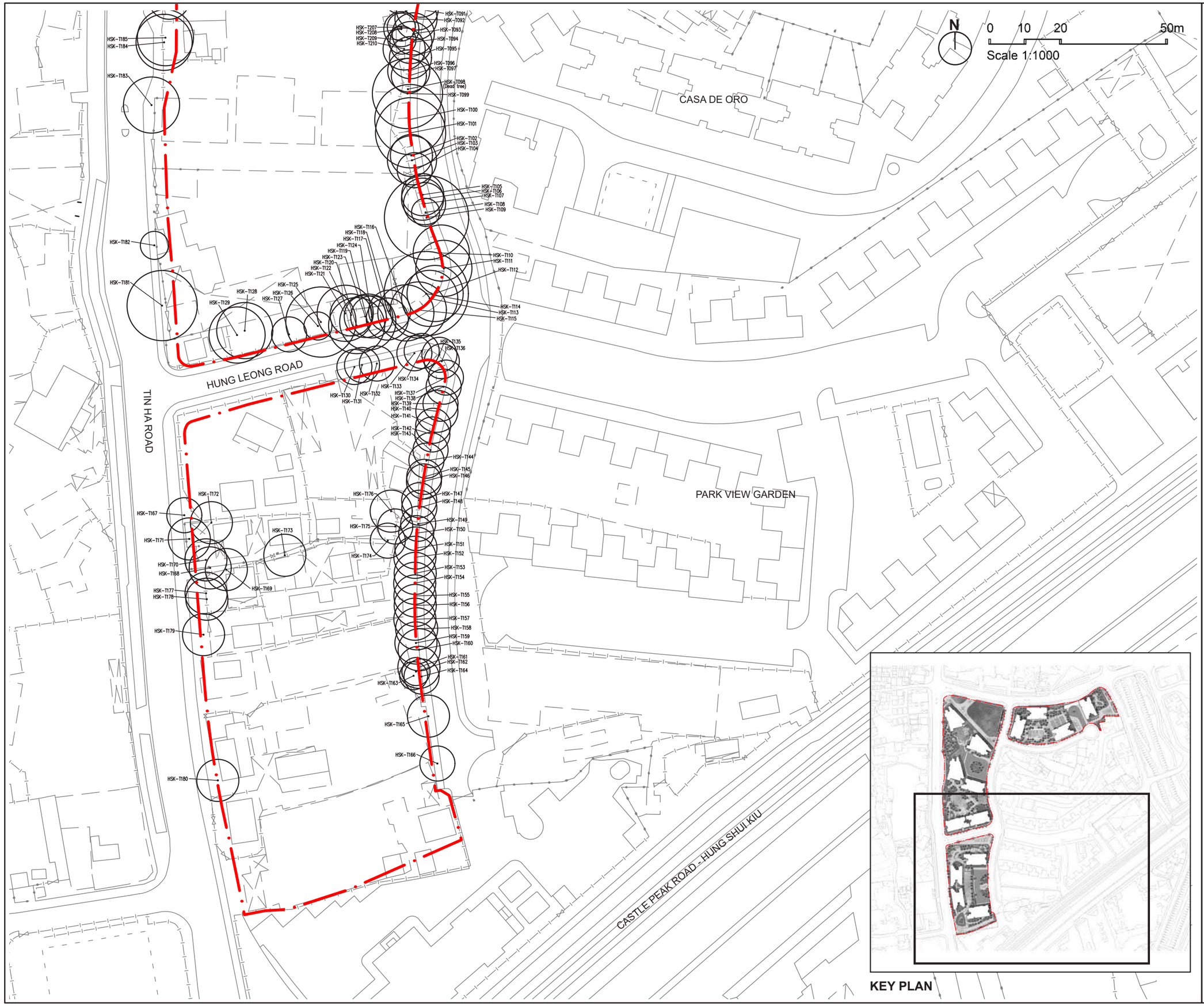

LEGEND

- DEVELOPMENT SITE BOUNDARY
- EXISTING TREE

KEY PLAN

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

TREE SURVEY PLAN - SHEET 2 OF 2

Drawing no.			Rev.
FIG 1.2b			
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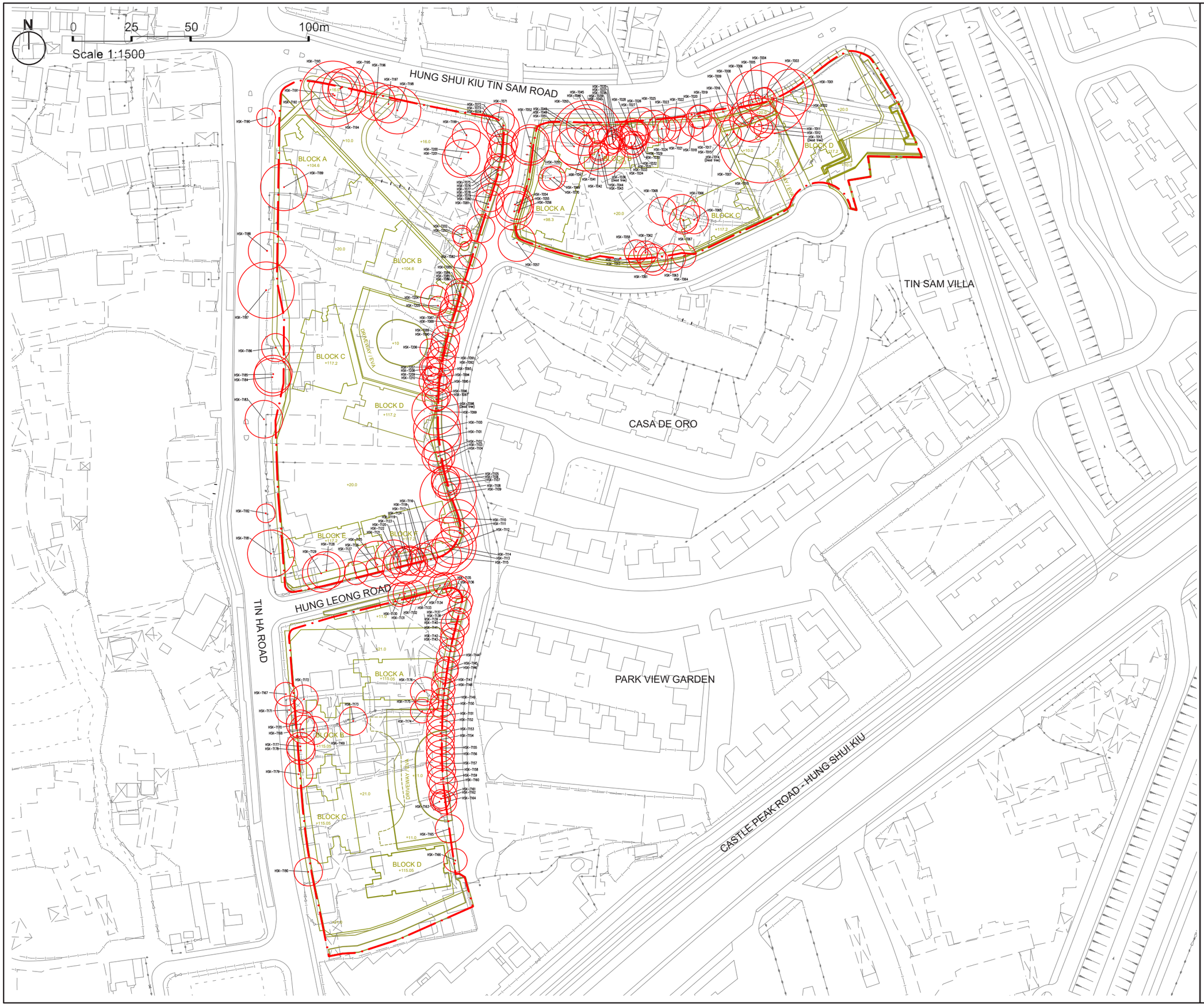

LEGEND

- DEVELOPMENT SITE BOUNDARY
- PROPOSED DEVELOPMENT LAYOUT
- TREE TO BE FELLED

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

TREE RECOMMENDATION PLAN - OVERALL

Drawing no.			Rev.
FIG 1.3			
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Scale: 1:1500@A3		Status	

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N

0 10 20 50m

Scale 1:1000

HUNG SHUI KIU TIN SAM ROAD

HUNG YU ROAD

TIN HA ROAD

TIN SAM VILLA

CASA DE ORO

PARK VIEW GARDEN

BLOCK A +104.6

BLOCK B +104.6

BLOCK C +117.2

BLOCK D +117.2

BLOCK E +117.2

BLOCK F +117.2

BLOCK A +98.3

BLOCK B +98.3

DRIVEWAY / EVA

HSK-T001 HSK-T002 HSK-T003 HSK-T004 HSK-T005 HSK-T006 HSK-T007 HSK-T008 HSK-T009 HSK-T010 HSK-T011 HSK-T012 HSK-T013 (Dead tree) HSK-T014 (Dead tree) HSK-T015 HSK-T016 HSK-T017 HSK-T018 HSK-T019 HSK-T020 HSK-T021 HSK-T022 HSK-T023 HSK-T024 HSK-T025 HSK-T026 HSK-T027 HSK-T028 HSK-T029 HSK-T030 HSK-T031 HSK-T032 HSK-T033 HSK-T034 HSK-T035 HSK-T036 HSK-T037 HSK-T038 (Dead tree) HSK-T039 HSK-T040 HSK-T041 HSK-T042 HSK-T043 HSK-T044 HSK-T045 HSK-T046 HSK-T047 HSK-T048 HSK-T049 HSK-T050 HSK-T051 HSK-T052 HSK-T053 HSK-T054 HSK-T055 HSK-T056 HSK-T057 HSK-T058 HSK-T059 HSK-T060 HSK-T061 HSK-T062 HSK-T063 HSK-T064 HSK-T065 HSK-T066 HSK-T067 HSK-T068 HSK-T069 HSK-T070 HSK-T071 HSK-T072 HSK-T073 HSK-T074 HSK-T075 HSK-T076 HSK-T077 HSK-T078 HSK-T079 HSK-T080 HSK-T081 HSK-T082 HSK-T083 HSK-T084 HSK-T085 HSK-T086 HSK-T087 HSK-T088 HSK-T089 HSK-T090 HSK-T091 HSK-T092 HSK-T093 HSK-T094 HSK-T095 HSK-T096 HSK-T097 HSK-T098 (Dead tree) HSK-T099 HSK-T100 HSK-T101 HSK-T102 HSK-T103 HSK-T104 HSK-T105 HSK-T106 HSK-T107 HSK-T108 HSK-T109 HSK-T110 HSK-T111 HSK-T112 HSK-T113 HSK-T114 HSK-T115 HSK-T116 HSK-T117 HSK-T118 HSK-T119 HSK-T120 HSK-T121 HSK-T122 HSK-T123 HSK-T124 HSK-T125 HSK-T126 HSK-T127 HSK-T128 HSK-T129 HSK-T130 HSK-T131 HSK-T132 HSK-T133 HSK-T134 HSK-T135 HSK-T136 HSK-T137 HSK-T138 HSK-T139 HSK-T140 HSK-T141 HSK-T188 HSK-T189 HSK-T190 HSK-T191 HSK-T192 HSK-T193 HSK-T194 HSK-T195 HSK-T196 HSK-T197 HSK-T198 HSK-T199 HSK-T200 HSK-T201 HSK-T202 HSK-T203 HSK-T204 HSK-T205 HSK-T206 HSK-T207 HSK-T208 HSK-T209 HSK-T210 HSK-T181 HSK-T182 HSK-T183 HSK-T184 HSK-T185 HSK-T186 HSK-T187

+16.0 +10.0 +20.0 +10 +11.0

LEGEND

- DEVELOPMENT SITE BOUNDARY
- PROPOSED DEVELOPMENT LAYOUT
- TREE TO BE FELLED

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

TREE RECOMMENDATION PLAN - SHEET 1 OF 2

Drawing no.			Rev.
FIG 1.3a			
Drawn: AC	Date: JAN 2026	Checked: RH	Approved: CY
Scale: 1:1000@A3		Status	

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KEY PLAN

N

0 10 20 50m

Scale 1:1000

LEGEND

- DEVELOPMENT SITE BOUNDARY
- PROPOSED DEVELOPMENT LAYOUT
- TREE TO BE FELLED

BLOCK C +117.2

BLOCK D +117.2

BLOCK E +117.2

BLOCK F +117.2

BLOCK A +115.05

BLOCK B +115.05

BLOCK C +115.05

BLOCK D +115.05

+20.0

+11.0

+21.0

+1.0

CASA DE ORO

PARK VIEW GARDEN

HUNG LEONG ROAD

TIN HA ROAD

DRIVEWAY / LVA

CASTLE PEAK ROAD - HUNG SHUI KIU

HSK-T091 HSK-T092 HSK-T093 HSK-T094 HSK-T095 HSK-T096 HSK-T097 HSK-T098 (Dead tree) HSK-T099 HSK-T100 HSK-T101 HSK-T102 HSK-T103 HSK-T104 HSK-T105 HSK-T106 HSK-T107 HSK-T108 HSK-T109 HSK-T110 HSK-T111 HSK-T112 HSK-T113 HSK-T114 HSK-T115 HSK-T116 HSK-T117 HSK-T118 HSK-T119 HSK-T120 HSK-T121 HSK-T122 HSK-T123 HSK-T124 HSK-T125 HSK-T126 HSK-T127 HSK-T128 HSK-T129 HSK-T130 HSK-T131 HSK-T132 HSK-T133 HSK-T134 HSK-T135 HSK-T136 HSK-T137 HSK-T138 HSK-T139 HSK-T140 HSK-T141 HSK-T142 HSK-T143 HSK-T144 HSK-T145 HSK-T146 HSK-T147 HSK-T148 HSK-T149 HSK-T150 HSK-T151 HSK-T152 HSK-T153 HSK-T154 HSK-T155 HSK-T156 HSK-T157 HSK-T158 HSK-T159 HSK-T160 HSK-T161 HSK-T162 HSK-T163 HSK-T164 HSK-T165 HSK-T166 HSK-T167 HSK-T168 HSK-T169 HSK-T170 HSK-T171 HSK-T172 HSK-T173 HSK-T174 HSK-T175 HSK-T176 HSK-T177 HSK-T178 HSK-T179 HSK-T180 HSK-T181 HSK-T182 HSK-T183 HSK-T184 HSK-T185 HSK-T207 HSK-T208 HSK-T209 HSK-T210

KEY PLAN

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

TREE RECOMMENDATION PLAN - SHEET 2 OF 2

Drawing no.		Rev.
FIG 1.3b		
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Abbreviated Name	Botanical Name	Origin	Chinese Name	Size	Quantity
Cam. off.	Camphora officinarum	Native	樟樹	Heavy Standard Tree	73
Bri. tom.	Bridelia tomentosa	Native	土蜜樹	Standard Tree	15
Cel. sin.	Celtis sinensis	Native	朴樹	Standard Tree	16
Ile. rot.	Ilex rotunda var. microcarpa	Native	小果鐵冬青	Standard Tree	48
Cle. ner.	Cleistocalyx nervosum	Native	水翁	Standard Tree	25
Cin. bur.	Cinnamomum burmannii	Native	陰香	Heavy Standard Tree	39
Bau. var.	Bauhinia variegata L.	Native	宮粉羊蹄甲	Standard Tree	46
Ter. man.	Terminalia mantaly	Exotic	細葉欖仁	Standard Tree	49
Mel. bra.	Melaleuca bracteata	Exotic	黃金串錢柳	Light Standard Tree	44
Sap. seb.	Sapium sebiferum	Native	烏桕	Light Standard Tree	53
Mag. gra.	Magnolia grandiflora	Exotic	荷花玉蘭	Light Standard Tree	38
Plu. rub.	Plumeria rubra	Exotic	紅雞蛋花	Light Standard Tree	37
				Total	**483**

LEGEND

DEVELOPMENT SITE BOUNDARY

NEW PLANTING TREES

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

COMPENSATORY TREE PLANTING PLAN

Drawing no.			Rev.
FIG 1.4			
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LEGEND

- DEVELOPMENT SITE BOUNDARY
- BUILDING ENTRANCE
- VEHICULAR ENTRANCE

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

LANDSCAPE MASTER PLAN - OVERALL

Drawing no.			Rev.
FIG 1.5			
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Scale: 1:1500@A3		Status	

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LEGEND

- DEVELOPMENT SITE BOUNDARY
- BUILDING ENTRANCE
- VEHICULAR ENTRANCE
- (1) GATEWAY PLAZA
- (2) SWIMMING POOL
- (3) F&B DECK
- (4) POCKET GARDEN
- (5) MEADOW GARDEN TRAIL
- (6) WATER FEATURE
- (7) OPEN LAWN AREA
- (8) KID'S PLAY AREA
- (9) SUN DECK
- (10) SPORT COURT
- (11) GREEN ROOF

KEY PLAN

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

LANDSCAPE MASTER PLAN - SHEET 1 OF 2

Drawing no.			Rev.
FIG 1.5a			
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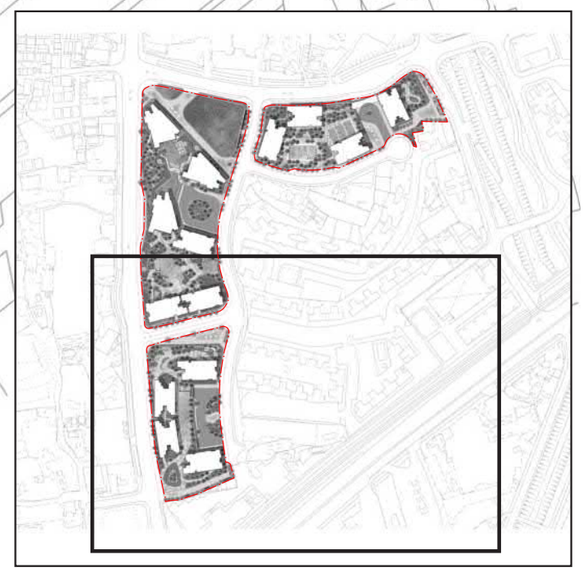
LEGEND

- DEVELOPMENT SITE BOUNDARY
- BUILDING ENTRANCE
- VEHICULAR ENTRANCE
- ① GATEWAY PLAZA
- ② SWIMMING POOL
- ③ F&B DECK
- ④ POCKET GARDEN
- ⑤ WATER FEATURE
- ⑥ COMMUNITY GARDEN
- ⑦ ZEN GARDEN



KEY PLAN

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

LANDSCAPE MASTER PLAN - SHEET 2 OF 2

Drawing no.			Rev.
FIG 1.5b			
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Scale: 1:1000@A3		Status	

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LEGEND

- DEVELOPMENT SITE BOUNDARY
- LOCAL OPEN SPACE PROVISION (TOTAL NOT LESS THAN 8,289 sqm)

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

LOCAL OPEN SPACE PROVISION

Drawing no.			Rev.
FIG 1.6			
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LEGEND

- DEVELOPMENT SITE BOUNDARY
- GREENERY AREA (TOTAL NOT LESS THAN 10,130.1 sqm (30%))

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

CALCULATION OF GREEN COVERAGE

Drawing no.			Rev.
FIG 1.7			
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Appendix A

Tree Assessment Schedule

Tree Assessment Schedule

Survey by Chan To (Registered Arborist TM428717)

TREE NO.	SCIENTIFIC NAME	CHINESE NAME	TRUNK DIA.(MM)	HEIGHT (M)	SPREAD (M)	AMENITY VALUE (High / Medium / Low)	FORM (Good/ Average/ Poor)	HEALTH (Good/ Average/ Poor)	STRUCTURAL CONDITION (Good/ Average/ Poor)	SUITABILITY FOR TRANSPLANTING (High / Medium / Low)	REMARKS [1]	CONSERVATION STATUS (OVT / potentially registerable / Rare or Precious Species / Nil)	RECOMMENDATION (RETAIN/ TRANSPLANT/ FELL)	JUSTIFICATION [2]	DEPARTMENT TO PROVIDE EXPERT ADVICE TO LANDsD	ADDITIONAL REMARKS
HSK-T001	*Bombax ceiba*	木棉	350	12	10	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, included bark, climbers
HSK-T002	*Bombax ceiba*	木棉	430	20	15	Medium	Average	Average	Average	Low	d,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, leaning, heavy loads
HSK-T003	*Bauhinia sp.*	羊蹄甲屬	220	5	4	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, multi-trunks, epicormics
HSK-T004	*Ficus microcarpa*	榕樹	380	9	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, climbers
HSK-T005	*Bombax ceiba*	木棉	450	20	12	Medium	Average	Average	Average	Low	d,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, heavy loads
HSK-T006	*Michelia x alba*	白蘭	120	5	4	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, imbalanced crown, low live crown ratio
HSK-T007	*Artocarpus heterophyllus*	菠蘿蜜	320	12	10	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, crossed branches, climbers, exposed dead wood, wound, dead branch
HSK-T008	*Morus alba*	桑樹	120	6	4	Low	Poor	Average	Poor	Low	a,c,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, leaning, crack
HSK-T009	*Bauhinia sp.*	羊蹄甲屬	300	8	6	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, multi-trunks, uprooted, conflict with fencing
HSK-T010	*Ficus virens*	黃葛樹	350	20	18	Medium	Poor	Average	Average	Low	d,f	Nil	FELL	A, D, E	LandsD/ Tree Unit	Grow on abandoned house, multi-trunks, heavy loads, climbers
HSK-T011	*Bauhinia sp.*	羊蹄甲屬	110	4	6	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, uprooted, crooked trunk
HSK-T012	*Bauhinia sp.*	羊蹄甲屬	150	8	6	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, multi-trunks, broken branch, crooked trunk, wound
HSK-T013	*Morus alba*	桑樹	230	7	4	Low	Poor	Poor	Average	Low	a,c,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, dieback, climbers
HSK-T014	*Macaranga tanarius*	血桐	150	7	4	Low	Poor	Average	Poor	Low	a,c,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, multi-trunks, exposed dead wood, dead branch, climbers
HSK-T015	*Caryota mitis*	魚尾葵	150	7	4	Medium	Poor	Average	Average	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, multi-trunks
HSK-T016	*Leucaena leucocephala*	銀合歡	160	4	6	Low	Poor	Average	Poor	Low	a,c,f,g,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, leaning
HSK-T017	*Bauhinia sp.*	羊蹄甲屬	150	8	6	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, codominant trunks, included bark, uprooted
HSK-T018	*Bauhinia sp.*	羊蹄甲屬	160	7	5	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, multi-trunks, climbers, crossed branches, conflict with fencing
HSK-T019	*Bauhinia sp.*	羊蹄甲屬	160	7	5	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, climbers, broken trunk, leaning
HSK-T020	*Bauhinia sp.*	羊蹄甲屬	160	7	5	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, climbers, broken trunk, leaning
HSK-T021	*Bauhinia sp.*	羊蹄甲屬	200	8	6	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, collapsed
HSK-T022	*Ficus hispida*	對葉榕	150	7	5	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, imbalanced crown, climbers
HSK-T023	*Bauhinia sp.*	羊蹄甲屬	150	7	5	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, leaning, conflict with fencing
HSK-T024	*Dimocarpus longan*	龍眼	250	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, climbers
HSK-T025	*Bauhinia sp.*	羊蹄甲屬	320	9	7	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, leaning, cracks
HSK-T026	*Bauhinia sp.*	羊蹄甲屬	300	8	6	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, climbers, leaning, cracks
HSK-T027	*Bauhinia sp.*	羊蹄甲屬	160	8	6	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, leaning, epicormics
HSK-T028	*Bauhinia sp.*	羊蹄甲屬	160	8	6	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, multi-trunks, epicormics
HSK-T029	*Bauhinia sp.*	羊蹄甲屬	160	8	6	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, multi-trunks
HSK-T030	*Bauhinia sp.*	羊蹄甲屬	160	8	6	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, leaning
HSK-T031	*Bauhinia sp.*	羊蹄甲屬	160	7	5	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, leaning, low live crown ratio
HSK-T032	*Bauhinia sp.*	羊蹄甲屬	160	7	5	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, imbalanced crown, low live crown ratio
HSK-T033	*Bauhinia sp.*	羊蹄甲屬	160	7	5	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, multi-trunks, exposed dead wood, broken branch
HSK-T034	*Bauhinia sp.*	羊蹄甲屬	160	7	5	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, multi-trunks, epicormics, broken branch
HSK-T035	*Bauhinia sp.*	羊蹄甲屬	160	7	5	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, multi-trunks, leaning, imbalanced crown
HSK-T036	*Bauhinia sp.*	羊蹄甲屬	150	4	3	Low	Poor	Poor	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, dying tree, cracks on trunk base, uprooted
HSK-T037	*Bauhinia sp.*	羊蹄甲屬	140	6	4	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, leaning
HSK-T038	*Bauhinia sp.*	羊蹄甲屬	140	6	4	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, crooked trunk
HSK-T039	*Bauhinia sp.*	羊蹄甲屬	140	6	4	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, broken branch
HSK-T040	*Bauhinia sp.*	羊蹄甲屬	140	6	4	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, codominant trunks
HSK-T041	*Bauhinia sp.*	羊蹄甲屬	140	6	4	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, leaning, twisting wound, climbers
HSK-T042	*Bauhinia sp.*	羊蹄甲屬	140	6	4	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, leaning, conflict with building
HSK-T043	*Bauhinia sp.*	羊蹄甲屬	140	6	4	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, cracks, multi-trunks
HSK-T044	*Bombax ceiba*	木棉	550	18	10	Medium	Average	Average	Average	Low	d,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, heavy loads
HSK-T045	*Bauhinia sp.*	羊蹄甲屬	140	6	4	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, multi-trunks, leaning
HSK-T046	*Macaranga tanarius*	血桐	110	6	4	Low	Poor	Average	Poor	Low	a,c,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, leaning, low live crown ratio
HSK-T047	*Aleurites moluccanus*	石栗	600	20	15	Medium	Average	Average	Poor	Low	d,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, imbalanced crown, heavy loads, codominant branches, iron bar embedded on trunk base
HSK-T048	*Bauhinia sp.*	羊蹄甲屬	110	6	4	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, leaning
HSK-T049	*Aleurites moluccanus*	石栗	540	18	10	Medium	Poor	Average	Poor	Low	d,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, imbalanced crown, heavy loads, cracks on trunk base
HSK-T050	*Aleurites moluccanus*	石栗	350	14	9	Medium	Average	Average	Average	Low	d,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, imbalanced crown, heavy loads
HSK-T051	*Ficus variegata*	青果榕	420	14	8	Medium	Poor	Average	Average	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, restricted roots on building, topped branches
HSK-T052	*Alstonia scholaris*	糖膠樹	380	14	8	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, crossed trunks
HSK-T053	*Alstonia scholaris*	糖膠樹	380	14	8	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T054	*Alstonia scholaris*	糖膠樹	380	14	8	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T055	*Dimocarpus longan*	龍眼	140	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T056	*Alstonia scholaris*	糖膠樹	380	14	8	Medium	Poor	Average	Average	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, crossed trunks
HSK-T057	*Alstonia scholaris*	糖膠樹	380	14	8	Medium	Poor	Average	Average	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, codominant trunks
HSK-T058	*Artocarpus heterophyllus*	菠蘿蜜	150	7	5	Medium	Poor	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, low live crown ratio
HSK-T059	*Dimocarpus longan*	龍眼	140	7	5	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, poor taper
HSK-T060	*Dimocarpus longan*	龍眼	320	9	6	Medium	Poor	Average	Average	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, pollarded
HSK-T061	*Psidium guajava*	番石榴	280	8	6	Medium	Poor	Poor	Average	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, leaning, dieback
HSK-T062	*Dimocarpus longan*	龍眼	240	7	5	Medium	Poor	Average	Average	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, pollarded
HSK-T063	*Dimocarpus longan*	龍眼	200	8	6	Medium	Poor	Average	Average	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, pollarded
HSK-T064	*Dimocarpus longan*	龍眼	140	7	5	Medium	Poor	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, pollarded, climbers, imbalanced crown
HSK-T065	*Dimocarpus longan*	龍眼	200	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, restricted roots, climbers
HSK-T066	*Dimocarpus longan*	龍眼	380	10	8	Medium	Average	Average	Average	Low	d,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, restricted roots, codominant branches, heavy loads
HSK-T067	*Dimocarpus longan*	龍眼	250	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, restricted roots, pollarded
HSK-T068	*Dimocarpus longan*	龍眼	220	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, on planter, pollarded
HSK-T069	*Morus alba*	桑樹	220	7	5	Medium	Average	Average	Poor	Low	c,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, climbers, parts of the tree invisible
HSK-T070	*Morus alba*	桑樹	300	7	5	Medium	Average	Average	Poor	Low	c,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, climbers, parts of the tree invisible
HSK-T071	*Spathodea campanulata*	火焰木	320	9	7	Medium	Average	Average	Poor	Low	f	Nil	FELL	A, D, E	LandsD/ Tree Unit	Broken branch
HSK-T072	*Dimocarpus longan*	龍眼	300	9	7	Low	Average	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted roots, cavity on trunk
HSK-T073	*Alstonia scholaris*	糖膠樹	300	9	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T074	*Alstonia scholaris*	糖膠樹	300	9	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, pruned
HSK-T075	*Alstonia scholaris*	糖膠樹	220	9	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope

Tree Assessment Schedule

Survey by Chan To (Registered Arborist TM428717)

TREE NO.	SCIENTIFIC NAME	CHINESE NAME	TRUNK DIA.(MM)	HEIGHT (M)	SPREAD (M)	AMENITY VALUE (High / Medium / Low)	FORM (Good/ Average/ Poor)	HEALTH (Good/ Average/ Poor)	STRUCTURAL CONDITION (Good/ Average/ Poor)	SUITABILITY FOR TRANSPLANTING (High / Medium / Low)	REMARKS [1]	CONSERVATION STATUS (OVT / potentially registerable / Rare or Precious Species / Nil)	RECOMMENDATION (RETAIN/ TRANSPLANT/ FELL)	JUSTIFICATION [2]	DEPARTMENT TO PROVIDE EXPERT ADVICE TO LANDsD	ADDITIONAL REMARKS
HSK-T076	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, pruned
HSK-T077	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T078	*Alstonia scholaris*	糖膠樹	280	9	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T079	*Alstonia scholaris*	糖膠樹	280	9	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, included bark
HSK-T080	*Alstonia scholaris*	糖膠樹	280	9	6	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, codominant trunks, included bark
HSK-T081	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T082	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, climbers
HSK-T083	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Poor	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, multi-trunks, included bark, pruned
HSK-T084	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T085	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, crossed trunks, crossed branches
HSK-T086	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Average	Poor	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, dieback, included bark
HSK-T087	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Average	Poor	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, dieback, broken branch
HSK-T088	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Average	Poor	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, dieback, crossed trunks
HSK-T089	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Average	Poor	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, dieback, crossed branches
HSK-T090	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, codominant branches
HSK-T091	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Average	Poor	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, dieback, crossed branches, climbers, wound
HSK-T092	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Average	Poor	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, climbers, dieback, crossed branches
HSK-T093	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Average	Poor	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, dieback, dead branch
HSK-T094	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Average	Poor	Average	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, dieback
HSK-T095	*Alstonia scholaris*	糖膠樹	280	8	6	Medium	Average	Average	Average	Low	d,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, heavy loads
HSK-T096	*Macaranga tanarius*	血桐	280	8	6	Medium	Poor	Average	Poor	Low	c,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, poor taper
HSK-T097	*Leucaena leucocephala*	銀合歡	220	7	5	Low	Poor	Poor	Poor	Low	a,c,f,g,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, severe diebacracks, leaning, cracks
HSK-T098	*Bridelia tomentosa*	土蜜樹	180	5	6	Low	Poor	Poor	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, broken trunk, dieback, multi-trunks
HSK-T099	*Bombax ceiba*	木棉	460	18	10	Medium	Average	Average	Average	Low	d,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, heavy loads
HSK-T100	*Alstonia scholaris*	糖膠樹	450	17	10	Medium	Average	Average	Average	Low	d,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, codominant trunks, heavy loads
HSK-T101	*Alstonia scholaris*	糖膠樹	440	18	10	Medium	Average	Average	Average	Low	d,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, heavy loads
HSK-T102	*Bridelia tomentosa*	土蜜樹	120	7	6	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, crossed branches, multi-trunks, exposed dead wood
HSK-T103	*Leucaena leucocephala*	銀合歡	220	8	7	Low	Poor	Poor	Poor	Low	a,c,d,f,g,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, dead branch, crooked trunk, heavy loads
HSK-T104	*Celtis sinensis*	朴樹	120	7	5	Low	Poor	Average	Poor	Low	a,c,d,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, crossed trunks, heavy loads, low live crown ratio
HSK-T105	*Bombax ceiba*	木棉	210	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted root
HSK-T106	*Bombax ceiba*	木棉	210	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted root
HSK-T107	*Bombax ceiba*	木棉	210	8	6	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted root, low live crown ratio
HSK-T108	*Bombax ceiba*	木棉	100	6	4	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted root, low live crown ratio
HSK-T109	*Ficus religiosa*	菩提樹	680	18	12	Medium	Poor	Average	Average	Low	d,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted root, multi-trunks, epicormics, heavy loads
HSK-T110	*Alstonia scholaris*	糖膠樹	320	10	8	Medium	Average	Average	Poor	Low	d,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, codominant trunks, crossed trunks, heavy loads
HSK-T111	*Alstonia scholaris*	糖膠樹	300	10	8	Medium	Average	Average	Poor	Low	d,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, exposed dead wood, heavy loads
HSK-T112	*Alstonia scholaris*	糖膠樹	320	10	8	Medium	Average	Average	Poor	Low	d,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, crossed trunks, heavy loads, wound
HSK-T113	*Alstonia scholaris*	糖膠樹	320	12	8	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, multi-trunks, included bark
HSK-T114	*Bombax ceiba*	木棉	700	20	12	Medium	Average	Average	Average	Low	d,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, heavy loads
HSK-T115	*Alstonia scholaris*	糖膠樹	280	10	8	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, codominant trunks
HSK-T116	*Alstonia scholaris*	糖膠樹	280	10	8	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T117	*Alstonia scholaris*	糖膠樹	220	9	6	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, bark crack
HSK-T118	*Albizia lebbeck*	大葉合歡	300	10	6	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted root, crooked trunk, imbalanced crown
HSK-T119	*Alstonia scholaris*	糖膠樹	320	10	8	Medium	Average	Average	Average	Low	d,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, heavy loads
HSK-T120	*Alstonia scholaris*	糖膠樹	350	14	8	Medium	Average	Average	Average	Low	d,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, heavy loads
HSK-T121	*Bombax ceiba*	木棉	350	14	8	Medium	Average	Average	Average	Low	d,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted root, heavy loads
HSK-T122	*Sterculia nobilis*	蘋婆	220	10	6	Medium	Poor	Average	Average	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted root, leaning, conflict with fencing
HSK-T123	*Aporusa dioica*	銀柴	220	10	6	Medium	Poor	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted, bark cracks
HSK-T124	*Macaranga tanarius*	血桐	220	9	6	Low	Poor	Average	Poor	Low	a,c,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted root, multi-trunks
HSK-T125	*Melia azedarach*	苦楝	400	16	10	Medium	Average	Average	Poor	Low	d,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted root, codominant trunks, heavy loads
HSK-T126	*Bridelia tomentosa*	土蜜樹	100	6	4	Medium	Average	Average	Poor	Low	f	Nil	FELL	A, D, E	LandsD/ Tree Unit	Poor taper
HSK-T127	*Bombax ceiba*	木棉	120	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Climbers, conflict with fencing, restricted root
HSK-T128	*Ficus virens*	黃葛樹	360	10	8	Medium	Average	Average	Poor	Low	d,f	Nil	FELL	A, D, E	LandsD/ Tree Unit	Root conflict with building, multi-trunks, epicormics, heavy loads, imbalanced crown
HSK-T129	*Macaranga tanarius*	血桐	350	10	8	Medium	Average	Average	Poor	Low	c,f	Nil	FELL	A, D, E	LandsD/ Tree Unit	Imbalanced crown
HSK-T130	*Cinnamomum camphora*	樟樹	170	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T131	*Cinnamomum camphora*	樟樹	170	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, codominant branches , climbers
HSK-T132	*Cinnamomum camphora*	樟樹	170	7	5	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, codominant branches, imbalanced crown
HSK-T133	*Cinnamomum camphora*	樟樹	170	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T134	*Cinnamomum camphora*	樟樹	170	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T135	*Cinnamomum camphora*	樟樹	170	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T136	*Cinnamomum camphora*	樟樹	170	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T137	*Cinnamomum camphora*	樟樹	170	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T138	*Cinnamomum camphora*	樟樹	170	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T139	*Cinnamomum camphora*	樟樹	170	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T140	*Cinnamomum camphora*	樟樹	260	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T141	*Cinnamomum camphora*	樟樹	170	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T142	*Cinnamomum camphora*	樟樹	180	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, climbers
HSK-T143	*Cinnamomum camphora*	樟樹	180	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T144	*Cinnamomum camphora*	樟樹	180	7	5	Medium	Average	Poor	Average	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, dieback, climbers
HSK-T145	*Cinnamomum camphora*	樟樹	180	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, dead stub
HSK-T146	*Cinnamomum camphora*	樟樹	180	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T147	*Cinnamomum camphora*	樟樹	180	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T148	*Cinnamomum camphora*	樟樹	180	7	5	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, imbalanced crown
HSK-T149	*Cinnamomum camphora*	樟樹	180	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T150	*Cinnamomum camphora*	樟樹	180	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T151	*Cinnamomum camphora*	樟樹	220	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, epicormics
HSK-T152	*Cinnamomum camphora*	樟樹	210	8	6	Medium	Average	Poor	Average	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, trunk base conflict with concrete, dieback
HSK-T153	*Cinnamomum camphora*	樟樹	210	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, trunk base conflict with concrete
HSK-T154	*Cinnamomum camphora*	樟樹	210	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope

Tree Assessment Schedule

Survey by Chan To (Registered Arborist TM428717)

TREE NO.	SCIENTIFIC NAME	CHINESE NAME	TRUNK DIA.(MM)	HEIGHT (M)	SPREAD (M)	AMENITY VALUE (High / Medium / Low)	FORM (Good/ Average/ Poor)	HEALTH (Good/ Average/ Poor)	STRUCTURAL CONDITION (Good/ Average/ Poor)	SUITABILITY FOR TRANSPLANTING (High / Medium / Low)	REMARKS [1]	CONSERVATION STATUS (OVT / potentially registerable / Rare or Precious Species / Nil)	RECOMMENDATION (RETAIN/ TRANSPLANT/ FELL)	JUSTIFICATION [2]	DEPARTMENT TO PROVIDE EXPERT ADVICE TO LANDsD	ADDITIONAL REMARKS
HSK-T155	*Cinnamomum camphora*	樟樹	210	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T156	*Cinnamomum camphora*	樟樹	210	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T157	*Cinnamomum camphora*	樟樹	260	7	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T158	*Cinnamomum camphora*	樟樹	260	7	6	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, imbalanced crown
HSK-T159	*Cinnamomum camphora*	樟樹	300	7	6	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, imbalanced crown
HSK-T160	*Cinnamomum camphora*	樟樹	300	7	6	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, imbalanced crown
HSK-T161	*Cinnamomum camphora*	樟樹	300	7	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T162	*Psidium guajava*	番石榴	100	5	4	Low	Poor	Average	Poor	Low	a,f	Nil	FELL	A, D, E	LandsD/ Tree Unit	Crooked, imbalanced crown, crossed branches
HSK-T163	*Psidium guajava*	番石榴	150	6	4	Low	Poor	Average	Poor	Low	a,f	Nil	FELL	A, D, E	LandsD/ Tree Unit	Imbalanced crown, crossed branches
HSK-T164	*Cinnamomum camphora*	樟樹	250	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope
HSK-T165	*Celtis sinensis*	朴樹	300	8	6	Medium	Average	Average	Poor	Low	c,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, crossed trunks, ficus seedlings on trunk
HSK-T166	*Morus alba*	桑樹	280	7	5	Medium	Average	Average	Poor	Low	c,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On slope, multi-trunks, broken branch, crossed branches, wound
HSK-T167	*Plumeria rubra*	雞蛋花	250	6	5	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted roots, codominant trunks, poor taper
HSK-T168	*Litsea glutinosa*	潺槁樹	250	8	6	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, parts of the tree invisible, imbalanced crown
HSK-T169	*Mangifera indica*	杧果	300	8	6	Medium	Poor	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, parts of the tree invisible, conflict with fencing, codominant trunks, restricted roots
HSK-T170	*Dimocarpus longan*	龍眼	300	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, parts of the tree invisible
HSK-T171	*Clausena lansium*	黃皮	150	8	6	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, parts of the tree invisible, exposed dead wood
HSK-T172	*Clausena lansium*	黃皮	150	8	6	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, parts of the tree invisible
HSK-T173	*Ficus variegata*	青果榕	160	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, parts of the tree invisible, codominant trunks
HSK-T174	*Artocarpus heterophyllus*	菠蘿蜜	160	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, parts of the tree invisible
HSK-T175	*Psidium guajava*	番石榴	140	7	5	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, parts of the tree invisible
HSK-T176	*Dimocarpus longan*	龍眼	200	8	6	Medium	Average	Average	Average	Low	d,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, parts of the tree invisible, climbers, heavy loads
HSK-T177	*Dimocarpus longan*	龍眼	200	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On planter
HSK-T178	*Dimocarpus longan*	龍眼	200	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On planter
HSK-T179	*Dimocarpus longan*	龍眼	200	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, parts of the tree invisible
HSK-T180	*Macaranga tanarius*	血桐	150	8	6	Medium	Poor	Average	Poor	Low	c,f	Nil	FELL	A, D, E	LandsD/ Tree Unit	Exposed roots, multi-trunks, leaning
HSK-T181	*Bombax ceiba*	木棉	380	14	10	Medium	Average	Average	Poor	Low	d,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted root, heavy loads, multi-trunks, parts of the tree invisible
HSK-T182	*Macaranga tanarius*	血桐	250	6	4	Medium	Poor	Average	Poor	Low	c,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted root, imbalanced crown, conflict with building, Restricted roots, parts of the tree invisible
HSK-T183	*Ficus microcarpa*	榕樹	320	10	8	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, parts of the tree invisible, imbalanced crown, conflict with building, parts of the tree invisible
HSK-T184	*Litchi chinensis*	荔枝	330	11	8	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, parts of the tree invisible
HSK-T185	*Michelia x alba*	白蘭	340	11	8	Medium	Poor	Average	Poor	Low	d,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, parts of the tree invisible, multi-trunks, heavy loads
HSK-T186	*Bombax ceiba*	木棉	280	11	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, inaccessible
HSK-T187	*Ficus microcarpa*	榕樹	680	18	12	Medium	Average	Average	Poor	Low	d,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, parts of the tree invisible, imbalanced crown, conflict with building, heavy loads
HSK-T188	*Ficus microcarpa*	榕樹	420	15	8	Medium	Average	Average	Average	Low	d,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Inside village, parts of the tree invisible, heavy loads
HSK-T189	*Mangifera indica*	杧果	380	15	10	Medium	Poor	Average	Poor	Low	d,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On planter, codominant trunks, heavy loads
HSK-T190	*Morus alba*	桑樹	140	5	4	Medium	Average	Average	Poor	Low	c,f	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restrcited root, crossed branches
HSK-T191	*Bombax ceiba*	木棉	580	18	14	Medium	Average	Average	Average	Low	d	Nil	FELL	A, D, E	LandsD/ Tree Unit	Heavy loads
HSK-T192	*Bombax ceiba*	木棉	750	18	10	Medium	Average	Average	Average	Low	d	Nil	FELL	A, D, E	LandsD/ Tree Unit	Heavy loads
HSK-T193	*Bombax ceiba*	木棉	350	14	8	Medium	Average	Average	Average	Low	d	Nil	FELL	A, D, E	LandsD/ Tree Unit	Heavy loads
HSK-T194	*Macaranga tanarius*	血桐	120	7	5	Medium	Average	Average	Poor	Low	c,f	Nil	FELL	A, D, E	LandsD/ Tree Unit	Poor taper
HSK-T195	*Bombax ceiba*	木棉	650	18	10	Medium	Average	Average	Average	Low	d	Nil	FELL	A, D, E	LandsD/ Tree Unit	Heavy loads
HSK-T196	*Bombax ceiba*	木棉	420	16	8	Medium	Average	Average	Average	Low	d	Nil	FELL	A, D, E	LandsD/ Tree Unit	Heavy loads
HSK-T197	*Bombax ceiba*	木棉	520	16	8	Medium	Average	Average	Average	Low	d	Nil	FELL	A, D, E	LandsD/ Tree Unit	Heavy loads
HSK-T198	*Bombax ceiba*	木棉	420	18	10	Medium	Poor	Average	Average	Low	d,f	Nil	FELL	A, D, E	LandsD/ Tree Unit	Heavy loads, bending trunk
HSK-T199	*Macaranga tanarius*	血桐	340	9	6	Low	Poor	Average	Poor	Low	a,c,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, parts of the tree invisible, climbers
HSK-T200	*Ficus variegata*	青果榕	500	12	10	Medium	Average	Average	Average	Low	d	Nil	FELL	A, D, E	LandsD/ Tree Unit	Heavy loads
HSK-T201	*Macaranga tanarius*	血桐	380	10	8	Medium	Average	Average	Poor	Low	c,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	In abandoned village, parts of the tree invisible, poor taper
HSK-T202	*Averrhoa carambola*	楊桃	110	5	4	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	On planter, imbalanced crown
HSK-T203	*Morus alba*	桑樹	130	6	4	Medium	Average	Average	Average	Low	c	Nil	FELL	A, D, E	LandsD/ Tree Unit	Multi-trunks
HSK-T204	*Michelia x alba*	白蘭	320	8	6	Medium	Average	Average	Average	Low	h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted roots
HSK-T205	*Michelia x alba*	白蘭	100	5	4	Medium	Average	Average	Poor	Low	f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted roots, crossed branches
HSK-T206	*Bridelia tomentosa*	土蜜樹	120	6	4	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted roots, imbalanced crown, poor taper
HSK-T207	*Bridelia tomentosa*	土蜜樹	130	6	4	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted roots, crooked, poor taper
HSK-T208	*Bridelia tomentosa*	土蜜樹	130	7	5	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted roots, leaning, poor taper
HSK-T209	*Litsea monopetala*	假柿樹	120	9	4	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted roots, imbalanced crown
HSK-T210	*Litsea glutinosa*	潺槁樹	150	9	6	Low	Poor	Average	Poor	Low	a,f,h	Nil	FELL	A, D, E	LandsD/ Tree Unit	Restricted roots, leaning, conflict with fencing

SUMMARY:

Total number of trees surveyed =	210
Nos. trees to be retained =	0
Nos. trees to be transplanted =	0
Nos. trees to be felled =	210

Note:

[1] Remarks for suitability for transplanting

a) Low amenity value;
b) Irrecoverable form after transplanting (e.g. if substantial crown and root pruning are necessary to facilitate the transplanting);
c) Low survival rate after transplanting;
d) Very large size (unless the feasibility to transplant has been considered financially reasonable and technically feasible during the feasibility stage);
e) With evidence of over-maturity and onset of senescence;
f) With poor health, structure or form (e.g. imbalanced form, leaning, with major cavity/cracks/splits);
g) Undesirable species (e.g. Leucaena leucocephala which is an invasive exotic tree); or
h) Trees grown under poor conditions which have limited the formation of proper root ball necessary for transplanting (e.g. on steep slope, restricted root);
i) Not cost effective

Tree Assessment Schedule

Survey by Chan To (Registered Arborist TM428717)

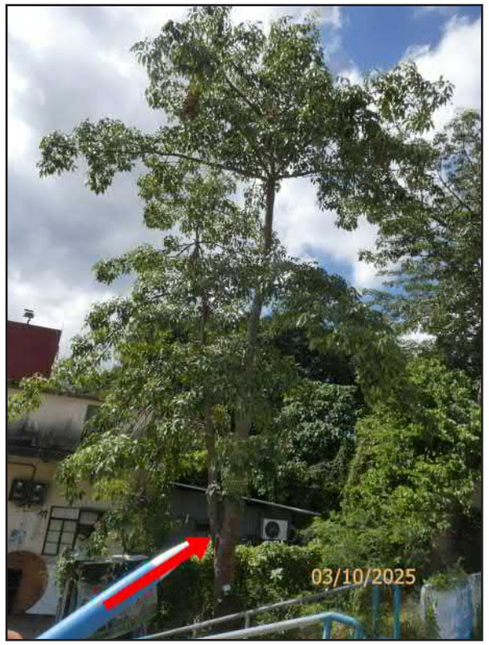
TREE NO.	SCIENTIFIC NAME	CHINESE NAME	TRUNK DIA.(MM)	HEIGHT (M)	SPREAD (M)	AMENITY VALUE (High / Medium / Low)	FORM (Good/ Average/ Poor)	HEALTH (Good/ Average/ Poor)	STRUCTURAL CONDITION (Good/ Average/ Poor)	SUITABILITY FOR TRANSPLANTING (High / Medium / Low)	REMARKS [1]	CONSERVATION STATUS (OVT / potentially registerable / Rare or Precious Species / Nil)	RECOMMENDATION (RETAIN/ TRANSPLANT/ FELL)	JUSTIFICATION [2]	DEPARTMENT TO PROVIDE EXPERT ADVICE TO LANDsD	ADDITIONAL REMARKS

[2] Justification:
A- in conflict with proposed development/ site formation
B- tree in poor health condition
C- growing on slope or difficult to form a proper root ball for transplanting
D- tree with a low survival rate after transplanting
E- Common non-local species and/ or not cost effective to transplant

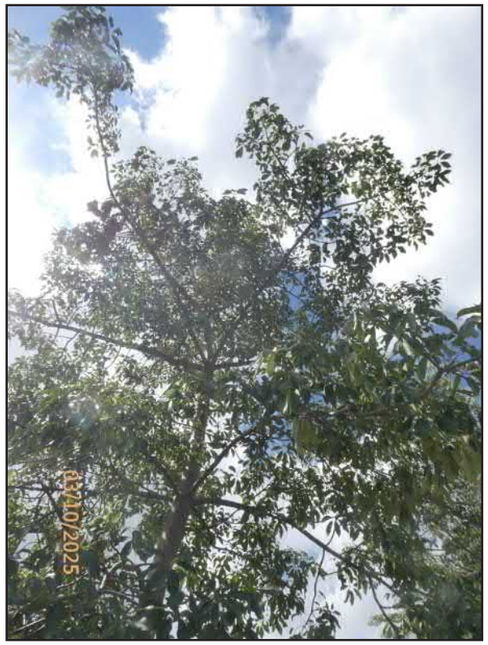
Appendix B

Tree Survey Photo Record

T001 - *Bombax ceiba* 木棉



Whole View



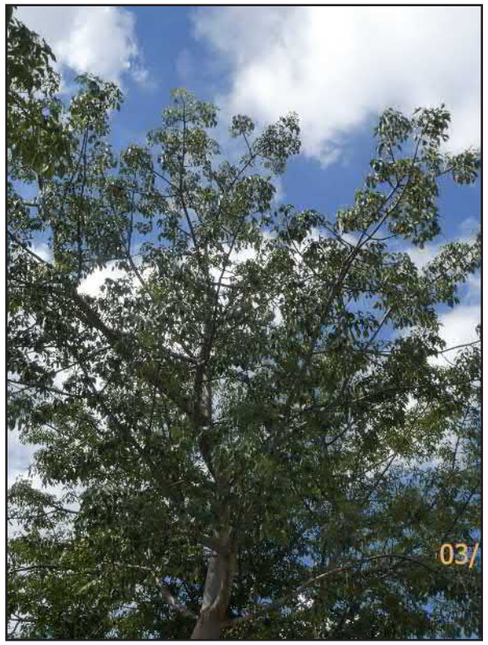
Crown

Trunk

Trunk Base

T002 - *Bombax ceiba* 木棉

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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CEDD 土木工程拓展署
Civil Engineering and Development Department

T003 - *Bauhinia sp.* 羊蹄甲屬

Whole View

Crown

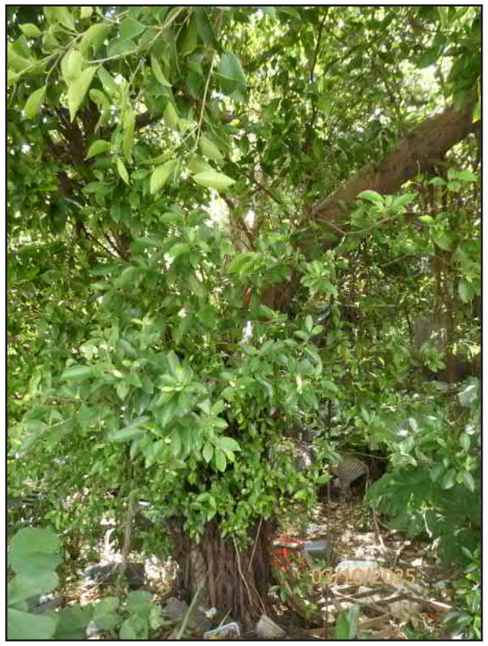
Trunk

Trunk Base

T004 - *Ficus microcarpa* 榕樹

Whole View

Crown



Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
Scale		Status	

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CEDD 土木工程拓展署 Civil Engineering and Development Department

T005 - *Bombax ceiba* 木棉

Whole View

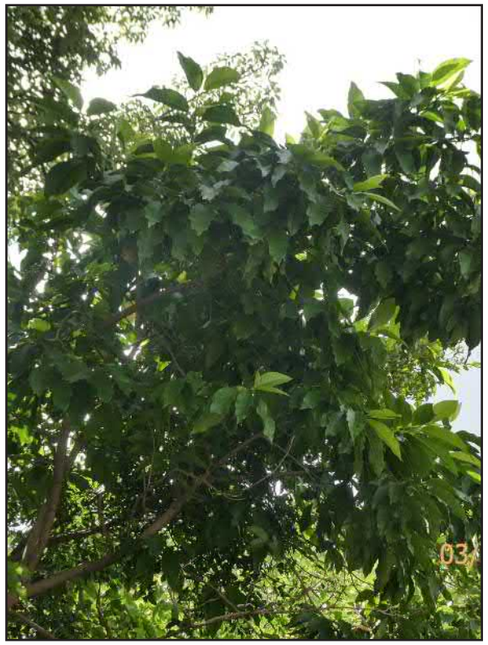
Crown

Trunk

Trunk Base

T006 - *Michelia x alba* 白蘭

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
Scale		Status	

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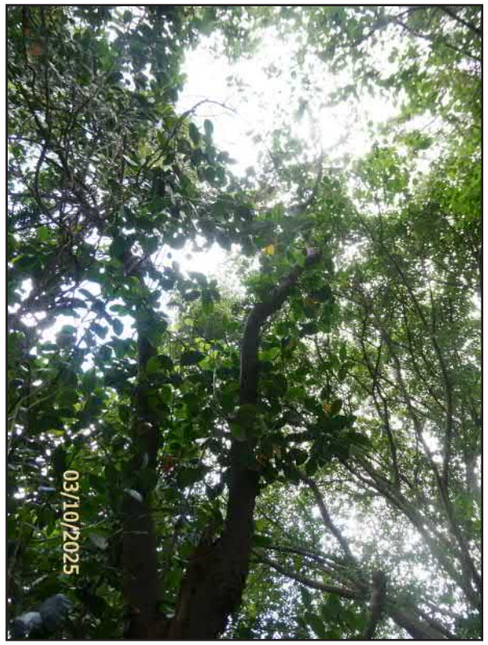
T007 - *Artocarpus heterophyllus* 菠蘿蜜

Whole View



Crown

Trunk

Trunk Base

T008 - *Terminalia mantaly* 桑樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.
Drawn: AY	Date: OCT 2025	Checked: RH / Approved: CY
Scale	Status	

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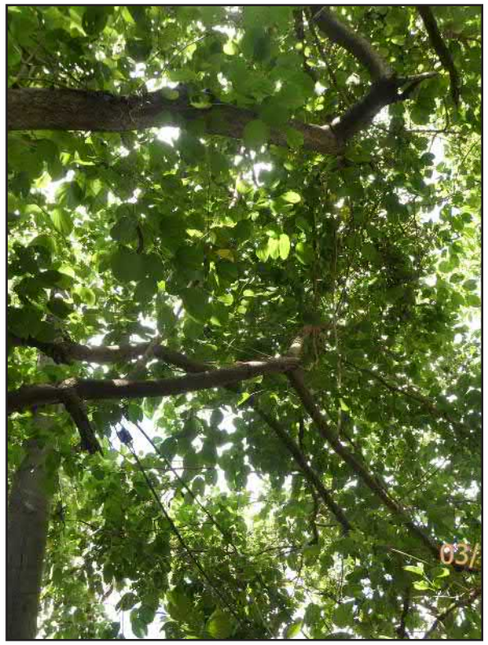
T009 - *Bauhinia sp.* 羊蹄甲屬

Whole View



Crown

Trunk

Trunk Base

T010 - *Ficus virens* 黃葛樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
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Scale	Status

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Civil Engineering and Development Department

T011 - *Bauhinia sp.* 羊蹄甲屬

Whole View

Crown

Trunk

Trunk Base

T012 - *Bauhinia sp.* 羊蹄甲屬

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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T013 - *Morus alba* 桑樹

Whole View

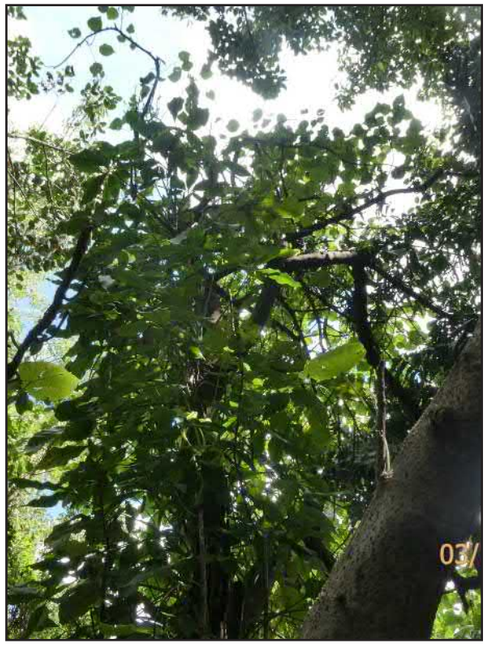
Crown

Trunk

Trunk Base

T014 - *Macaranga tanarius* 血桐

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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T015 - *Caryota mitis* 魚尾葵

Whole View

Crown

Trunk

Trunk Base

T016 - *Leucaena leucocephala* 銀合歡

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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T017 - *Bauhinia sp.* 羊蹄甲屬

Whole View

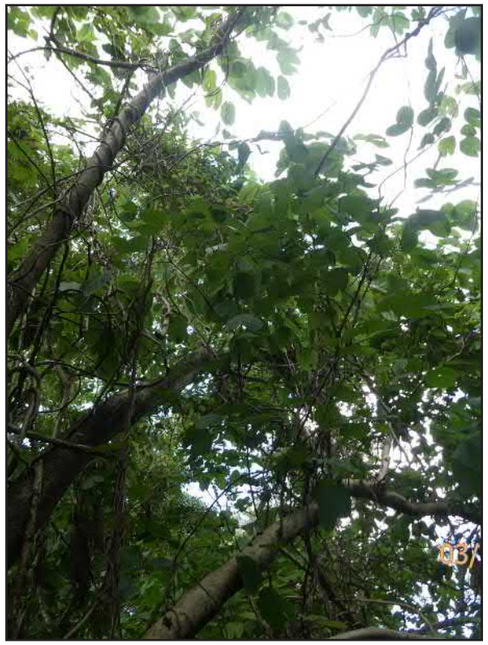
Crown

Trunk

Trunk Base

T018 - *Bauhinia sp.* 羊蹄甲屬

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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T019 - *Bauhinia sp.* 羊蹄甲屬

Whole View

Crown

Trunk

Trunk Base

T020 - *Bauhinia sp.* 羊蹄甲屬

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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Scale	Status

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Civil Engineering and Development Department

T021 - *Bauhinia sp.* 羊蹄甲屬

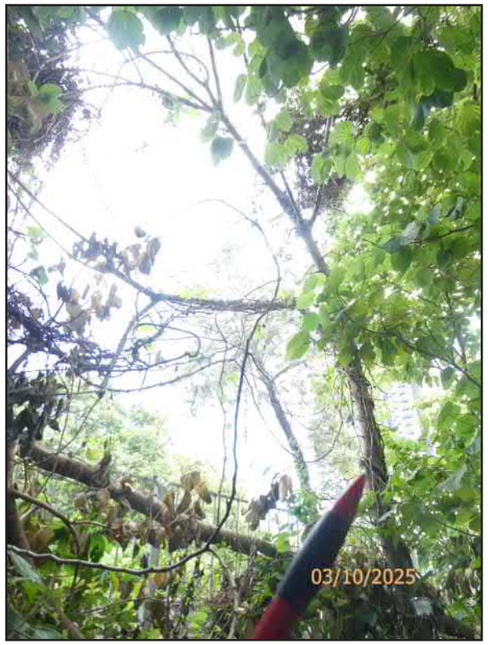
Whole View

Crown

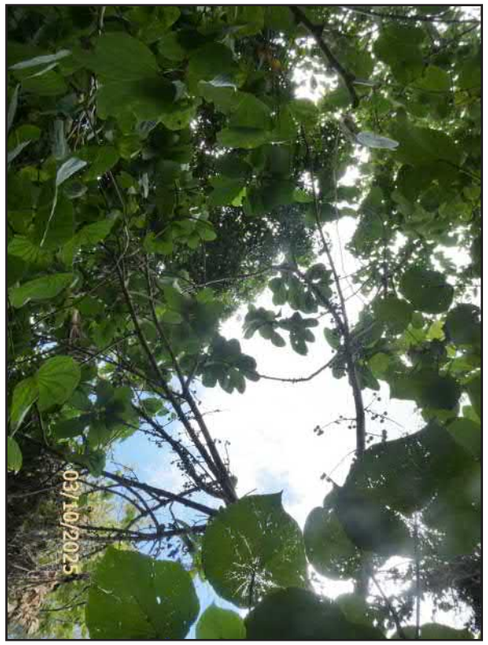
Trunk

Trunk Base

T022 - *Ficus hispida* 對葉榕



Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

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Scale	Status

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Civil Engineering and Development Department

T023 - *Bauhinia sp.* 羊蹄甲屬

Whole View

Crown

Trunk

Trunk Base

T024 - *Dimocarpus longan* 龍眼

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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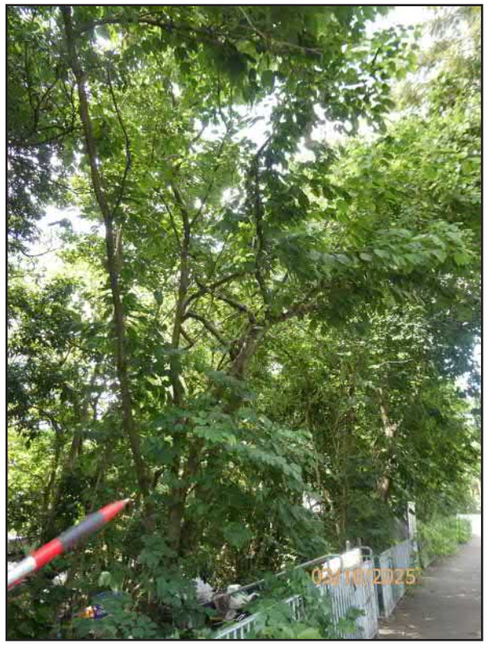
T025 - *Bauhinia sp.* 羊蹄甲屬



Whole View

Crown

Trunk

Trunk Base

T026 - *Bauhinia sp.* 羊蹄甲屬

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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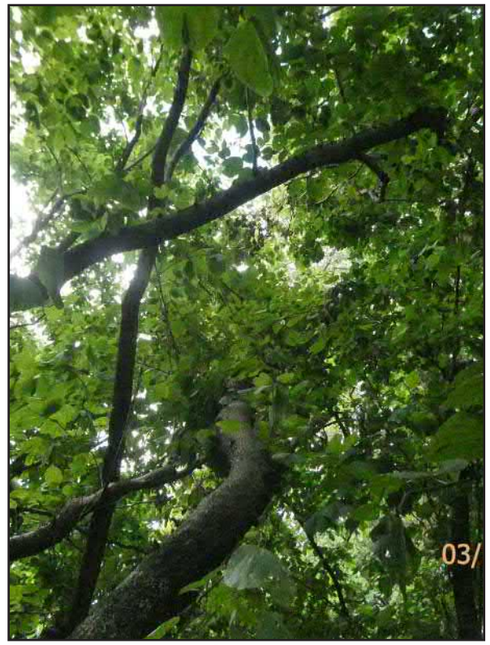
T027 - *Bauhinia sp.* 羊蹄甲屬

Whole View



Crown

Trunk

Trunk Base

T028 - *Bauhinia sp.* 羊蹄甲屬

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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Scale		Status	

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T029 - *Bauhinia sp.* 羊蹄甲屬

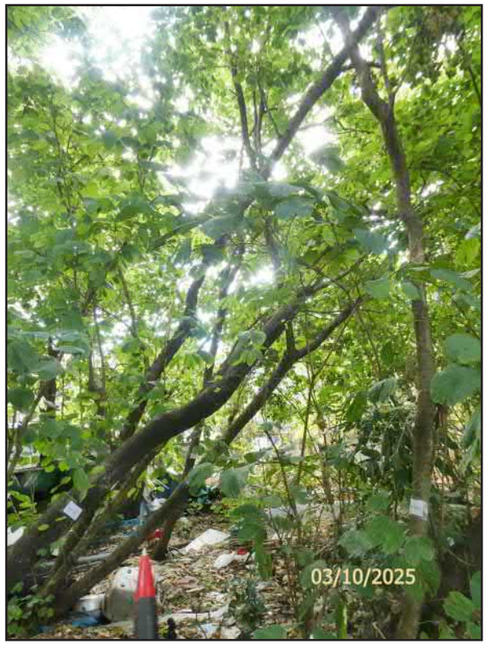
Whole View

Crown

Trunk

Trunk Base

T030 - *Bauhinia sp.* 羊蹄甲屬



Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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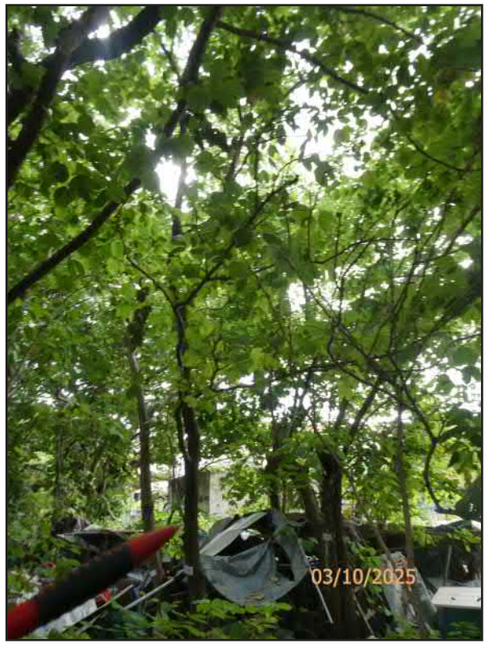
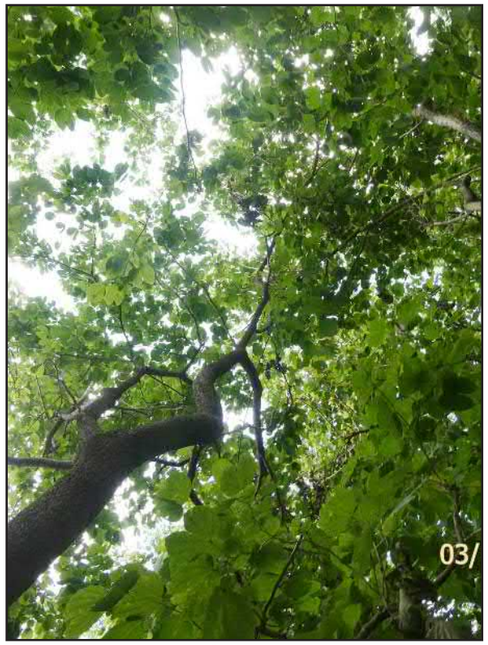
Civil Engineering and Development Department

T031 - *Bauhinia sp.* 羊蹄甲屬



Whole View



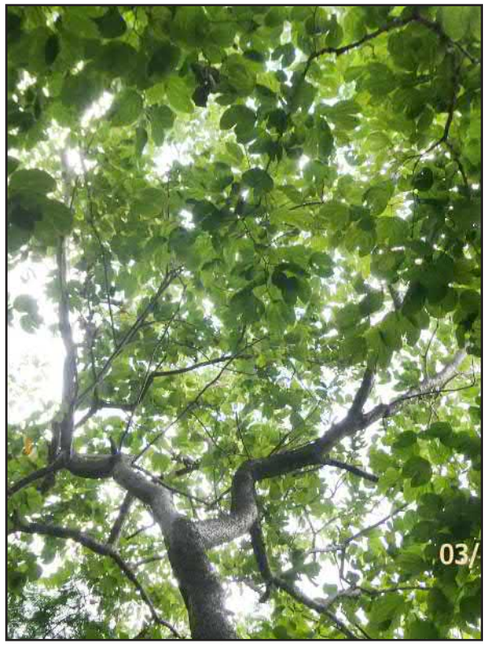
Crown

Trunk

Trunk Base

T032 - *Bauhinia sp.* 羊蹄甲屬

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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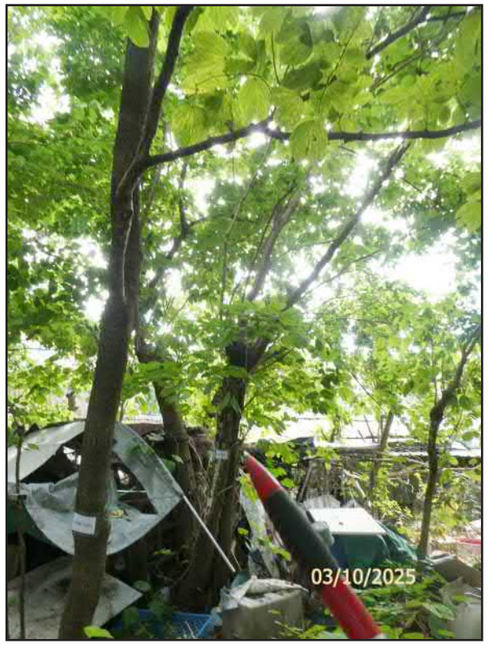
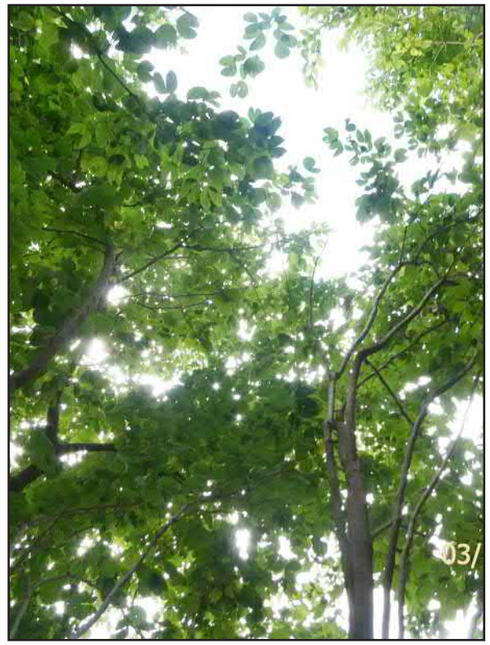
T033 - *Bauhinia sp.* 羊蹄甲屬



Whole View



Crown

Trunk

Trunk Base

T034 - *Bauhinia sp.* 羊蹄甲屬

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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AY	OCT 2025	RH	CY

Scale	Status

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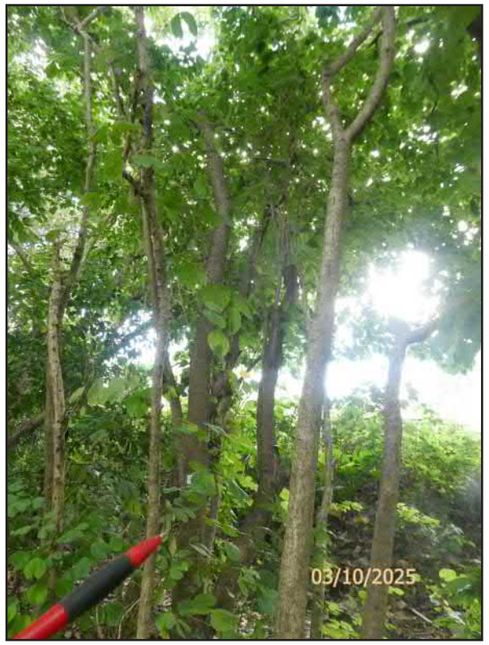
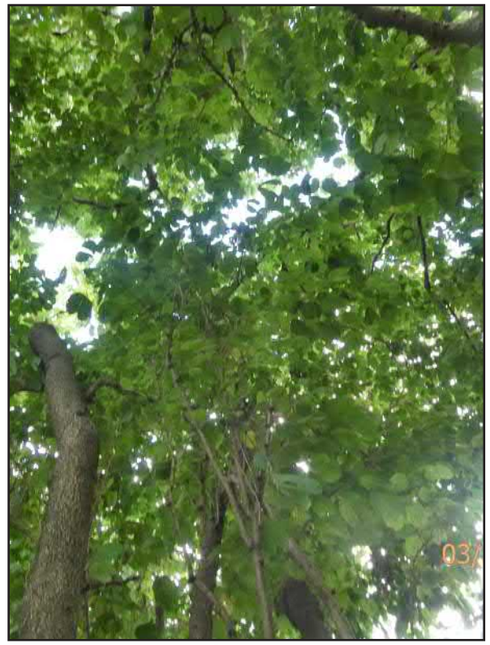
T035 - *Bauhinia sp.* 羊蹄甲屬



Whole View



Crown

Trunk

Trunk Base

T036 - *Bauhinia sp.* 羊蹄甲屬

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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T037 - *Bauhinia sp.* 羊蹄甲屬

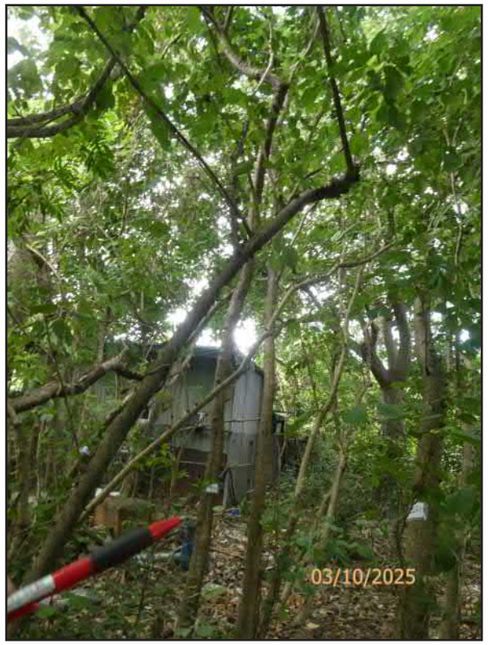
Whole View

Crown

Trunk

Trunk Base

T038 - *Bauhinia sp.* 羊蹄甲屬



Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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Scale	Status

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Civil Engineering and Development Department

T039 - *Bauhinia sp.* 羊蹄甲屬

Whole View

Crown

Trunk

Trunk Base

T040 - *Bauhinia sp.* 羊蹄甲屬

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
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Scale		Status	

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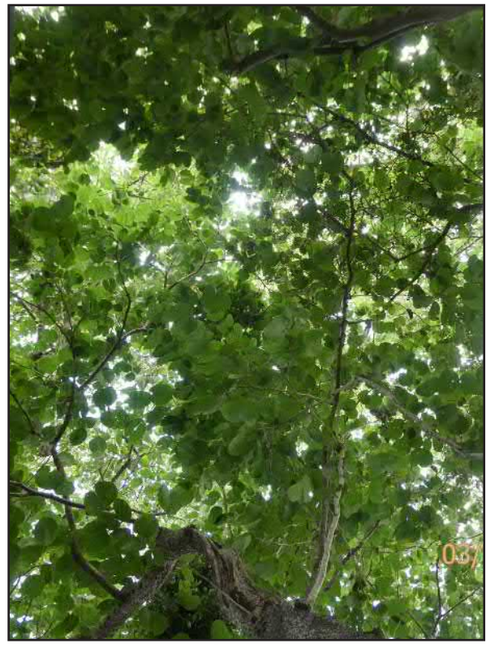
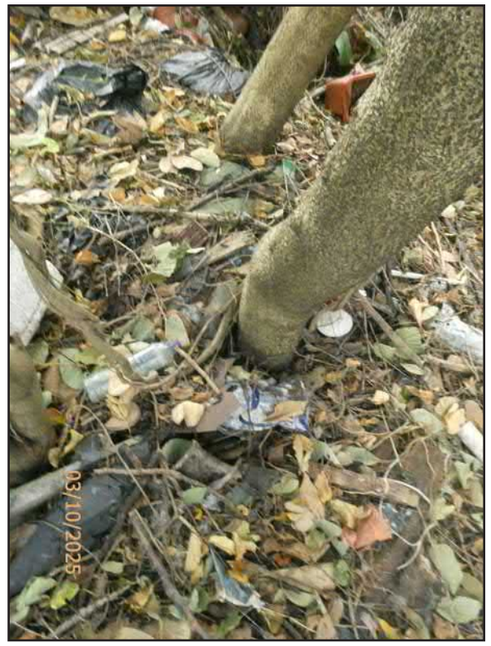
T041 - *Bauhinia sp.* 羊蹄甲屬

Whole View



Crown

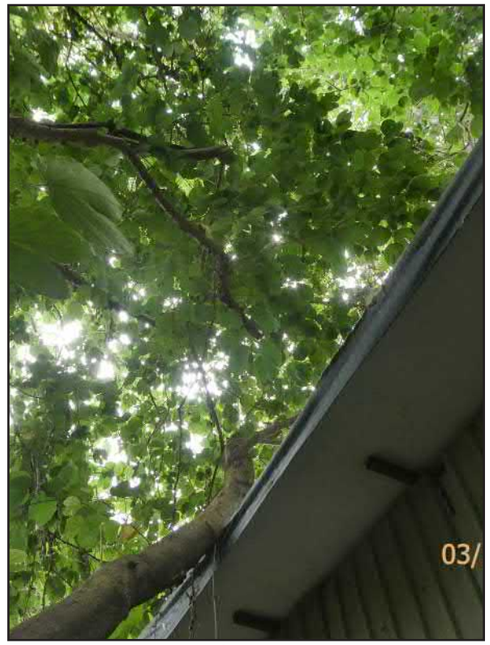
Trunk



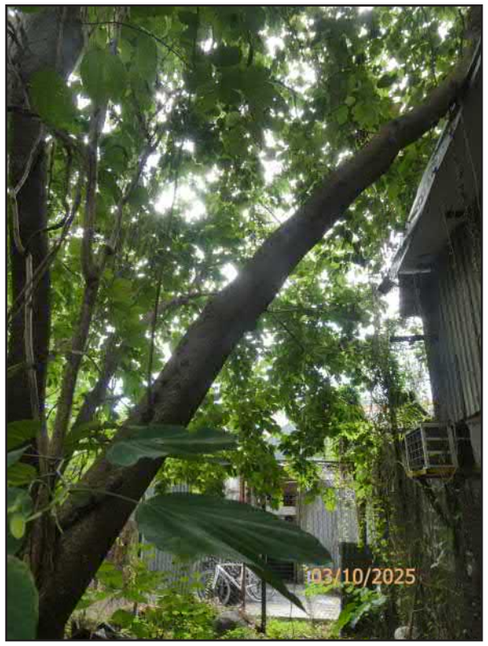
Trunk Base

T042 - *Bauhinia sp.* 羊蹄甲屬

Whole View



Crown



Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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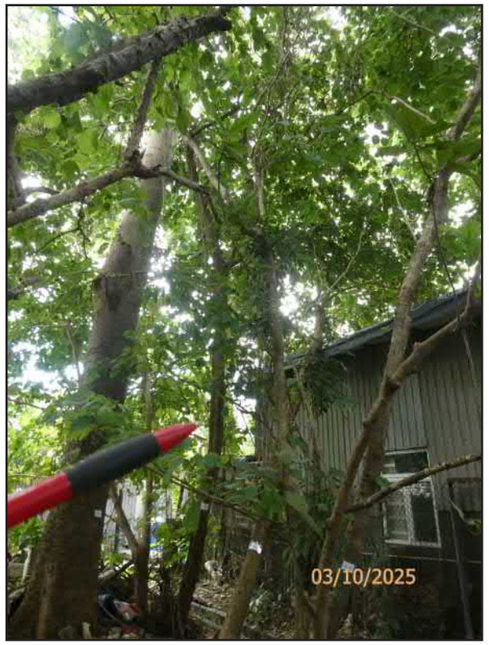
Civil Engineering and Development Department

T043 - *Bauhinia sp.* 羊蹄甲屬



Whole View

Crown

Trunk

Trunk Base

T044 - *Bombax ceiba* 木棉

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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Scale		Status	

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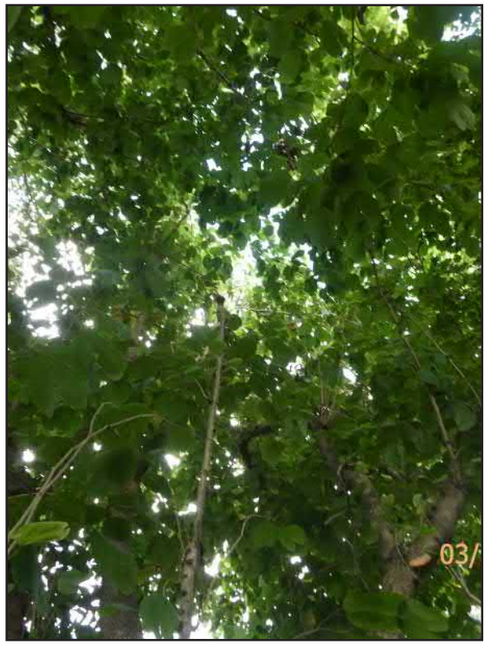
T045 - *Bauhinia sp.* 羊蹄甲屬

Whole View



Crown

Trunk

Trunk Base

T046 - *Macaranga tanarius* 血桐

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
Scale		Status	

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T047 - *Aleurites moluccanus* 石栗

Whole View

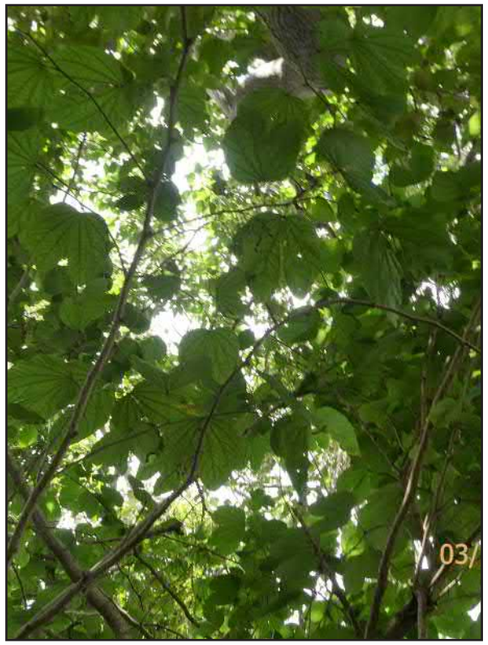
Crown

Trunk

Trunk Base

T048 - *Bauhinia sp.* 羊蹄甲屬

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
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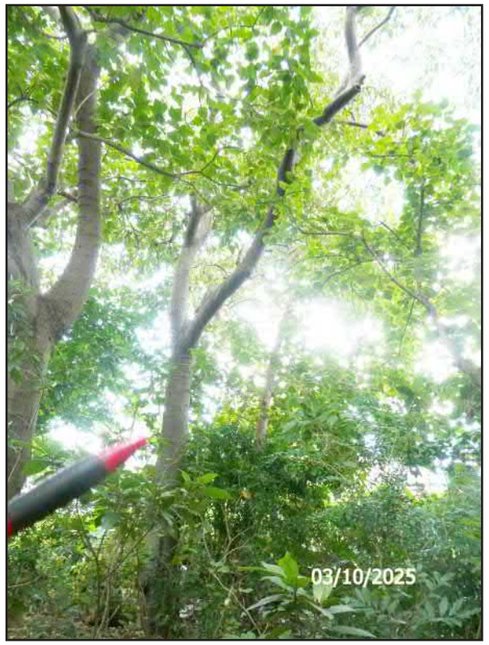
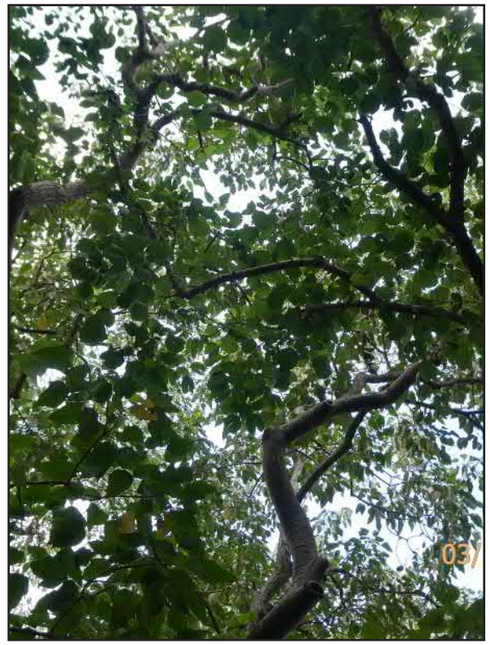
T049 - *Aleurites moluccanus* 石栗



Whole View



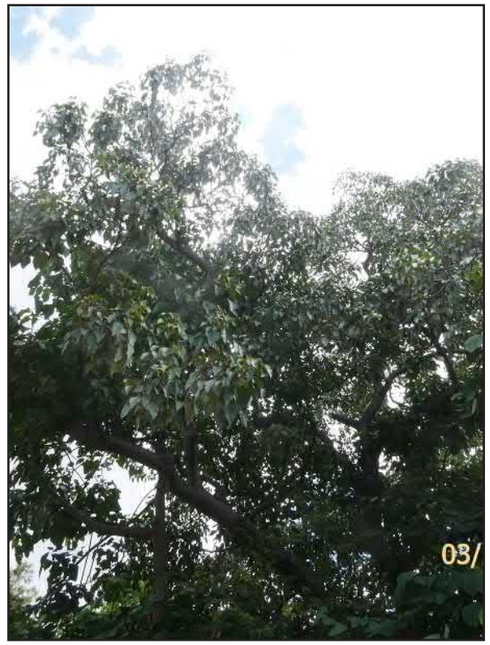
Crown

Trunk

Trunk Base

T050 - *Aleurites moluccanus* 石栗

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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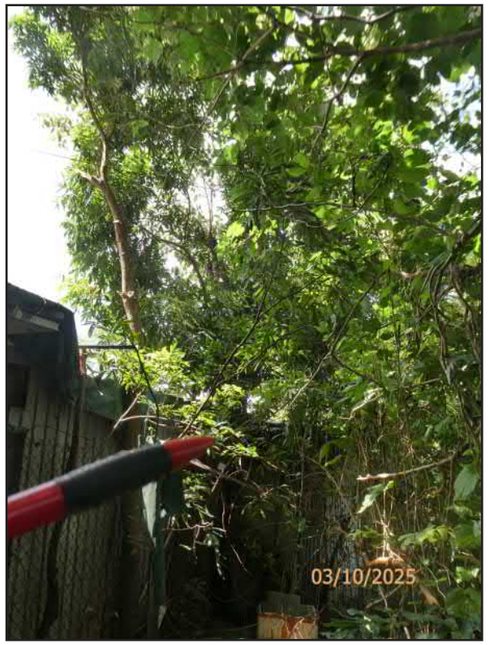
T051 - *Ficus variegata* 青果榕



Whole View

Crown

Trunk

Trunk Base

T052 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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T053 - *Alstonia scholaris* 糖膠樹

Whole View

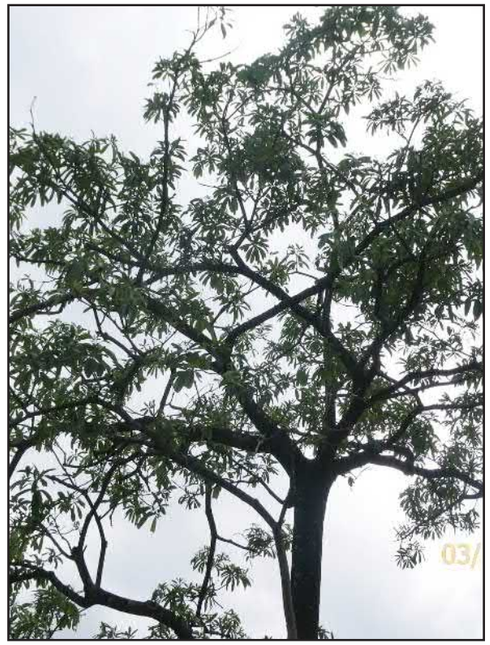
Crown

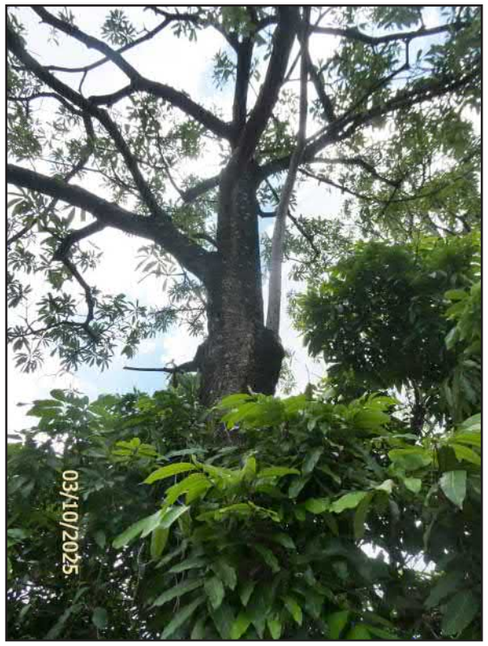
Trunk

Trunk Base

T054 - *Alstonia scholaris* 糖膠樹

Whole View


Crown



Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
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T055 - *Dimocarpus longan* 龍眼

Whole View

Crown

Trunk

Trunk Base

T056 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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T057 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

T058 - *Artocarpus heterophyllus* 菠蘿蜜

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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T059 - *Dimocarpus longan* 龍眼

Whole View

Crown

Trunk

Trunk Base

T060 - *Dimocarpus longan* 龍眼

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

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AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T061 - *Psidium guajava* 番石榴

Whole View

Crown

Trunk

Trunk Base

T062 - *Dimocarpus longan* 龍眼

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T063 - *Dimocarpus longan* 龍眼

Whole View

Crown

Trunk

Trunk Base

T064 - *Dimocarpus longan* 龍眼

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

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AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T065 - *Dimocarpus longan* 龍眼

Whole View

Crown

Trunk

Trunk Base

T066 - *Dimocarpus longan* 龍眼

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T067 - *Dimocarpus longan* 龍眼

Whole View

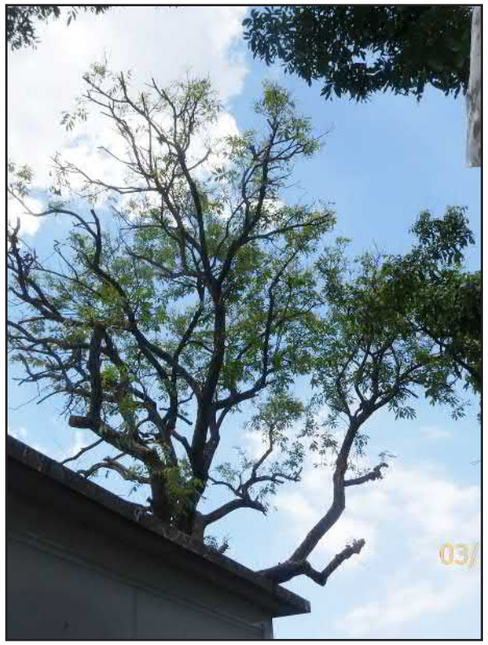
Crown

Trunk

Trunk Base

T068 - *Dimocarpus longan* 龍眼

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
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T069 - *Morus alba* 桑樹

Whole View

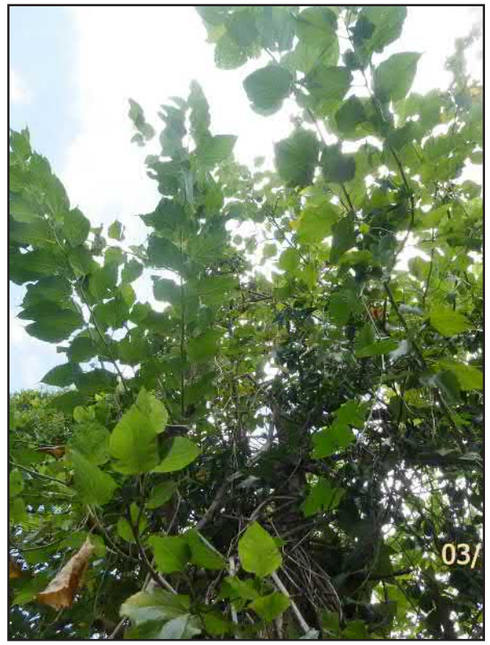
Crown

Trunk

Trunk Base

T070 - *Morus alba* 桑樹

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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T071 - *Spathodea campanulata* 火焰木

Whole View

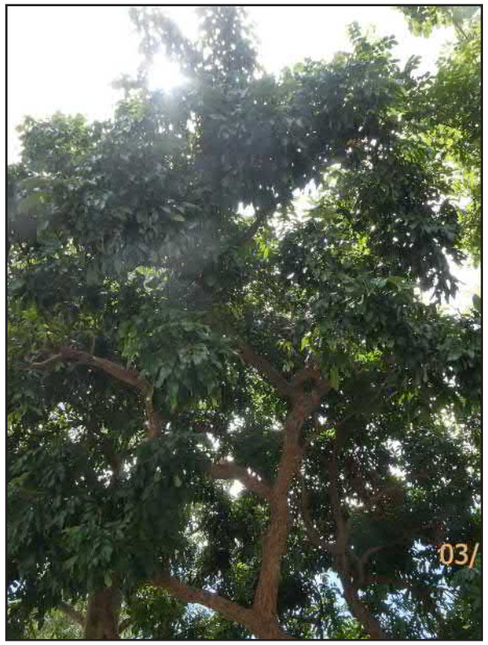
Crown

Trunk

Trunk Base

T072 - *Dimocarpus longan* 龍眼

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T073 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

T074 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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Civil Engineering and Development Department

T075 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

T076 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

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Tree Survey Photo Records

Drawing no.			Rev.
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T077 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

T078 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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T079 - *Alstonia scholaris* 糖膠樹

Whole View

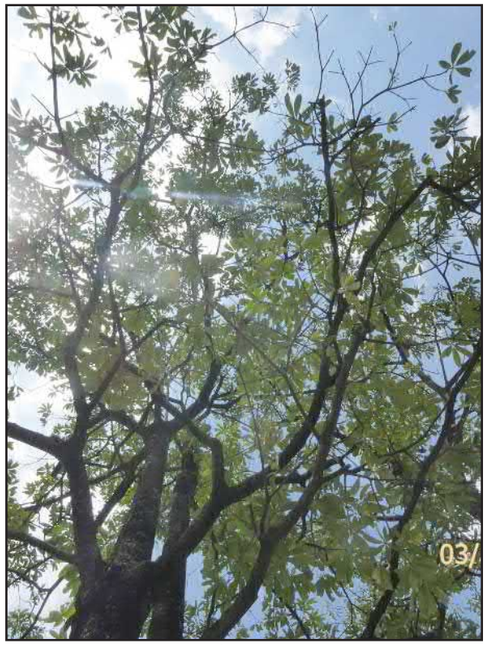
Crown

Trunk

Trunk Base

T080 - *Alstonia scholaris* 糖膠樹

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

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Civil Engineering and Development Department

T081 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

T082 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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T083 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

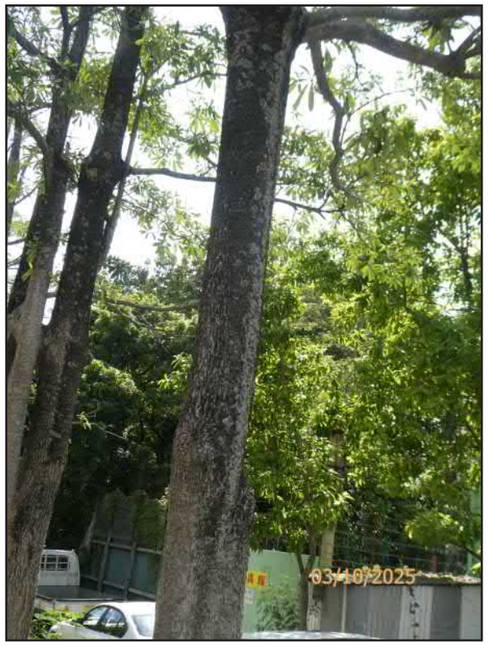
Trunk

Trunk Base

T084 - *Alstonia scholaris* 糖膠樹

Whole View

Crown



Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

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AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T085 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

T086 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

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AY	OCT 2025	RH	CY

Scale	Status

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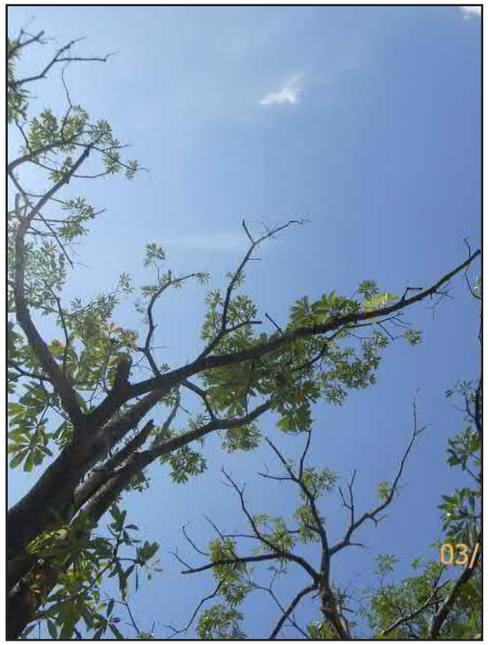
Civil Engineering and Development Department

T087 - *Alstonia scholaris* 糖膠樹

Whole View



Crown

Trunk

Trunk Base

T088 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T089 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

T090 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

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Civil Engineering and Development Department

T091 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

T092 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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T093 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

T094 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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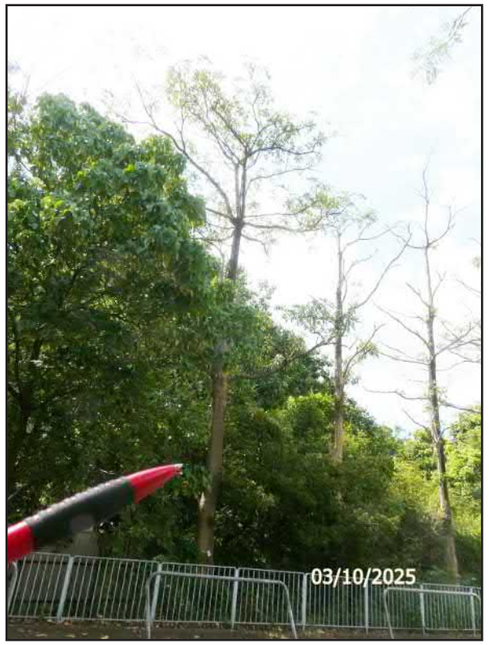
T095 - *Alstonia scholaris* 糖膠樹



Whole View

Crown

Trunk

Trunk Base

T096 - *Macaranga tanarius* 血桐

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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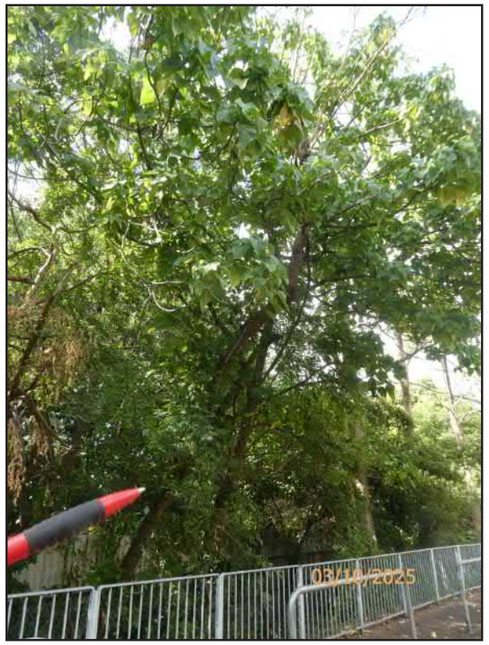
Civil Engineering and Development Department

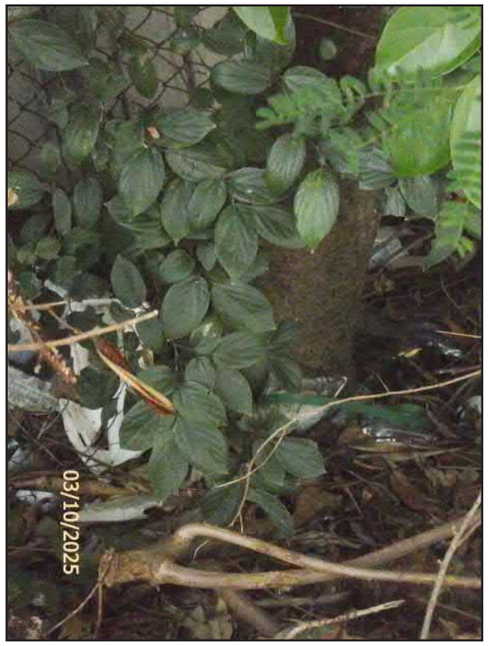
T097 - *Leucaena leucocephala* 銀合歡



Whole View

Crown

Trunk



Trunk Base

T098 - *Bridelia tomentosa* 土蜜樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
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Scale	Status

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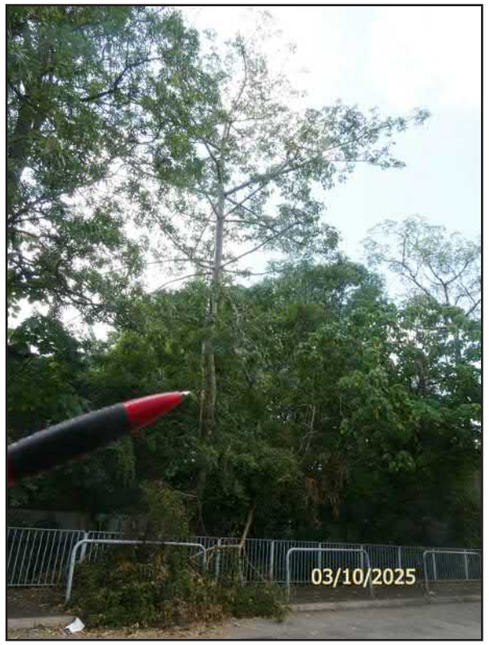
T099 - *Bombax ceiba* 木棉



Whole View

Crown

Trunk

Trunk Base

T100 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
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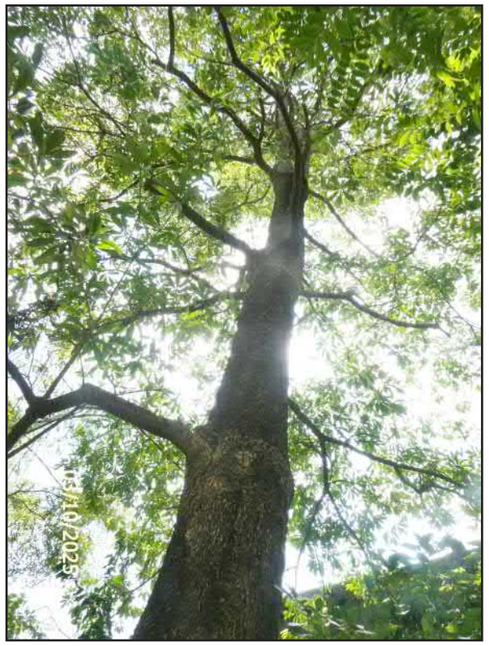
T101 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

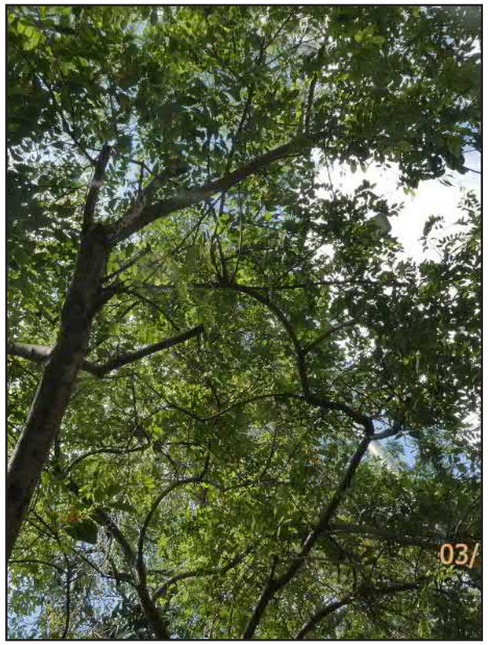


Trunk

Trunk Base

T102 - *Bridelia tomentosa* 土蜜樹

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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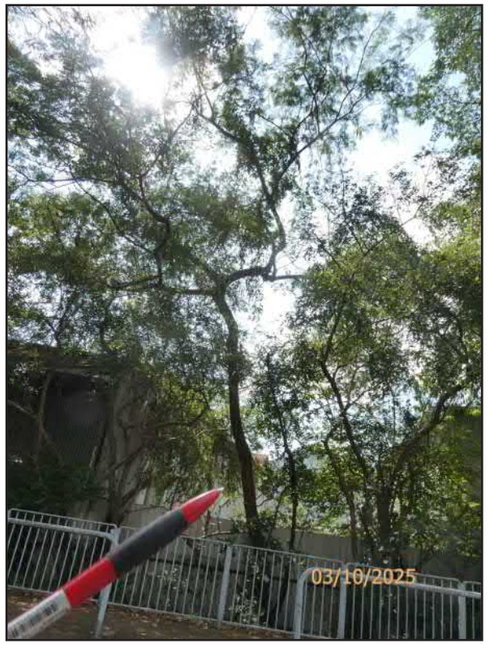
Civil Engineering and Development Department

T103 - *Leucaena leucocephala* 銀合歡



Whole View

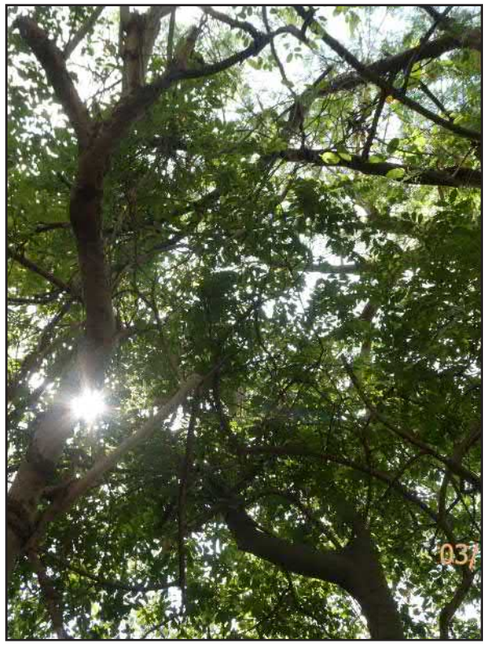
Crown

Trunk

Trunk Base

T104 - *Celtis sinensis* 朴樹

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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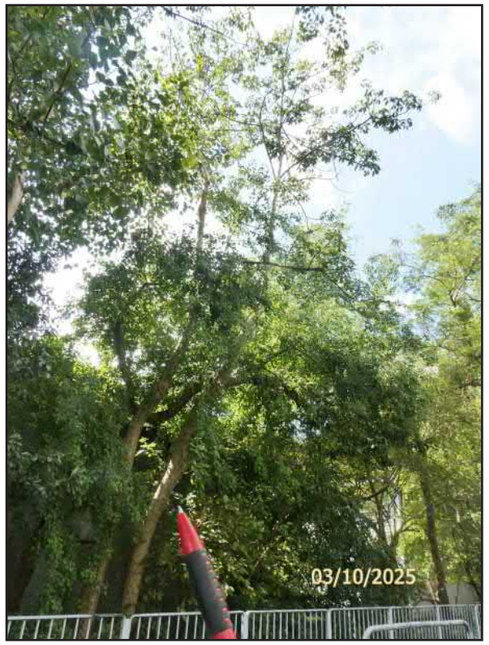
Civil Engineering and Development Department

T106 - *Bombax ceiba* 木棉



Whole View

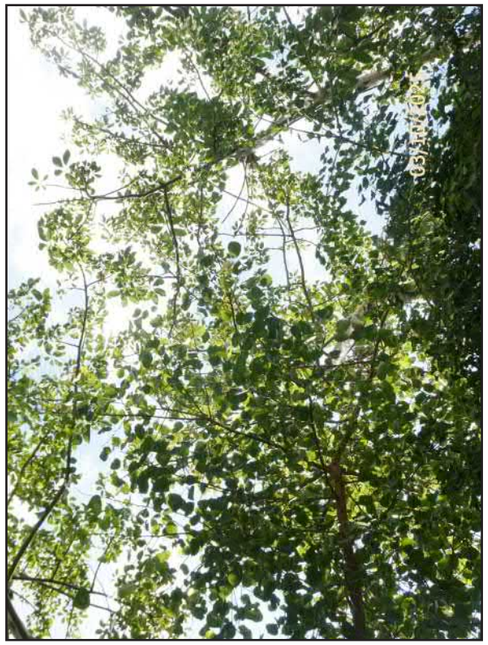
Crown

Trunk

Trunk Base

T106 - *Bombax ceiba* 木棉

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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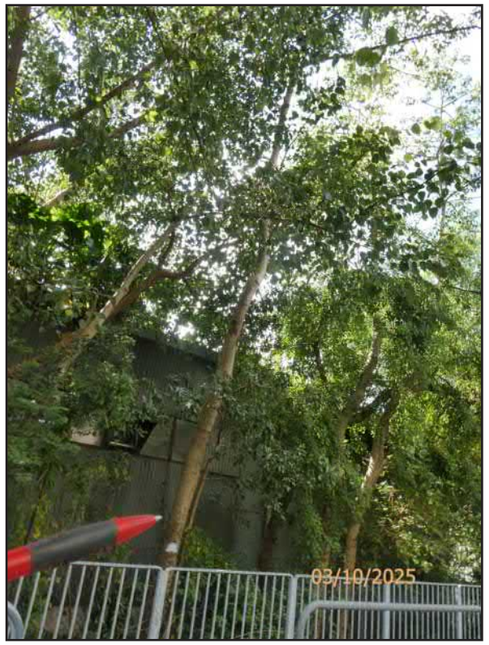
Civil Engineering and Development Department

T107 - *Bombax ceiba* 木棉



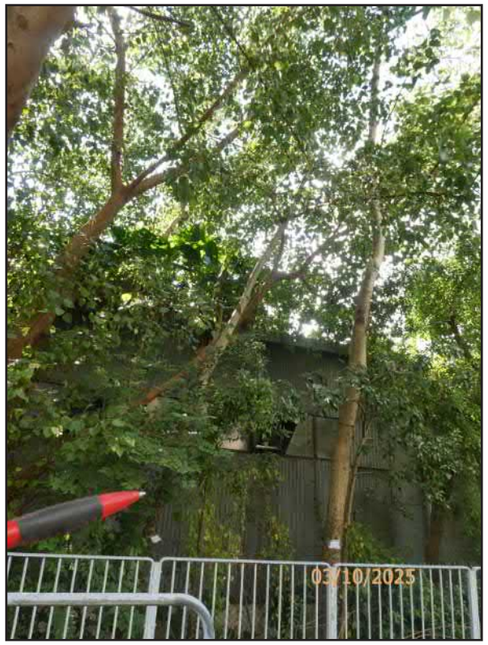
Whole View

Crown

Trunk

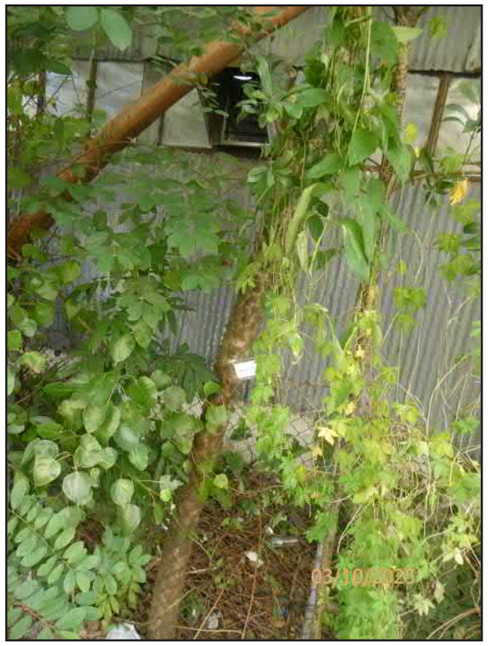
Trunk Base

T108 - *Bombax ceiba* 木棉



Whole View

Crown



Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T109 - *Ficus religiosa* 菩提樹

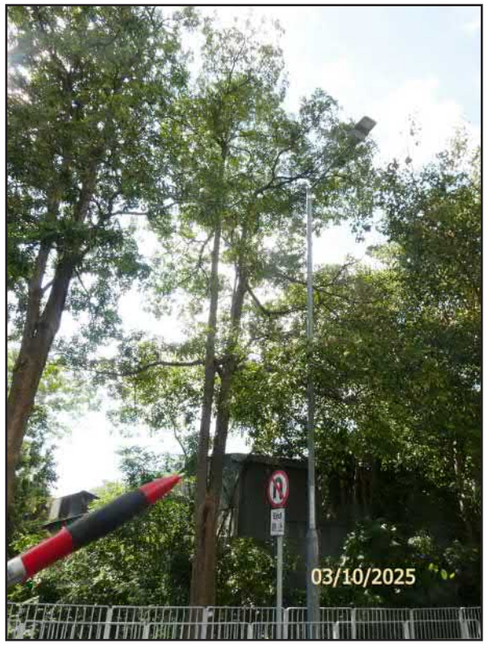
Whole View

Crown

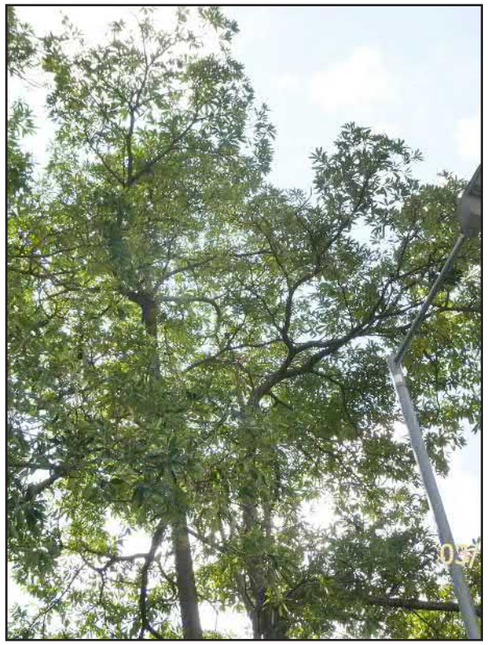
Trunk

Trunk Base

T110 - *Alstonia scholaris* 糖膠樹



Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
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T111 - *Alstonia scholaris* 糖膠樹

Whole View

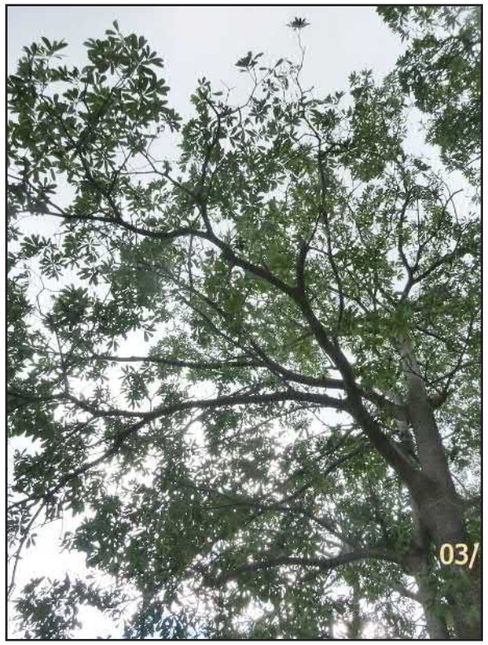
Crown

Trunk

Trunk Base

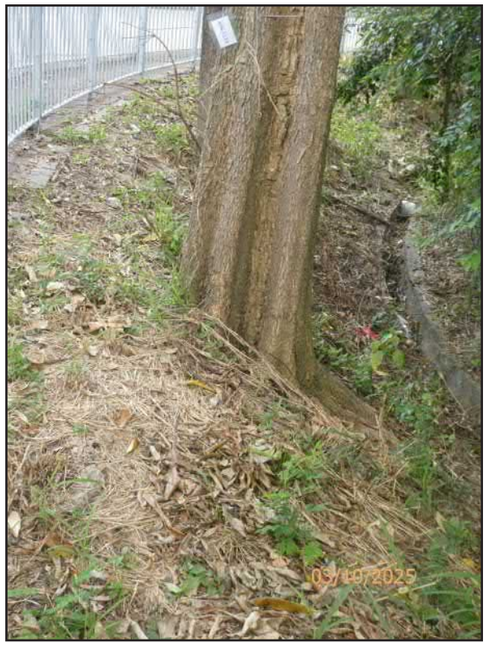
T112 - *Alstonia scholaris* 糖膠樹

Whole View



Crown

Trunk



Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
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T113 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

T114 - *Bombax ceiba* 木棉

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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T115 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

T116 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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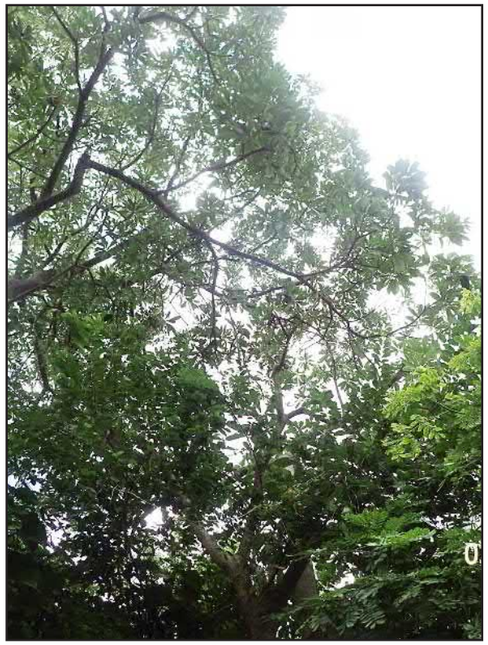
Civil Engineering and Development Department

T117 - *Alstonia scholaris* 糖膠樹

Whole View



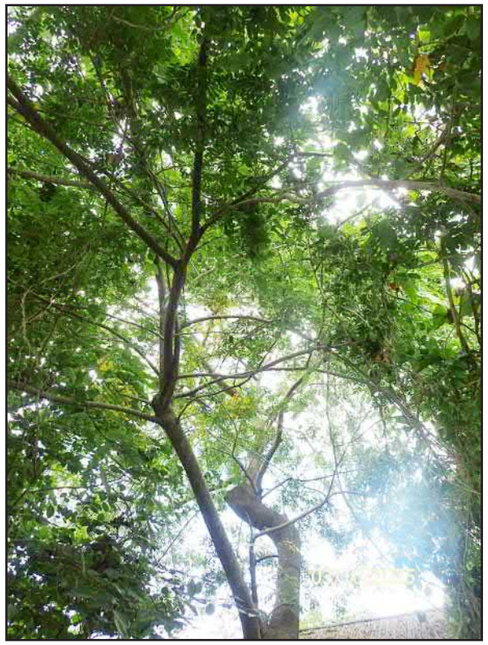
Crown

Trunk

Trunk Base

T118 - *Albizia lebbeck* 大葉合歡

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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T119 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

T120 - *Alstonia scholaris* 糖膠樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
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T121 - *Bombax ceiba* 木棉

Whole View

Crown

Trunk

Trunk Base

T122 - *Sterculia nobilis* 蘋婆

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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T123 - *Aporusa dioica* 銀柴

Whole View

Crown

Trunk

Trunk Base

T124 - *Macaranga tanarius* 血桐

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

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T125 - *Melia azedarach* 苦楝

Whole View

Crown

Trunk

Trunk Base

T126 - *Bridelia tomentosa* 土蜜樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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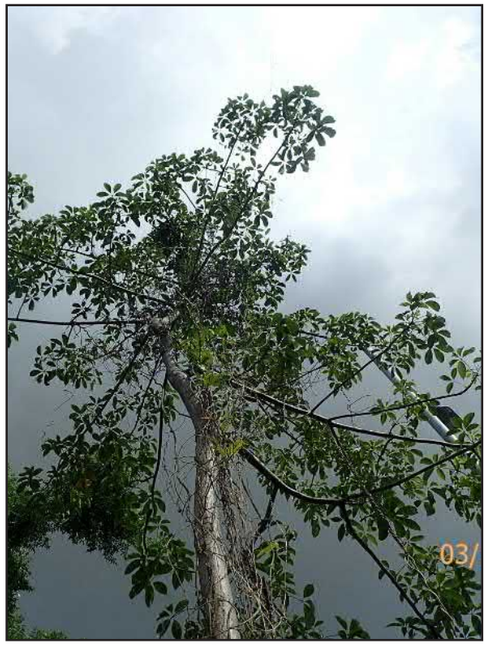
Civil Engineering and Development Department

T127 - *Bombax ceiba* 木棉

Whole View



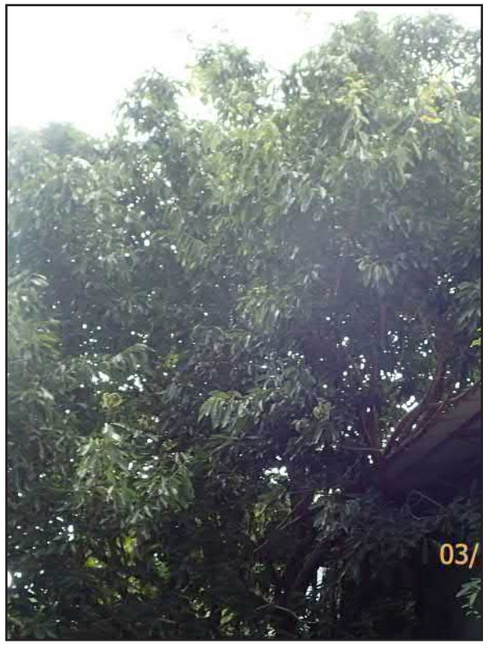
Crown

Trunk

Trunk Base

T128 - *Ficus virens* 黃葛樹

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
Scale		Status	

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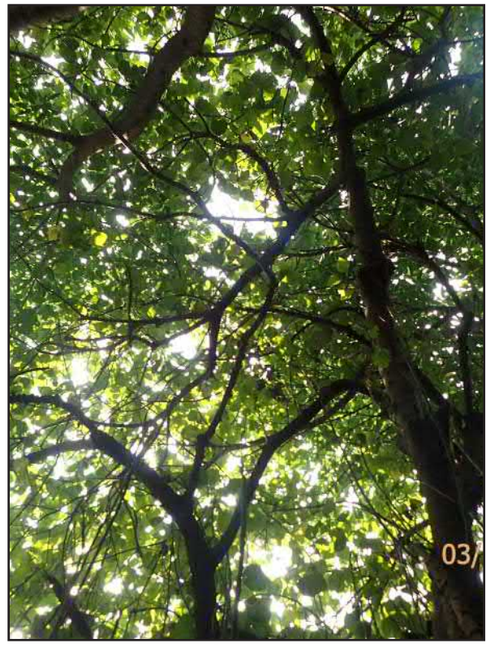
T129 - *Macaranga tanarius* 血桐

Whole View



Crown

Trunk

Trunk Base

T130 - *Cinnamomum camphora* 樟樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
Scale		Status	

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T131 - *Cinnamomum camphora* 樟樹

Whole View

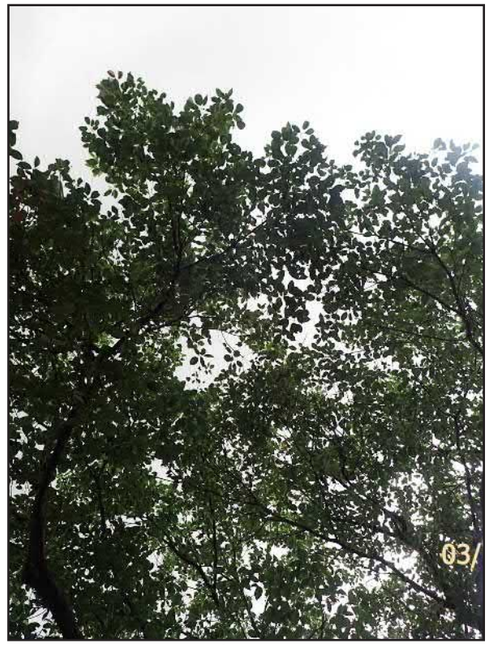
Crown

Trunk

Trunk Base

T132 - *Cinnamomum camphora* 樟樹

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
Scale		Status	

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CEDD 土木工程拓展署 Civil Engineering and Development Department

T133 - *Cinnamomum camphora* 樟樹

Whole View

Crown

Trunk

Trunk Base

T134 - *Cinnamomum camphora* 樟樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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CEDD 土木工程拓展署
Civil Engineering and Development Department

T135 - *Cinnamomum camphora* 樟樹

Whole View

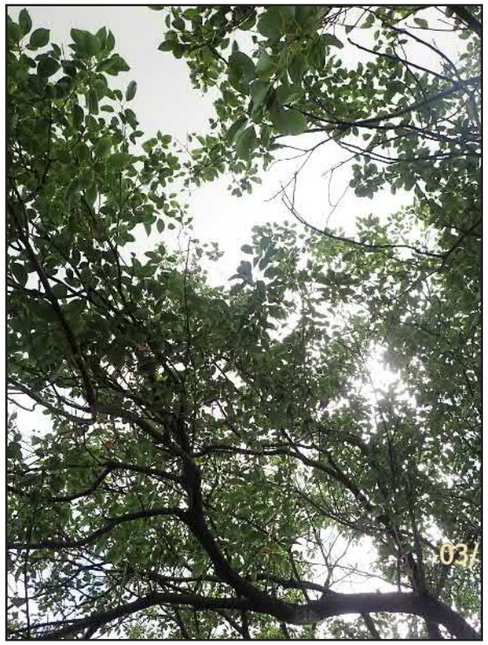
Crown

Trunk

Trunk Base

T136 - *Cinnamomum camphora* 樟樹

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T137 - *Cinnamomum camphora* 樟樹

Whole View

Crown

T138 - *Cinnamomum camphora* 樟樹

Whole View

Crown

Trunk

Trunk Base

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T139 - *Cinnamomum camphora* 樟樹

Whole View

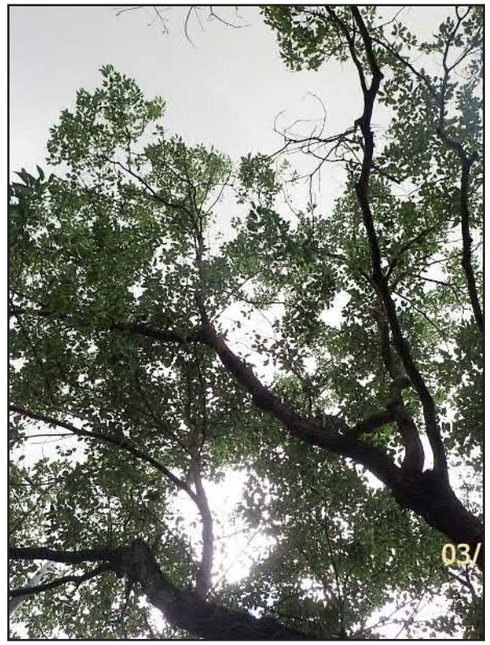
Crown

Trunk

Trunk Base

T140 - *Cinnamomum camphora* 樟樹

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T141 - *Cinnamomum camphora* 樟樹

Whole View

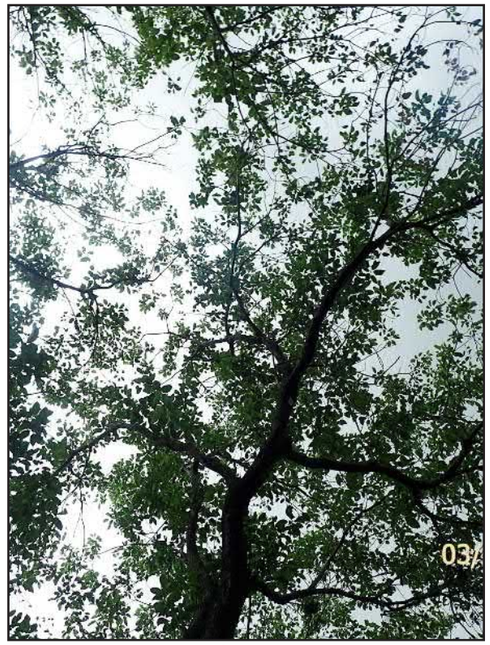
Crown

Trunk

Trunk Base

T142 - *Cinnamomum camphora* 樟樹

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T143 - *Cinnamomum camphora* 樟樹

Whole View

Crown

Trunk

Trunk Base

T144 - *Cinnamomum camphora* 樟樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T145 - *Cinnamomum camphora* 樟樹

Whole View

Crown

Trunk

Trunk Base

T146 - *Cinnamomum camphora* 樟樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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CEDD 土木工程拓展署
Civil Engineering and Development Department

T147 - *Cinnamomum camphora* 樟樹

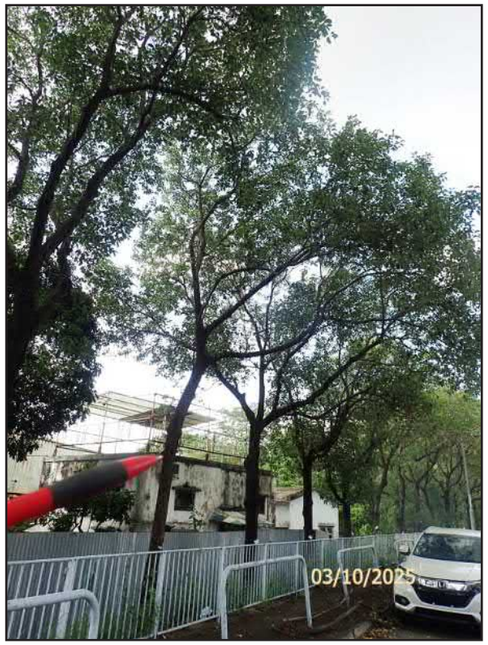
Whole View

Crown

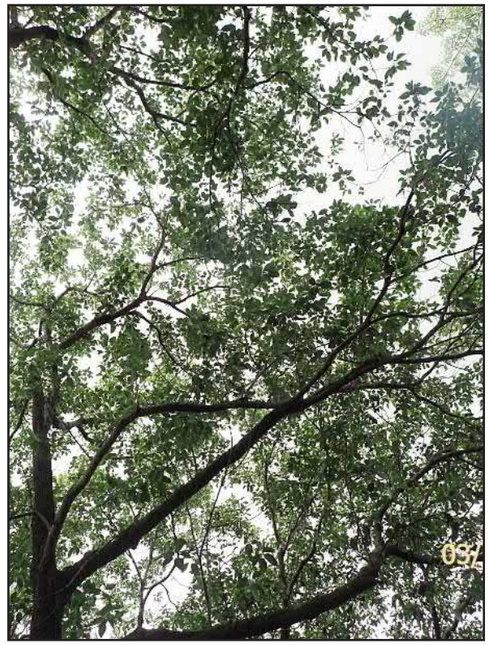
Trunk

Trunk Base

T148- *Cinnamomum camphora* 樟樹



Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
Scale		Status	

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T149 - *Cinnamomum camphora* 樟樹

Whole View

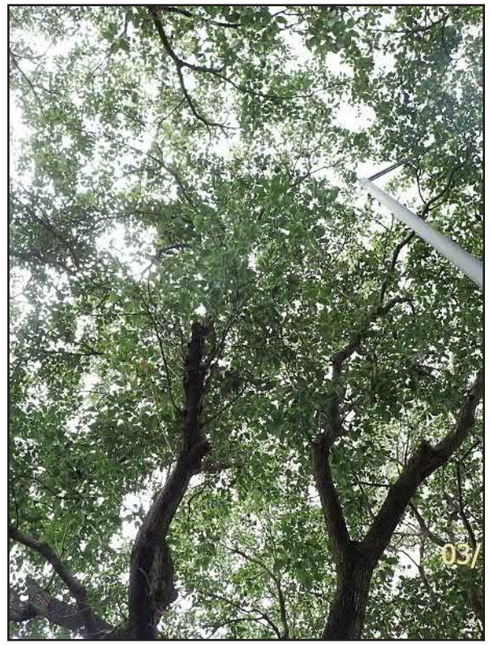
Crown

Trunk

Trunk Base

T150 - *Cinnamomum camphora* 樟樹

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T151 - *Cinnamomum camphora* 樟樹

Whole View

Crown

Trunk

Trunk Base

T152 - *Cinnamomum camphora* 樟樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
Scale		Status	

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T153 - *Cinnamomum camphora* 樟樹

Whole View

Crown

Trunk

Trunk Base

T154 - *Cinnamomum camphora* 樟樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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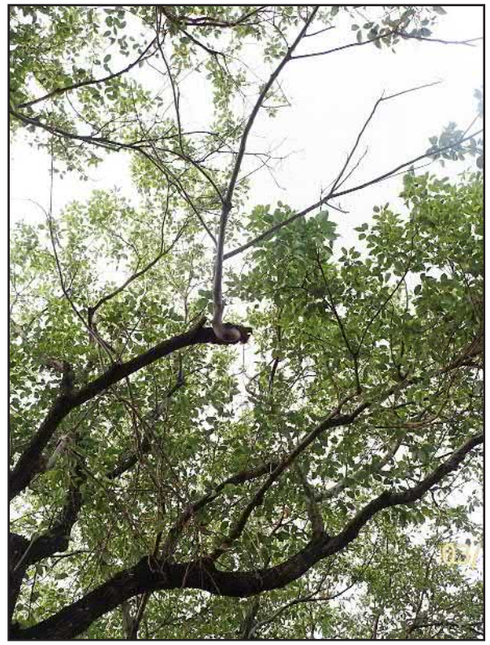
Civil Engineering and Development Department

T155 - *Cinnamomum camphora* 樟樹

Whole View



Crown

Trunk

Trunk Base

T156 - *Cinnamomum camphora* 樟樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
Scale		Status	

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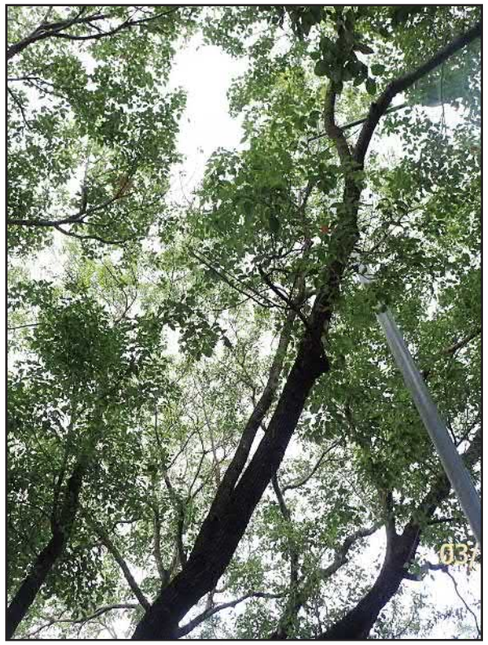
T157 - *Cinnamomum camphora* 樟樹

Whole View

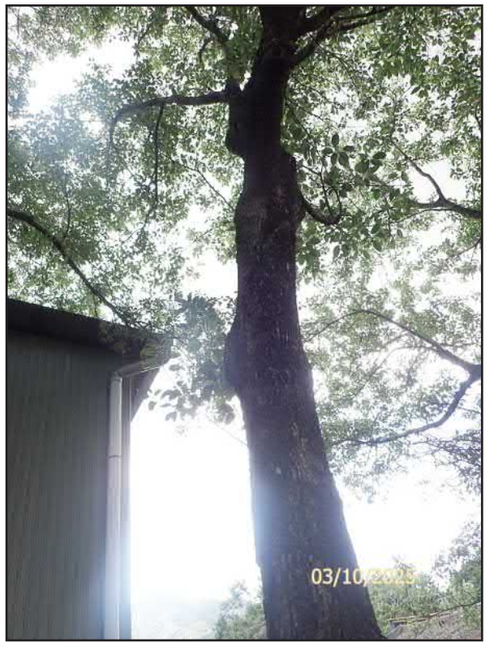
Crown

T158 - *Cinnamomum camphora* 樟樹

Whole View



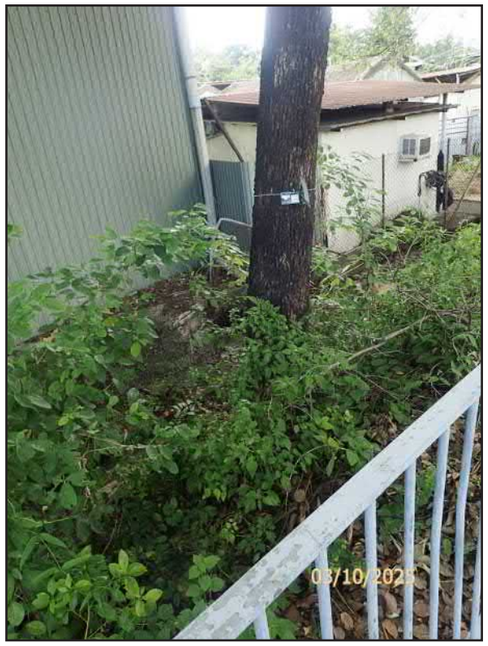
Crown



Trunk

Trunk Base

Trunk



Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
Scale		Status	

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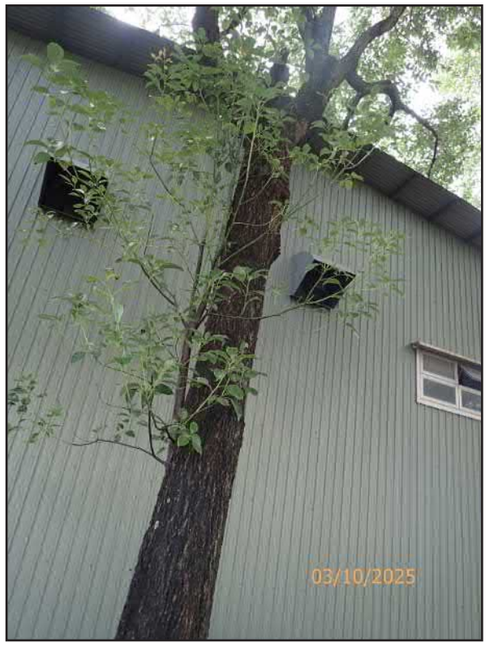
T159 - *Cinnamomum camphora* 樟樹

Whole View

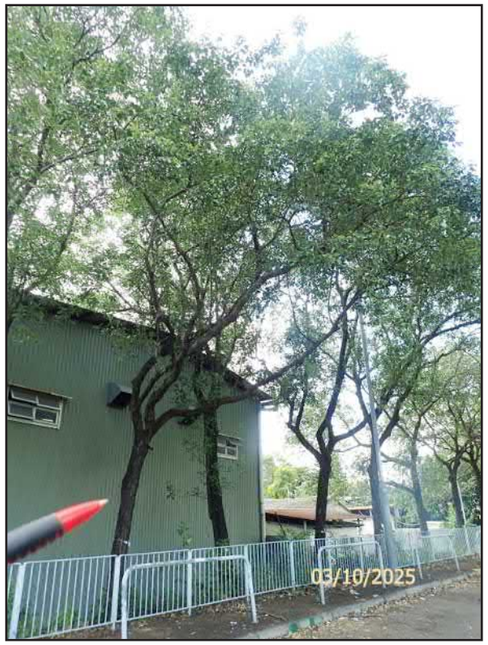
Crown



Trunk

Trunk Base

T160 - *Cinnamomum camphora* 樟樹



Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T161 - *Cinnamomum camphora* 樟樹

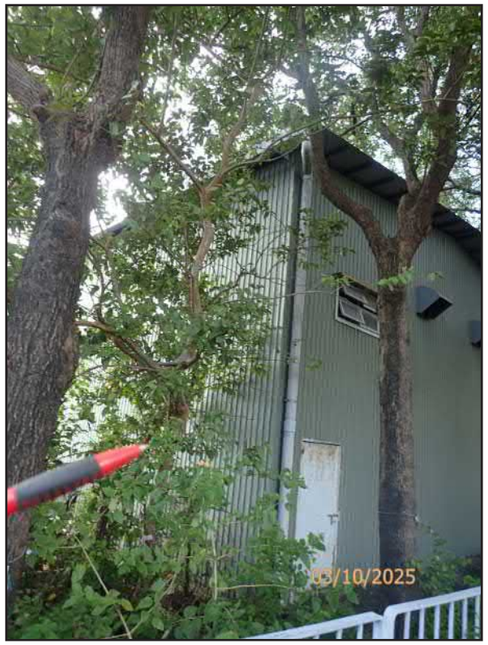
Whole View

Crown

Trunk

Trunk Base

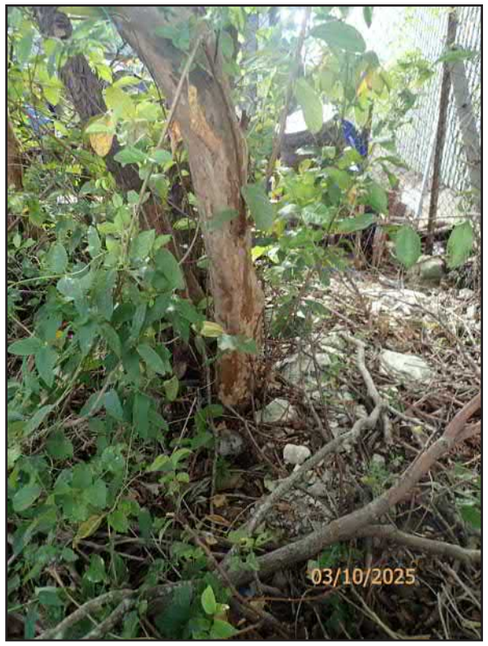
T162 - *Psidium guajava* 番石榴



Whole View

Crown

Trunk



Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
Scale		Status	

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CEDD 土木工程拓展署 Civil Engineering and Development Department

T163 - *Psidium guajava* 番石榴

Whole View

Crown

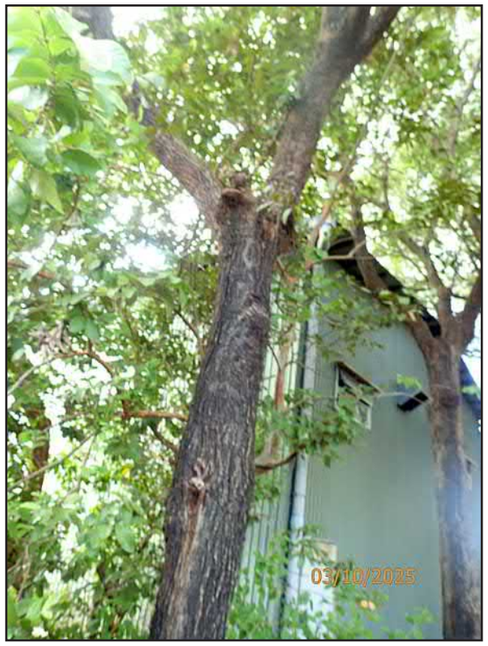
Trunk

Trunk Base

T164 - *Cinnamomum camphora* 樟樹

Whole View

Crown



Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

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Scale	Status

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Civil Engineering and Development Department

T165 - *Celtis sinensis* 朴樹

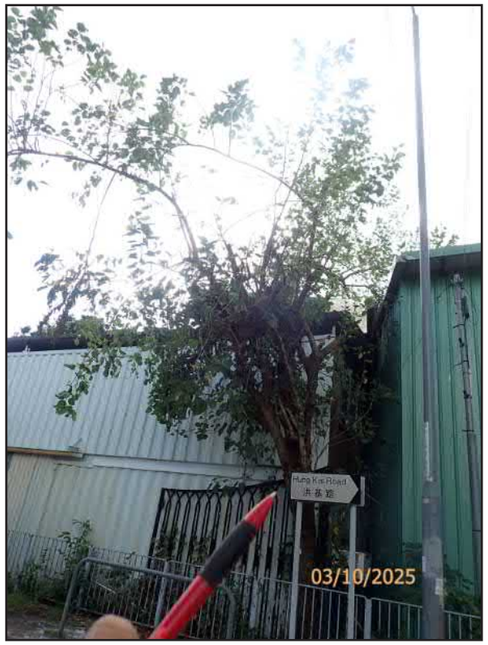
Whole View

Crown

Trunk

Trunk Base

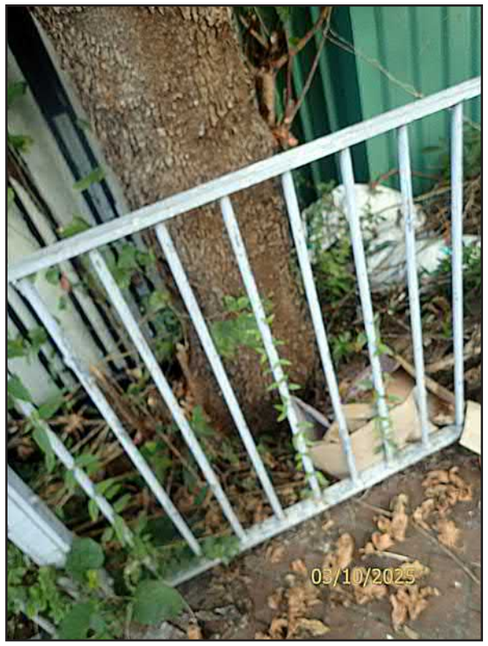
T166 - *Morus alba* 桑樹



Whole View

Crown

Trunk



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Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
Scale		Status	

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T167 - *Plumeria rubra* 雞蛋花

Whole View

Crown

Trunk

Trunk Base

T168 - *Litsea glutinosa* 潺槁樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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Drawn: AY	Date: OCT 2025	Checked: RH / Approved: CY
Scale	Status	

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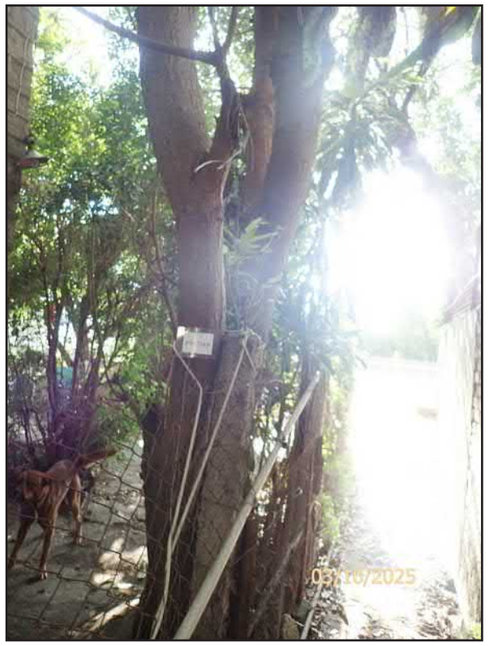
T169 - *Mangifera indica* 杧果

Whole View

Crown

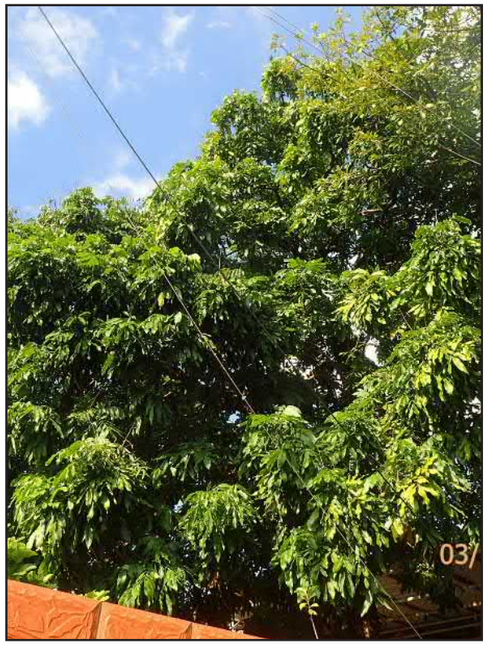


Trunk

Trunk Base

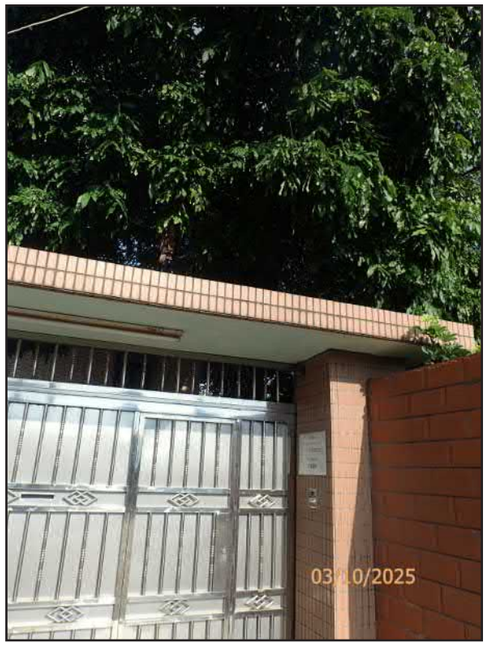
T170 - *Dimocarpus longan* 龍眼

Whole View



Crown

Trunk



Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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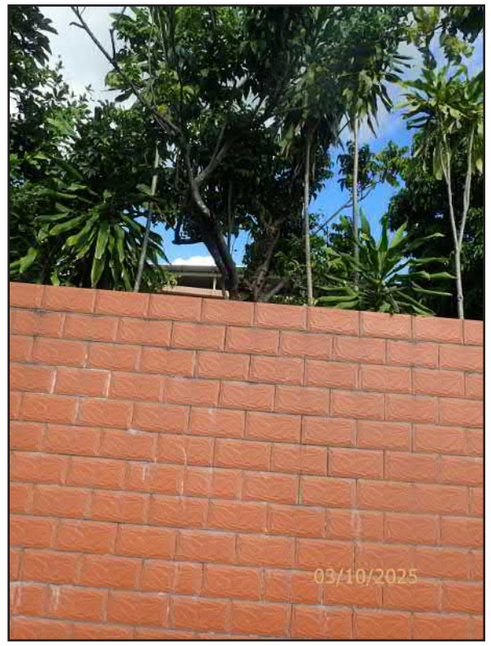
Civil Engineering and Development Department

T171 - *Clausena lansium* 黃皮

Whole View

Crown

Trunk



Trunk Base

T172 - *Clausena lansium* 黃皮

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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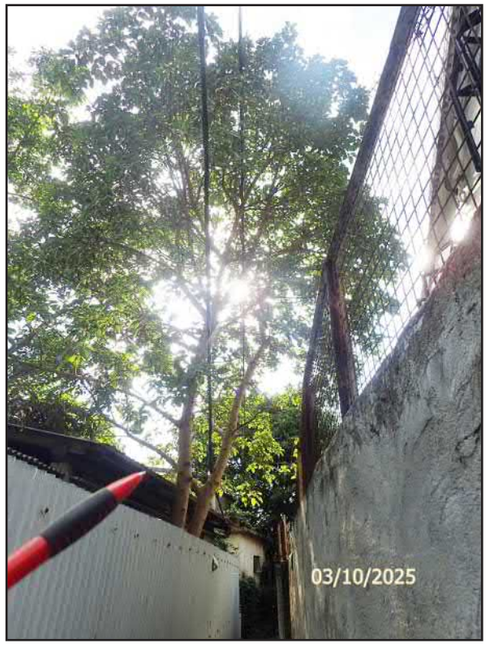
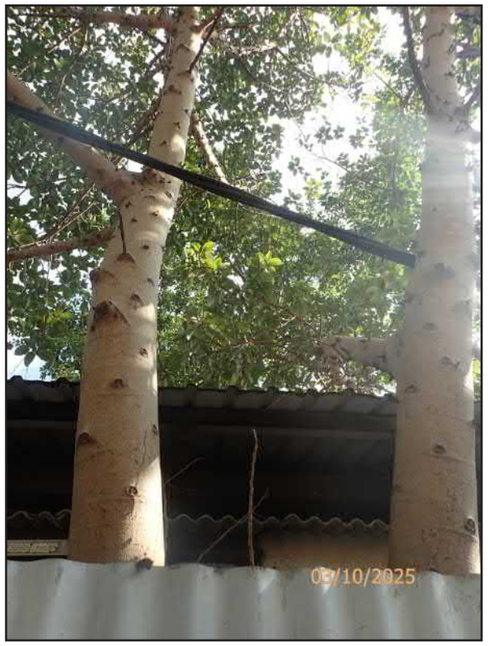
CEDD 土木工程拓展署 Civil Engineering and Development Department

T173 - *Ficus variegata* 青果榕

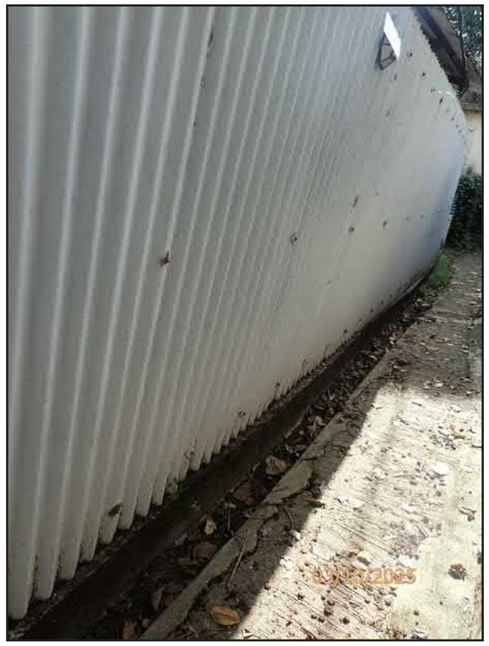


Whole View

Crown



Trunk



Trunk Base

T174 - *Artocarpus heterophyllus* 菠蘿蜜

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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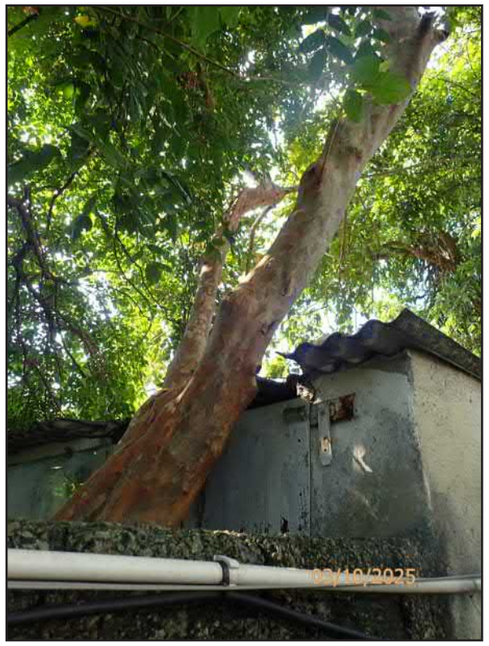
T175 - *Psidium guajava* 番石榴

Whole View

Crown

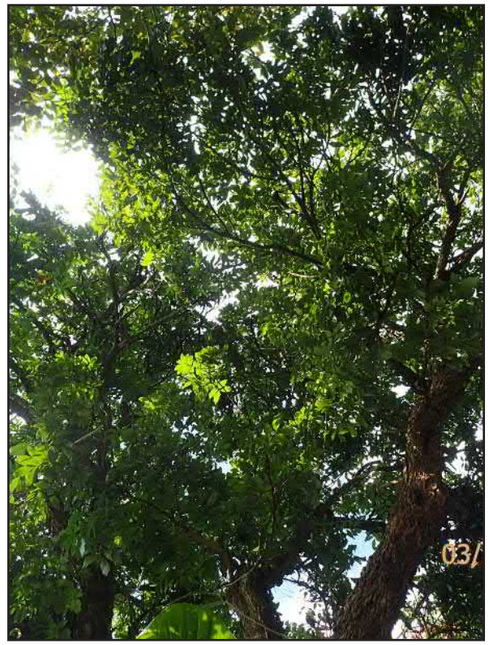


Trunk

Trunk Base

T176 - *Dimocarpus longan* 龍眼

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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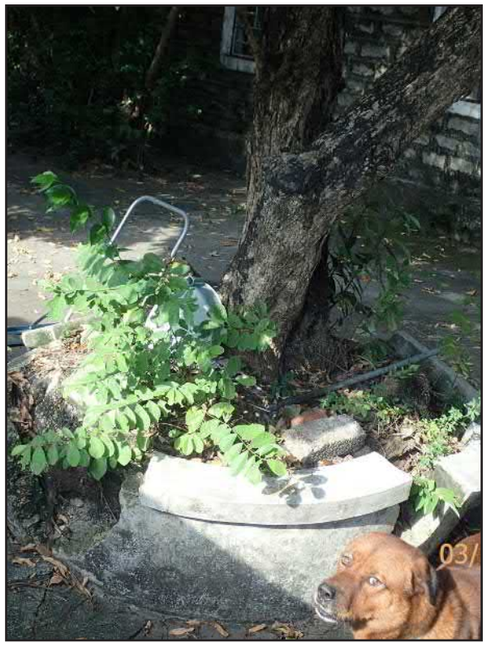
Civil Engineering and Development Department

T177 - *Dimocarpus longan* 龍眼

Whole View

Crown

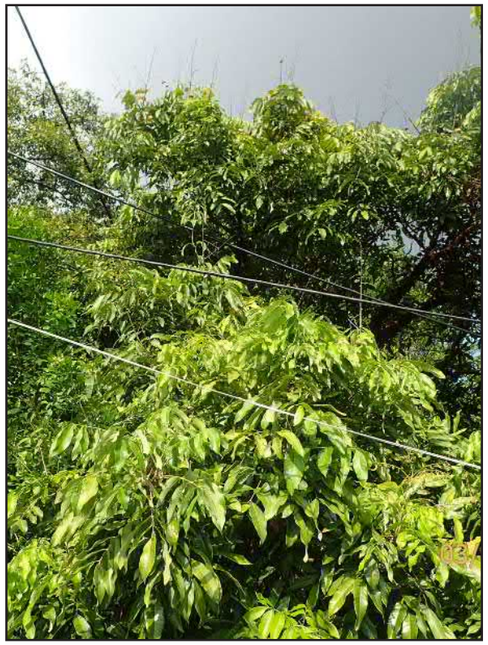
Trunk



Trunk Base

T178 - *Dimocarpus longan* 龍眼

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.
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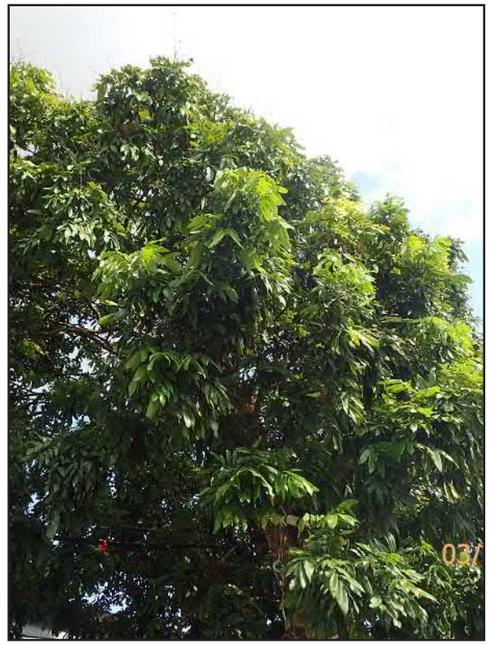
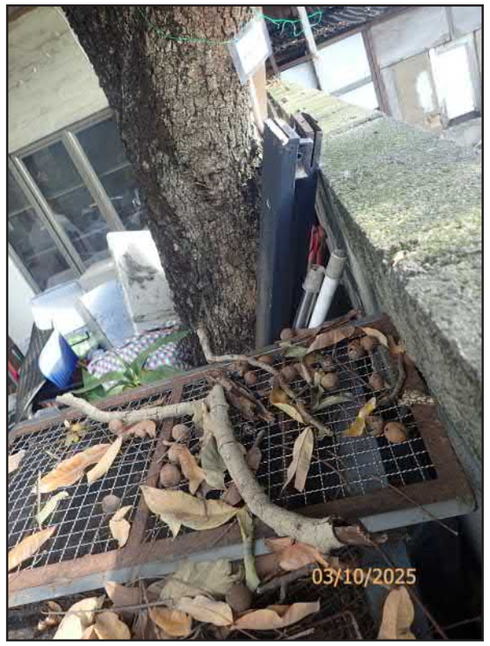
T179 - *Dimocarpus longan* 龍眼

Whole View



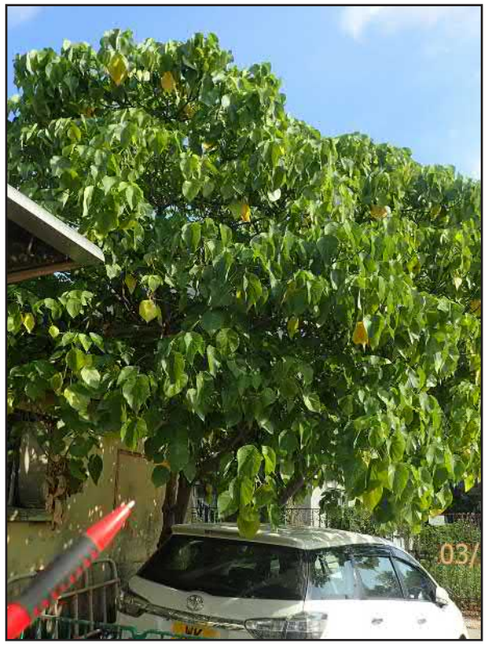
Crown

Trunk

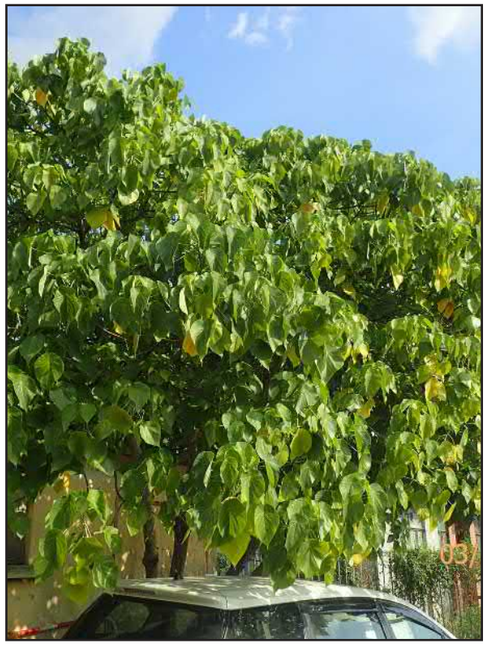


Trunk Base

T180 - *Macaranga tanarius* 血桐



Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
Scale		Status	

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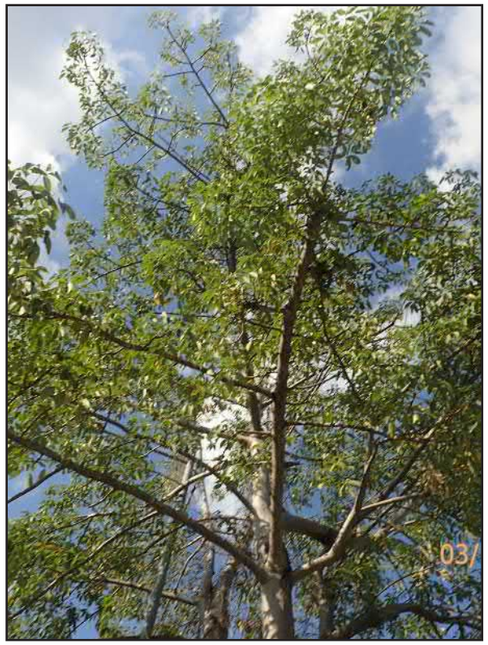
T181 - *Bombax ceiba* 木棉

Whole View

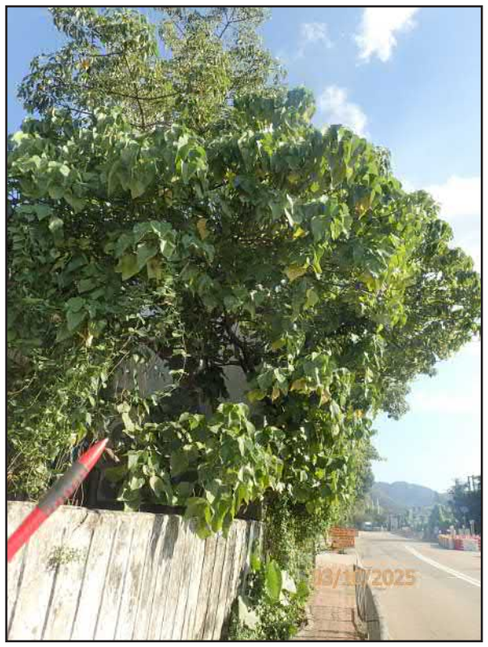


Crown

Trunk

Trunk Base

T182 - *Macaranga tanarius* 血桐



Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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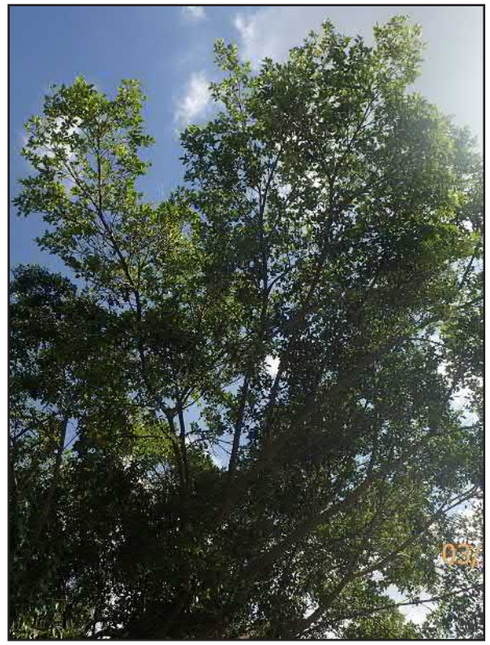
Civil Engineering and Development Department

T183 - *Ficus microcarpa* 榕樹

Whole View



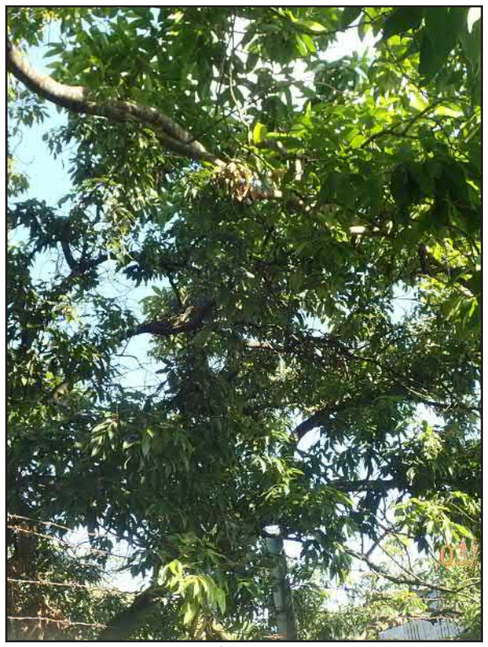
Crown

Trunk

Trunk Base

T184 - *Litchi chinensis* 荔枝

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T185 - *Michelia x alba* 白蘭

Whole View

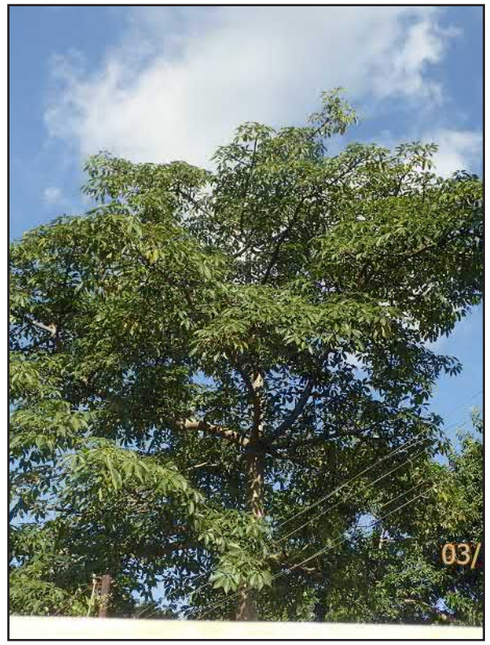
Crown

Trunk

Trunk Base

T186 - *Bombax ceiba* 木棉

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.
Drawn: AY	Date: OCT 2025	Checked: RH / Approved: CY
Scale	Status	

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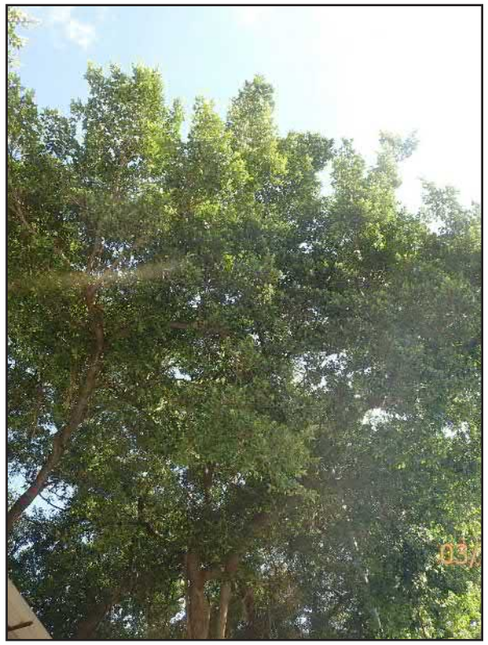
T187 - *Ficus microcarpa* 榕樹

Whole View



Crown

Trunk

Trunk Base

T188 - *Ficus microcarpa* 榕樹

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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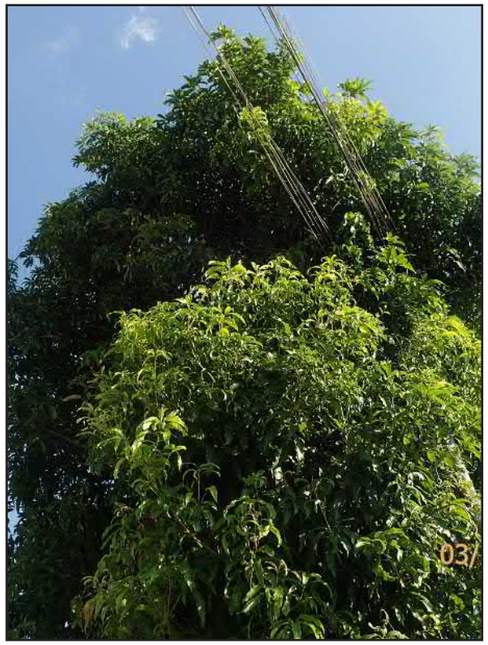
Civil Engineering and Development Department

T189 - *Mangifera indica* 杧果

Whole View



Crown

Trunk

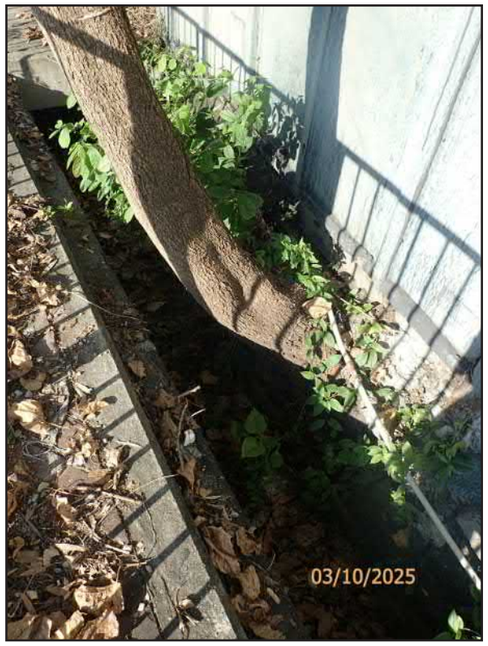
Trunk Base

T190 - *Morus alba* 桑樹

Whole View

Crown

Trunk



Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
Scale		Status	

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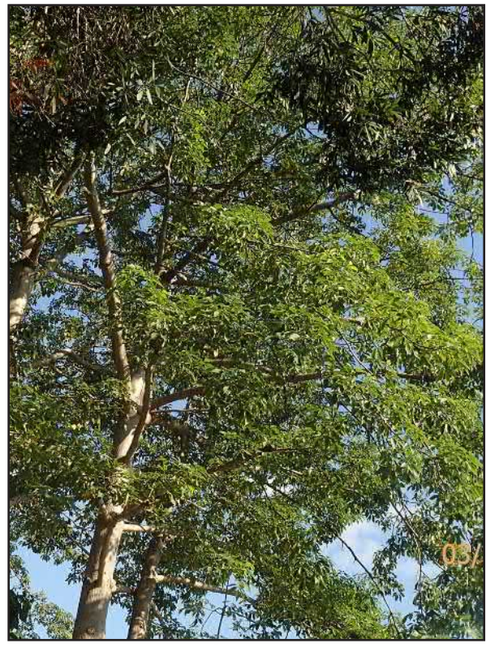
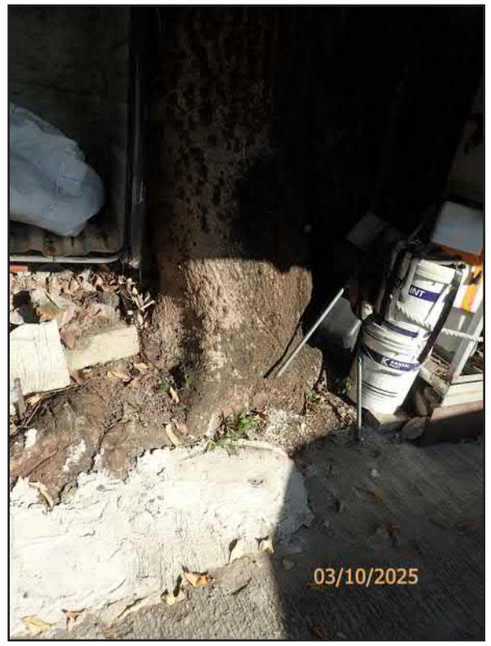
T191 - *Bombax ceiba* 木棉

Whole View



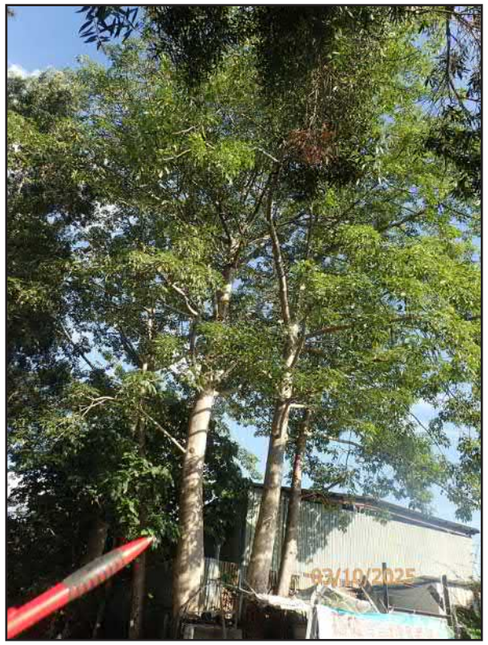
Crown

Trunk

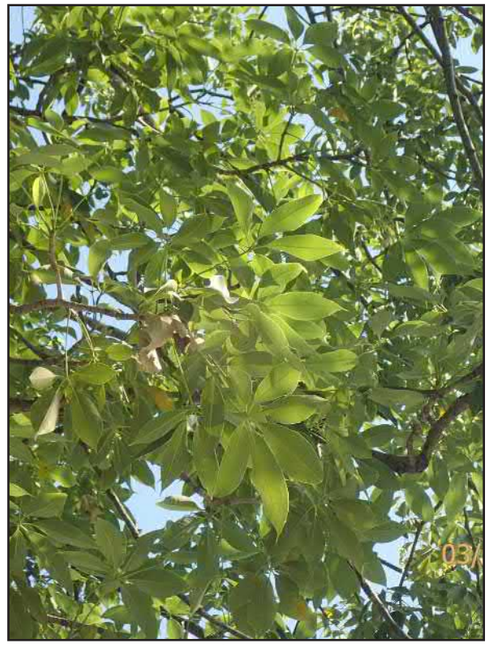


Trunk Base

T192 - *Bombax ceiba* 木棉



Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
Scale		Status	

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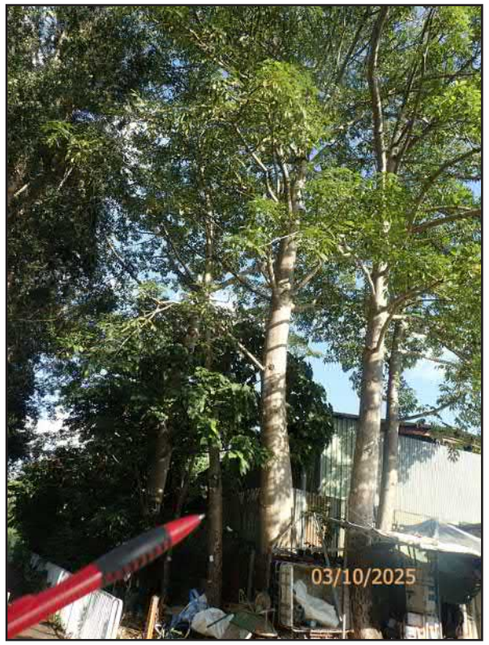
T193 - *Bombax ceiba* 木棉



Whole View

Crown

Trunk

Trunk Base

T194 - *Macaranga tanarius* 血桐

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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T195 - *Bombax ceiba* 木棉

Whole View

Crown

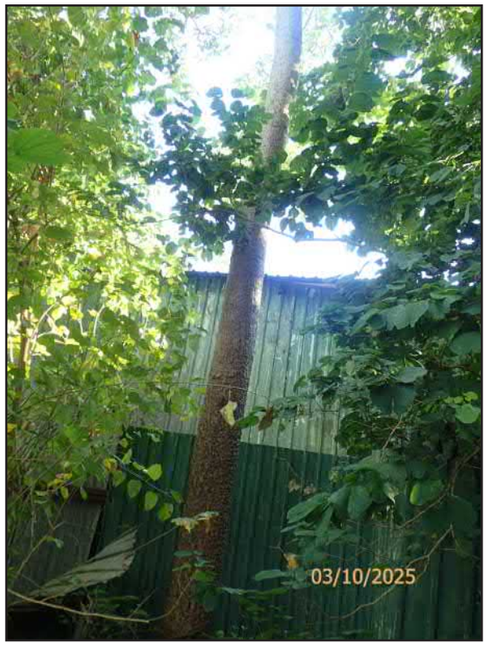
Trunk

Trunk Base

T196 - *Bombax ceiba* 木棉

Whole View

Crown



Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
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Scale		Status	

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T197 - *Bombax ceiba* 木棉

Whole View

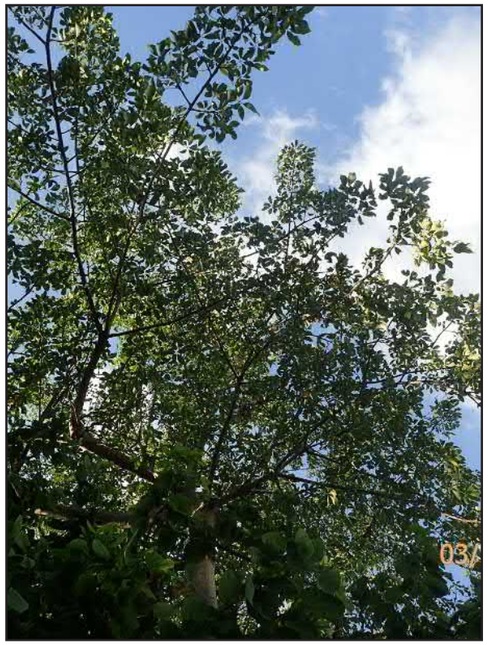
Crown

Trunk

Trunk Base

T198 - *Bombax ceiba* 木棉

Whole View



Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.			Rev.
Drawn: AY	Date: OCT 2025	Checked: RH	Approved: CY
Scale		Status	

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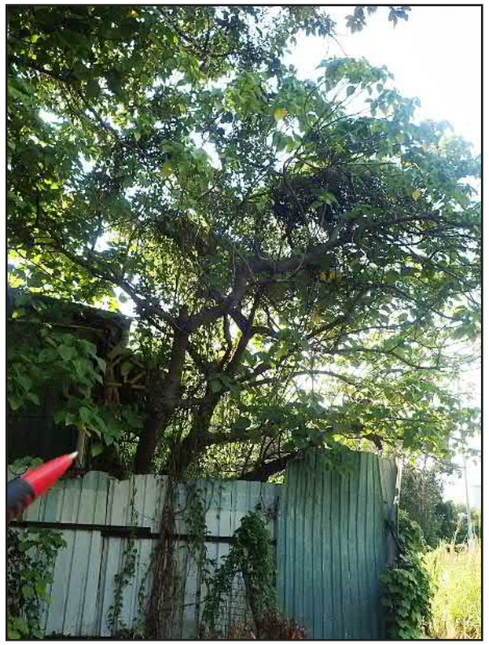
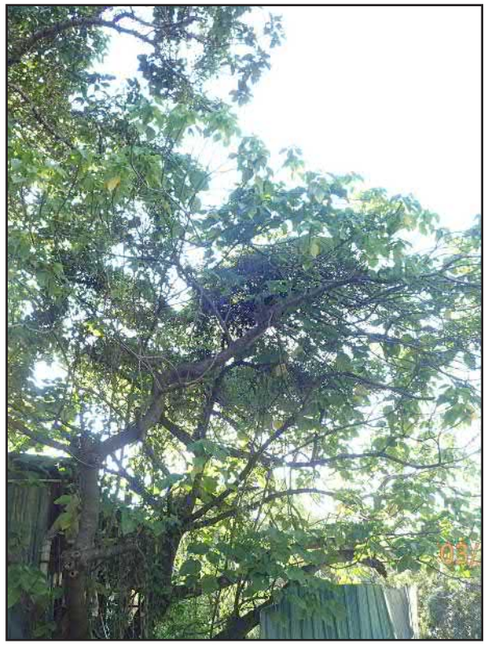
T199 - *Macaranga tanarius* 血桐



Whole View

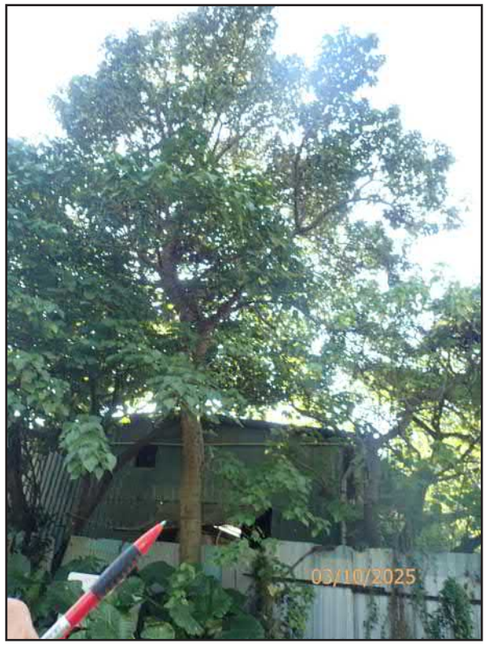


Crown

Trunk

Trunk Base

T200 - *Ficus variegata* 青果榕



Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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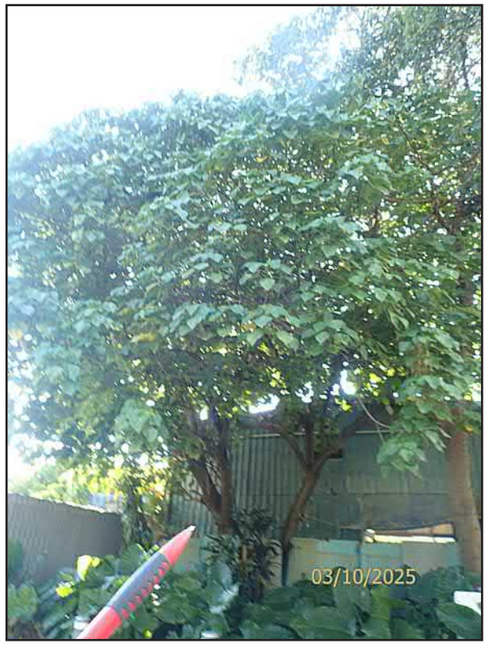
T201 - *Macaranga tanarius* 血桐蘭



Whole View

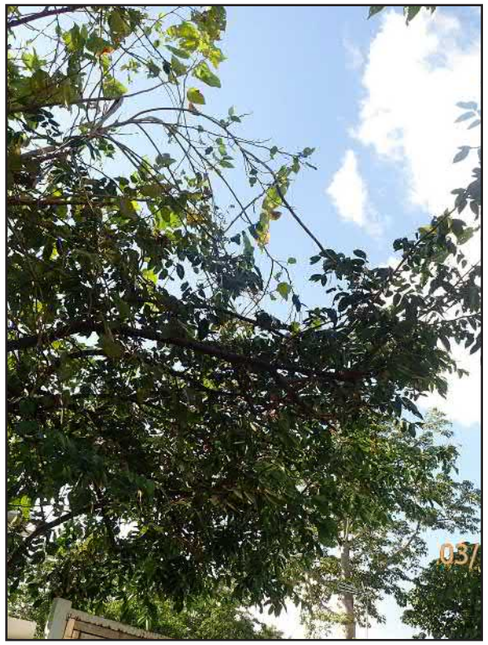
Crown

Trunk

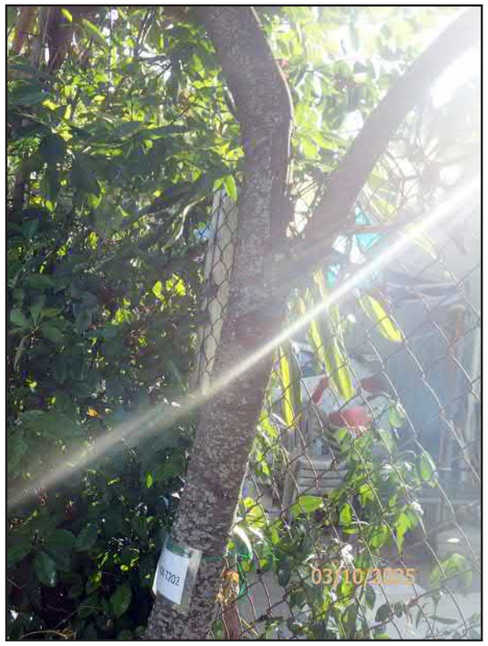
Trunk Base

T202 - *Averrhoa carambola* 楊桃

Whole View



Crown



Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

Drawing no.		Rev.

Drawn	Date	Checked	Approved
AY	OCT 2025	RH	CY

Scale	Status

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Civil Engineering and Development Department

T203 - *Morus alba* 桑樹

Whole View

Crown

Trunk

Trunk Base

T204 - *Michelia x alba* 白蘭

Whole View

Crown

Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

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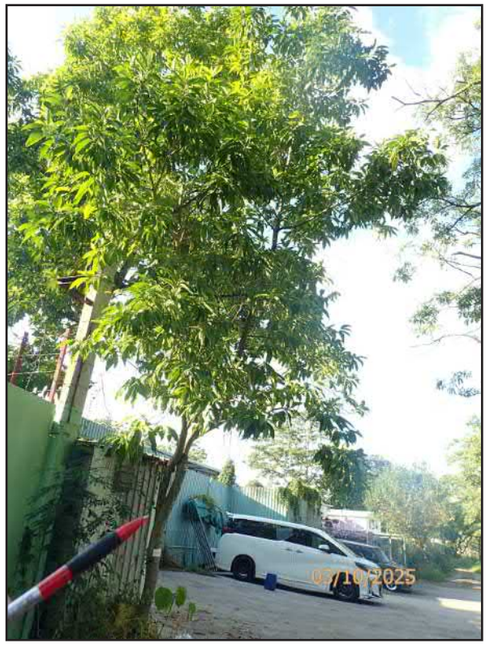
T205 - *Michelia x alba* 白蘭


Whole View

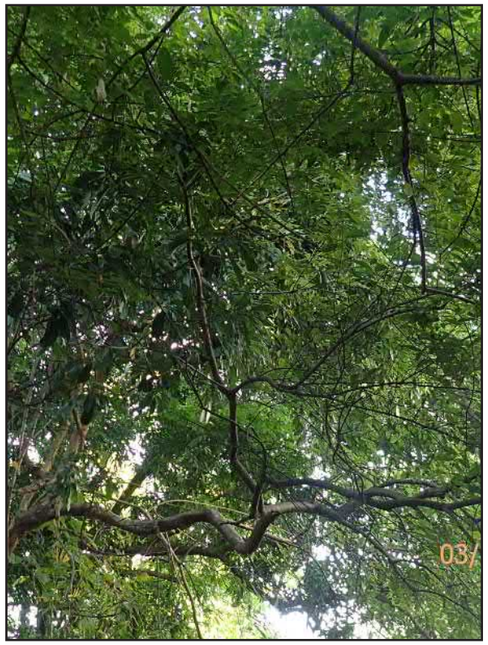
Crown

Trunk

Trunk Base

T206 - *Bridelia tomentosa* 土蜜樹

Whole View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Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Tree Survey Photo Records

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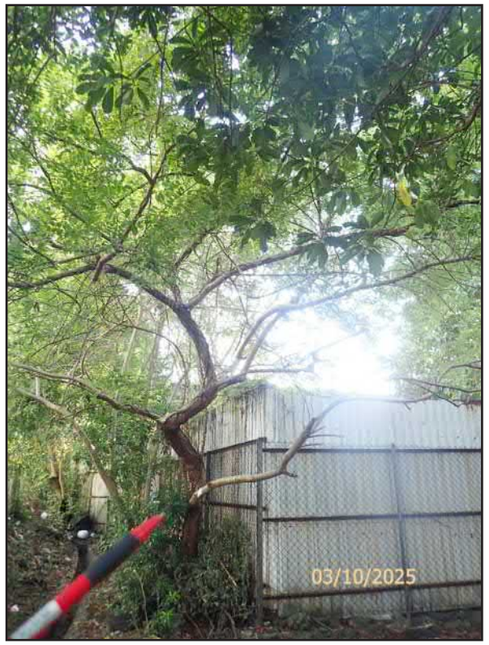
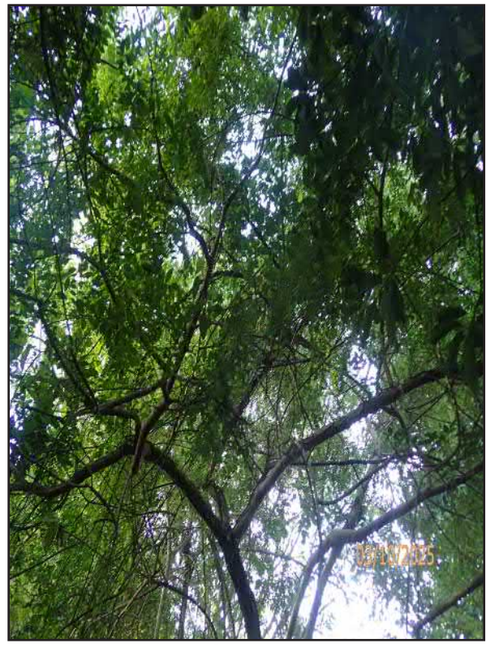
T207 - *Bridelia tomentosa* 土蜜樹



Whole View



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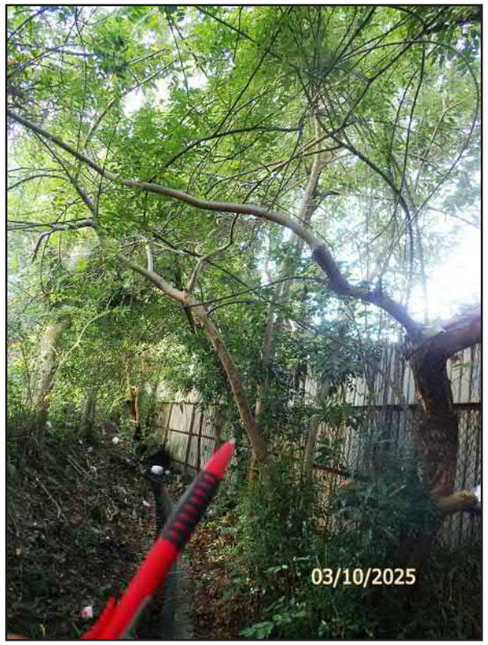
T208 - *Bridelia tomentosa* 土蜜樹



Whole View

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Trunk Base

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Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

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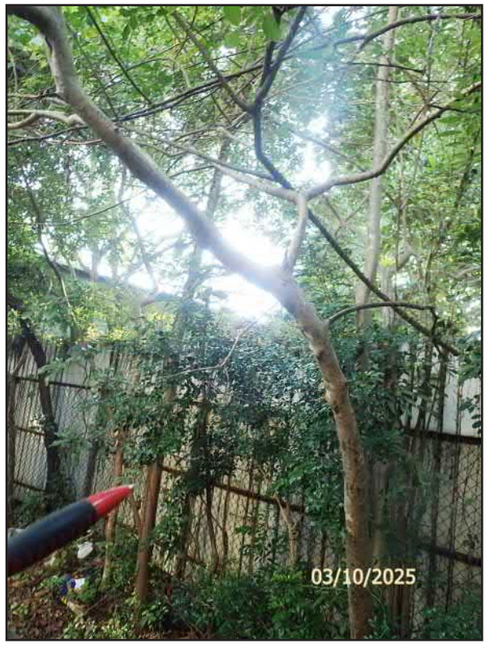
T209 - *Litsea monopetala* 假柿樹



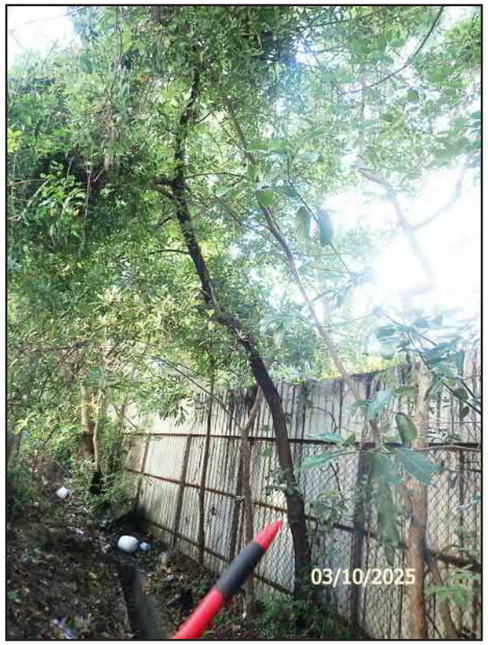
Whole View

Crown

Trunk

Trunk Base

T210 - *Litsea glutinosa* 潺槁樹



Whole View

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Trunk

Trunk Base

Rev	Description	By	Date

Consultant

ARUP

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Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

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Annex I Visual Impact Assessment

ARUP

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Visual Impact Assessment

Final | February 2026

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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1. Introduction

1.1 Background

1.1.1 This Visual Impact Assessment ("VIA") is prepared in support of the Proposed Amendment to the Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan (HSK/HT OZP) No. S/HSK/2 at Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories (Development Sites) to rezone the Development Sites from "Residential (Group B) 3" ("R(B)3") to "Residential (Group A) 6" ("R(A)6") for Proposed Residential Development.

1.1.2 The Development Sites fall within Area 4B of the HSK/HT OZP, the Development Sites consist of Site 4B-1, Site 4B-2 and Site 4B-3. They belong to the Remaining Phase of the development plan of the HSK/HT NDA. The Development Sites contribute to an area of about 33,767m^2, intersected by the Hung Shui Kiu Tin Sam Road and Tin Ha Road. The Development Sites are largely occupied by existing low-rise buildings and temporary structures used for warehouses, workshops and open storage.

1.2 Scope of this Report

1.2.1 Point (g) of paragraph 2.3 of the Town Planning Board Guidelines No. 41A ("TPB PG-No. 41A") states that a VIA is required when "*the proposal may affect existing visually sensitive areas, visual amenities and visual resources on-site or off-site enjoyed by the public due to its nature, scale, location, visual prominence, design, relationship to the site context, etc.*" Accordingly, this VIA is prepared to evaluate the visual compatibility and degree of anticipated visual impacts of the **Indicative Scheme** on key public viewing points ("VPs") relevant to the Development Sites according to the requirements listed under TPB PG-No. 41A.

1.2.2 To facilitate the development of the NDA, an Environmental Impact Assessment (EIA) report (No. AEIAR-203/2016) has been approved in 2016 to identify and assess the potential visual impacts caused by the proposed development in the whole NDA. The approach of this VIA takes into account the visual impact assessment conducted under the EIA report and refers to the maximum development restriction as currently listed in the prevailing HSK/HT OZP, with reference to the Hung Shui Kiu and Ha Tsuen Outline Development Plan No. D/HSK/2 ("the ODP") and other approved planned and committed developments as the **OZP Compliant Scheme**, to which visual impacts of the Indicative Scheme will be evaluated against. The Baseline Condition demonstrates the existing conditions.

1.2.3 The outline for the VIA is set out below:

- **Section 2** outlines the visual context of the Development Sites and its Surrounding Area;
- **Section 3** describes the main design principles of the Indicative Scheme;
- **Section 4** identifies the Assessment Area and provides an analysis of the viewing points ("VPs");
- **Section 5** assesses the visual impacts; and
- **Section 6** concludes the VIA.

2. Visual Context of the Development Sites and its Surrounding Area

2.1 Site Context and Existing Land Use

2.1.1 The Development Sites consist of Site 4B-1, Site 4B-2 and Site 4B-3, totalling about 33,767m^2 and are currently occupied by temporary structures for domestic and brownfield operation uses in a large extent. The Sites are currently zoned as "R(B)3" under HSK/HT OZP No. S/HSK/2 gazetted in 2018 to reflect the existing/ committed developments. The Development Sites comprise a total of about 26,205m^2 private land lots (73 nos.) and adjoining Government Land of about 7,562 m^2, including GLA TYL No.1900 for a pavilion to the northeast corner of Area 4B-3 in Hung Shui Kiu, New Territories.

2.1.2 The Development Sites are bounded by existing vehicular roads, Hung Shui Kiu Tin Sam Road to the north, Hung Shui Kiu Main Street to the east and Tin Ha Road to the west. Hung Yu Road and Hung Leong Road run the east-west axis while Hung Kei Road runs the north-south axis, delineating the boundaries of the component Sites 4B-1, 4B-2 and 4B-3. There is an existing pedestrian access to the north-eastern corner of the Development Sites connecting to Hung Shui Kiu Tin Sam Road and Hung Shui Kiu Main Street, except most areas being non publicly accessible, fenced and gated.

2.1.3 Site 4B-1 is fenced and gated by the currently occupying domestic and brownfield operation uses along the western and northern boundary at Tin Ha Road and Hung Leong Road, with a strip of large-crowned trees and vegetation along. The eastern boundary at Hung Kei Road is fenced and lined with uniform slender trees. There are a few established residential and communal buildings of two-storey high, namely 李方園, 瑞恩園, and Ha Tsuen Rural Committee. The core area is largely low temporary structures for car parking and repairing, storage, and rural workshops.

2.1.4 Site 4B-2 is gated by the currently occupying brownfield operation uses, which are predominately two to three-storey high covered temporary structures for warehouse, car and machinery workshops uses. Scattered vegetation groups are identified at the northern portion. A cluster of large trees and vegetation is located at the central portion along Hung Kei Road. There are intermittent tree rows bounding the Site.

2.1.5 Site 4B-3 is mostly fenced along the western and southern boundary at Hung Kei Road and Hung Yu Road, where the Site is gated by the currently occupying domestic uses, in the form of one to two-storey high covered temporary structures. At the eastern portion, small business for lifestyle and motor supplies are found. At the northern portion, a continuous strip of trees and vegetation is located along Hung Shui Kiu Tin Sam Road.

2.2 Surrounding Context

2.2.1 To the **immediate north** of the Development Sites is Hung Shui Kiu Tin Sam Road, beyond which is "Government, Institution or Community" ("G/IC") zone in Area 6A (a maximum BH of 3-8 storeys), which is currently occupied by brownfield operations predominately, with a public facility Hung Shui Kiu Public Toilet and Bathhouse inside the zone. To the **further north**, "Open Space" ("O") in Area 7, and "Village Type Development" ("V") in Area 5 (a maximum BH of 3 storeys), are identified. Both zones

contain a large number of temporary structures used for domestic and brownfield operations. Sam Lee Uk Tsuen, Tin Sam Tsuen, Flourish Garden, Zion Church and two public toilets are found inside the "V" zone.

2.2.2 To the **immediate west** of the Development Sites is a "V" zone in Area 29 (a general maximum BH of 3 storeys) with Tin Sum Tsuen Playground, Tin Sam Village Office and the village Shrine (Tung Fuk Tong) observed. The zone is also largely occupied by temporary structures for domestic and brownfield operation uses. Tin Ha Road Playground in "O" zone and temporary brownfield structures within "Residential (Group A) 3" ("R(A)3") zone in Area 27C and "R(A)2" zone in Area 27B (maximum BHs of +160mPD and +165mPD respectively) are observed. To the **further west**, "Other Specified Uses" ("OU") zones in Areas 28A and 28B (maximum BHs of 60-180mPD) are identified. In the vicinity are the future HSK Station (under construction targeting for commissioning in 2030), the Regional Plaza in "Open Space" ("O(1)") in Area 30 (a maximum BH of +20mPD) and the "O" zone in Area 33.

2.2.3 To the **immediate south** of the Development Sites are low-rise residential developments in the same "R(B)3" zone in Area 4A (a general maximum BH of 6 storeys), currently occupied by Case De Oro. A "G/IC" zone (a maximum BH of 2 storeys) adjoins the Site's southern boundary, currently occupied by The Church of Jesus Christ of Latter-day Saints. To the **further south** across Castle Peak Road Hung Shui Kiu, the areas are largely residential zones of various types which include "R(B)2", "R(B)3" and "R(D)" (maximum BHs of 2-12 storeys). The "R(B)2" and "R(B)3" areas are mostly medium to low-rise residential developments, e.g., Bauhinia Garden, The Verdancy, etc., intermixed with some temporary structures for brownfield and residency uses (Wo Ping San Tsuen), and open storage. The "R(D)" area is currently Tin Shui Wai (TSW) River Channel, along which is a factory and abundant temporary structures for rural workshops. A relatively small portion of areas are identified as "OU", "O" and "V" zones (generally maximum BHs of 3 storeys), currently temporary structures of Wo Ping San Tsuen and Chung Uk Tsuen are identified within.

2.2.4 To the **immediate east** of the Development Sites are riverside "O" zones along TSW River Channel. The "O" zones are currently equipped with benches and cycling facilities. It is part of the recreational spine of the HSK/HA NDA plan. To the **further east** are largely residential areas which comprises of various types, mainly "R(A)2", "R(A)3", "R(A)4" and "R(A)5" in Areas 8, 10, 2, 12 and 13 (generally maximum BHs of 90-140mPD). They are currently mid to high-rise residential developments e.g., Lai Hung Garden, High Park, Eminence Terrace I, etc., with one area occupied by MTR HSK Bus Depot and temporary structures. There are also "R(B)3" and "R(B)1" (maximum BHs of 4-6 storeys), "G/IC" (a maximum BH of 8 storeys) and "O" zones. The "R(B)" zones are currently low-rise residential blocks e.g. Ming Wai Court and Sheffield Villas. The "G/IC" zone currently consist of the Hung Yuen Road Refuse Collection Point, Hung Tak Road Sitting-out Area No.2, Shung Tak Catholic English College, Ho Dao College and some scattered temporary structures. The "O" zone is currently occupied by low-rise residential blocks of Yan Oi House.

2.2.5 Please refer to **Figure 2.5a-c** of the Supporting Planning Statement for the surrounding context of the Development Sites.

2.3 Planning Context

2.3.1 The HSK/HT NDA occupies an area of approximately 714 ha and is a planned next generation new town located in the western part of Hong Kong's Northern Metropolis. Strategically positioned near the Qianhai Shenzhen-Hong Kong Modern Service Industry Cooperation Zone (Qianhai Cooperation Zone), it aims to become a modern services hub and a logistics and professional services centre for the Greater Bay Area.

2.3.2 Upon full development, HSK/HT NDA will provide over two million m² of commercial floor area, with more than half in the town centre; a Green Transit Corridor (GTC) comprises of Smart and Green Mass Transit System (SGMTS), pedestrian paths, and cycle tracks; a mix of public and subsidized housing and various types of private housing, community facilities for a total population of around 218,000, providing new employment opportunities.

2.3.3 The latest available information including implementation status and timeline of HSK/HT NDA has been obtained on the public domain. The **First Phase development** commenced in 2020 as three packages and completion is anticipated in 2025, which involves site clearance and formation, land decontamination, construction of district distributor roads, local roads, sewers, water mains, sewage, drainage and pumping works, and environmental mitigation measures for the works conducted. The **Second Phase development** commenced as two packages in 2020 and 2021 respectively and completion is anticipated in 2030, which involves revitalization of existing channels, water supply, landscaping, electrical and mechanical ("E&M") and associated works, the GTC and other engineering infrastructure works in addition to the First Phase's works aspects. As refer to the current status, land resumption and construction for the Second Phase is actively underway. The SGMTS scheme for the proposed road works Phase 1 is published in the Gazette in October 2025, with a view to completing the relevant road works by 2031 and commissioning the system in line with the major population intake in HSK/HT NDA in 2030.

2.3.4 As refer to the prevailing OZP gazetted on 26 October 2018, with reference to the *Planning and Engineering (P&E) Study – Investigation (Agreement No. CE 2/2011(CE))* including the *EIA Report (No. AEIAR-203/2016)*, and the *Urban and Green Design Study for the Future Town Centre and the District Commercial Node in HSK NDA – Feasibility Study (Agreement No. CE 59/2018 (TP))*, it is summarized that the *Planning Themes and Urban Design and Landscape Framework* has designated the Development Sites to be within the future broad land use of Residential Area, which will be surrounded by the following future context:

- To the north across Hung Shui Kiu Tin Sam Road and Hung Chi Road: the **"Social and Recreational Hub"**;
- To the west across Tin Ha Road: the **"Regional Economic and Civic Hub"** and **"Residential Area"**, which are parts of the catchment area of the HSK Station, featuring **"Primary Gateways"** (planned recommended locations of Landmark Buildings) and developments planned with higher density and building height (BH) (maximum OZP permissible BH +180-200mPD);
- To the east: the **"Green Spine"** riverside promenade along TSW River Channel and **Major Pedestrian Walkway** in connection with the planned Regional Park;
- To the south: under OZP No. S/TM-LTYY/13 and S/YL-TYST/14 (**Section 2.2.3**

refers)

- Bounding the Development Sites: the existing cycling track preserved and integrated with the planned cycling network for connectivity within the NDA and with Lau Fau Shan and TSW New Town.

2.3.5 Based on the above Studies and the EIA Report, various visual mitigation measures had been proposed, which includes "Sensitive and chromatic treatment of architectural facades", "Tree planting to site boundaries", "Green roofs", etc. As further specified, *"For individual development sites, building disposition and height variation should respect the general directions of prevailing wind and meet the requirements in the Sustainable Building Design Guidelines with regard to building separation, building setback and provision of greenery."*, it is noted that the Indicative Scheme and the proposed developments should respect the requirements, guidelines and reference the measures from preceding studies where appropriate. Relevant design considerations are annotated on pertinent photomontages and elaborated in **Section 3.3 Design Considerations/ Mitigation Measures**.

2.3.6 Other planned/ committed developments in the surrounding context are researched on public domain. Key development(s) with visual relevance to the Development Sites is listed below.

Table 2.1 Other Planned/ Committed Developments in the vicinity of the Development Sites

Application No. and Location	Distance from Development Sites	Maximum Building Height	Status
A/HSK/452 - Proposed Minor Relaxation of Plot Ratio (PR) and/or Building Height (BH) Restrictions for Proposed/Permitted Public and Private Housing Developments; and Proposed Social Welfare Facilities, and Proposed Shop and Services, Eating Place, School, Office, Educational Institution, Institutional Use, Off-Course Betting Centre, Place of Entertainment, Private Club, Public Convenience, Recyclable Collection Centre and Training Centre at Non-Domestic Podium within Public Housing Developments	About 10m	Not more than 135-180mPD	Approved
A/HSK/585 - Proposed Flat and Shop and Services and Eating Place at Non-Domestic Podium at Government Land at Planning Area 34E of Hung Shui Kiu/ Ha Tsuen New Development Area	About 700m	Not more than 160mPD	Ongoing

3. The Indicative Scheme

3.1 Introduction

3.1.1 The Indicative Scheme has been carefully designed having due regard to various technical considerations such as air ventilation, existing trees, environmental and transport arrangement. The Indicative Scheme comprises of 14 residential blocks on top of 2-storey retail and car park cum podium garden, and 2 retail blocks in Site 4B-2. The BH of the Indicative Scheme ranges from 25 storeys (+98.3mPD) to 31 storeys (+117.2mPD). Overall speaking, the Indicative Scheme will have a maximum domestic PR of 5.0 plus a non-domestic PR of not more than 0.2.

3.1.2 The general planning and design principles of the indicative development scheme are summarized in **Section 3.3** below. A detailed elaboration shall refer to **Section 4.2** in the **Supporting Planning Statement**.

3.2 Proposed Key Development Parameters

3.2.1 The proposed key development parameters of the Indicative Scheme are summarised in **Table 3.1** below. Please also refer to **Appendix A** of the **Supporting Planning Statement** for the architectural drawings of the Indicative Scheme.

Table 3.1 Proposed Key Development Parameters of the Indicative Scheme

Development Parameters		**Indicative Scheme**			
		Site 4B-1	**Site 4B-2**	**Site 4B-3**	**Total**
Site Area (About)(m^2)		9,062	16,089	8,616	33,767
Plot Ratio (PR)	Total	5.2	5.2	5.2	5.2
	Domestic PR	5.0	5.0	5.0	5.0
	Non-domestic PR	0.2	0.2	0.2	0.2
GFA(About) (m^2)	Total	47,120	83,665	44,801	175,586
	Domestic GFA	45,308	80,447	43,078	168,833
	Non-domestic GFA	1,812	3,218	1,723	6,753
Building Height (Main Roof) (About)		+115.05mPD	+104.6-117.2mPD for towers +16mPD for Retail Blocks I & II	+98.3-117.2mPD	Not more than 120mPD
No. of Blocks		4	8 (including 2 nos. of retail blocks)	4	16 (2 nos. of retail blocks in Site 4B-2)
No of Storeys		30 (including 2-storey podium)	27 – 31 (including 2-storey podium); 1 storey for Retail Blocks I & II	25 – 31 (including 2-storey podium)	25 – 31 (including 2-storey podium)
Site Coverage (Not more than) [2]		33.33%	33.33%	33.33%	33.33%
No. of Flat (About) [3]		824	1,463	783	3,070
Anticipated Population (About) [4]		2,225	3,950	2,114	8,289
Greenery Provision (m^2)		Not less than 10,130.1 in total			
Anticipated Population Intake		2035			
Internal Transport Facilities [5]					
Private Car Parking	Residential	201	356	191	748
	Retail	12	21	11	44

Development Parameters		Indicative Scheme			
		Site 4B-1	Site 4B-2	Site 4B-3	Total
Motorcycle Parking	Residential	9	16	9	34
	Retail	2	3	2	7
Parking Spaces for Light Goods Vehicle (LGV)	Residential	-	-	-	-
	Retail	1	3	1	5
Loading/ Unloading Bays	Residential	4	6	4	14
	Retail	1	1	1	3
Visitor Parking	Residential	20	30	20	70
Bicycle Parking	Residential	184	326	174	684
	Retail	10	17	9	36

Remarks:

[1] The numbers may not add up due to rounding.

[2] This is the maximum permissible percentage site coverage under the Building (Planning) Regulations.

[3] The flat size is assumed to be about 55m^2.

[4] A person per flat (PPF) ratio of 2.7 is assumed, with reference to the PPF adopted for Permitted Public and Private Housing Developments in the approved Application No. A/HSK/452.

[5] The area of two-storey aboveground carpark is proposed to be exempted from the GFA calculation, according to PNAP APP-2.

3.3 Design Considerations/ Mitigation Measures

3.3.1 The Indicative Scheme has been carefully designed to avoid and minimize the visual impact generated by the proposed development as far as practicable. The design considerations/ mitigation measures are summarised below and indicated on relevant photomontages for illustrative purposes under this VIA.

Building disposition to minimize visual bulkiness and prominence

3.3.2 The building bulk of the towers and overall building footprint is sensitively designed with appropriate building separation to allow visual permeability, while complying with the building separation requirements as stipulated in PNAP APP-152 Sustainable Building Design Guidelines (SBDG). As referred to the General Planning and Design Principles, the Proposed Development ensures a compatible development intensity with the surroundings and the future HSK town centre by adopting maximum total PR of 5.2 and maximum building height of 120mPD, which are highly compatible with the adjacent permitted public and private housing sites. Moreover, the Development Sites are proposed with 3 low-rise building zones with maximum height of 25mPD and minimum width of 30m to create visual relief. These zones are located in-between the Sites at the northern parts of Site 4B-1 and Site 4B-2, and the eastern part of Site 4B-3. In addition, the recessed podiums are proposed in the central locations of each site adjacent to the existing "R(B)" developments, creating visual buffer between the high-rise blocks within the same site.

Adopting sensitive design in response to the site context

3.3.3 Along the site boundary facing the existing "R(B)" residential developments, design measures such as podium recesses, road/footpath widening, setback and building separation. To enhance visual permeability, the shared podiums of the residential blocks are proposed to be recessed by allowing sufficient building separation facing Hung Kei Road and Hung Yu Road, according to the requirements in PNAP APP-152 – SBDG. The podium height is also minimised and does not exceed two storeys. In addition, the incorporation of podium garden and sky garden in all residential blocks is proposed to provide visual relief and in view of the high-density residential development. Abutting the northern and western site boundary facing the Tin Ha Road and Hung Shui Kiu Tin Saam Road, the footpath is widened to provide adequate space for street furniture, greenery planting and enhance visual interest. Moreover, an additional 3m building setback is provided next to the existing bus station at Tin Ha Road which improves visual openness. In addition, minimum 5m building setback is proposed at Site 4B-3 facing the riverside promenade for providing alfresco dining area. It aims to synergise with the proposed retail floorspaces to embrace the vibrant riverfront visual character in the public realm.

Holistic integration of landscape layout to improve visual harmony

3.3.4 The designation of landscape area is designed to create buffer which screens building edges by adding tree planting to site boundaries, additional planting strips and greening elements. The landscape layout is designed with considerations given to mitigate the visual impacts from potential detractors and improves synergy with the surrounding areas while complying with the requirements of provision of greenery as stipulated in PNAP APP-152 SBDG.

Maximize greening opportunities on structure

3.3.5 The incorporation of greening elements on various levels, such as podium garden in all three Development Sites, will soften visually intrusive elements e.g. plant rooms. The maximization of greenery at various scales and levels also enhances public viewers' visual access to greenery, which mitigates the visual impacts from potential detractors and improves green connectivity with the surrounding areas while complying with the requirements of provision of greenery as stipulated in PNAP APP-152 SBDG.

Façade articulation and material choice to reduce contrast

3.3.6 Lighter colour façade design and architectural articulation are design mitigation measures to be adopted in detailed design stage to enhance the compatibility of the Indicative Scheme thus mitigate the impacts on visual resources. Sensitive and chromatic treatment of architectural facades is proposed to enhance visual interest, to reduce collective visual mass, and to harmonize with surroundings.

4. Assessment Area and Selection of Viewing Points

4.1 Assessment Area

4.1.1 According to the TPB PG-No. 41A, the Assessment Area is defined by approximately three times of overall maximum BH of the subject development (117.2mPD – 10mPD site formation level), i.e. 107.2m. Thus, a radius of 321.6m (i.e. 107.2m × 3) from the boundary of the Development Sites defines the boundary of the Assessment Area, within which key public viewing points ("VPs") are selected for assessment accordingly (**Figure 1.1** refers).

4.2 Selection of Viewing Points

4.2.1 When assessing the potential visual impacts of the Indicative Scheme, the classification of VPs is categorised as follows:

Table 4.1 Classification of VPs

Type of the viewers	Main activities/value attached to the views	Sensitivity
Recreational	Those viewers who would view the Development Sites while engaging in recreational activities	Medium - High
Travellers	Those viewers who would view the Development Sites from vehicles or on foot	Low - Medium
Occupational	Those viewers who would view the Development Sites from their workplaces	Low

4.2.2 A total of 5 VPs is considered to be mostly impacted by the Indicative Scheme at the Development Sites (**Figure 1.1** refers). The evaluated short-range, medium-range and long-range VPs in all four cardinal directions include:

4.2.3 **VP1: Entrance of Hung Tak Road Sitting Out Area No.2 outside HSK Light Rail Station –** This VP is located at about 300m to the east of the Development Sites, it is a public sitting-out area with a pet garden, and a multi-purposed gathering ground where active recreations of ball games are observed. The Sitting Out Area No.2 adjoins the Hung Tak Road Sitting Out Area, which features two children's playgrounds and a pebble walking trail, contributing to the location as a local recreational node. This VP is also located next to a cycling track, and multiple bus stops at the HSK Light Rail Station area. Overall, this VP represents diverse public viewers including recreational users, cyclists and travellers. The key visual resources are the open sky view, ridgeline and lush vegetations in the foreground. This VP allows for the assessment of visual impact on the public viewers who engage in recreations, cycling and travelling. Since users are likely to be engaging in active recreational and transient uses with less attention on the scenic value of the view, the visual sensitivity of this VP is considered **Medium**.

4.2.4 **VP2: Hung Fuk Shopping Centre –**This VP is located at about 300m to the north of the Development Sites. This VP represents travellers to/from the public transport node Hung Shui Kiu (Hung Fuk Estate) Bus Terminus and pedestrians around the Shopping Centre along Hung Shui Kiu Tin Sam Road. The view features elements of sparse roadside plantings and an open sky view. It assesses the visual impact on travellers and pedestrians

at a medium-range street level. The nature of this VP is transient, and the visual sensitivity of this VP is considered **Low**.

4.2.5 **VP3: Tin Ha Road Playground –** This short-range VP is located at the playground at about 60m to the southwest of the Development Sites. The playground features a football field, a basketball court, and a children's playground, making it a recreational node for local communities of surrounding residential areas, e.g. Chung Uk Tsuen. It represents views of recreational users engaging in active recreations with an open sky backdrop. Given the above, the visual sensitivity of this VP is considered **High**.

4.2.6 **VP4: Tin Sum Tsuen Playground –** This medium-range VP is located at the playground at about 145m to the northwest of the Development Sites. The playground features children's play facilities, making it a recreational node for local communities of surrounding residential areas, e.g. Tin Sam Tsuen. It represents views of recreational users, engaging in active recreations with an open sky backdrop and village houses in the midground. Given the above, the visual sensitivity of this VP is considered **Medium**.

4.2.7 **VP5: Planned Open Space at the northern end of the future HSK Station** – This VP is located at about 250m to the northwest of the Development Sites. It is located at the future revitalized riverside promenade, which is a planned north-south running open space spine. The riverside is a part of the proposed cycle track network and major pedestrian walkway, connecting the Regional Plaza as well as the Regional Park together serve as major connecting green spines between new and existing communities in the NDA and the surrounding areas. This VP represents a medium-range view towards the Development Sites with the planned context as the backdrop. This VP represents viewers of travellers and recreational users; therefore the visual sensitivity of this VP is considered **High**.

5. Assessment of Visual Impact

5.1.1 This Section examines the visual compatibility and degree of anticipated visual impacts of the Indicative Scheme on the key VPs in relation to the Development Sites. Based on the evaluation, the VIA comments on the visual acceptability of the Indicative Scheme against the OZP Compliant Scheme.

5.1.2 Reference is made to TPB PG No. 41A and the following Table (**Table 5.1**) summarises the relevant appraisal aspects. The visual appraisal for the Indicative Scheme is carried out considering the aspects of 'visual composition', 'visual obstruction' and 'visual change', which affect the magnitude of changes and can be graded as negligible, slight, moderate or substantial.

Table 5.1 Appraisal Aspects

Appraisal Aspects	Major Considerations
Visual Composition	Visual composition is the total visual effect of all the visual elements due to their variation in locations, massing, heights, dispositions, scales, forms, proportions and character vis-à-vis the overall visual backdrop. Visual composition may result in visual balance, compatibility, harmony, unity or contrast. The appraisal should have due regard to the overall visual context and character within the wider and local contexts.
Visual Obstruction	A development may improve or degrade the condition, quality and character of visual resources. A development may also cause views in its foreground or background to be intercepted or blocked. The appraisal should assess the degree of visual obstruction and loss of views or visual openness due to the proposed development from all key public viewing points within the assessment area. Blockage or partial blockage of views which substantially reduce visual permeability, existing panorama, vistas, visual resources or visual amenities should be avoided or minimized, in particular with regard to impact on prominent ridgelines, the harbour, natural coastlines, open sea horizon, skyline, scenic areas, valued landscape, special landmark, area of special character, streetscape, townscape, natural and built heritage, and public realm related to the development, etc.
Visual Change	The effects of visual changes from key public viewing points with direct sightlines (considering degree of visibility and viewing distance) to the proposed development should be assessed and demonstrated in the VIA. The changes in the existing and future public views should be compared before and after the proposed development. The appraisal should take into account any likely visual concerns from the general public, e.g. concerns on sore thumb development, visual impermeability, wall effect, neighbourhood identity and character, etc.

5.1.3 TPB PG No. 41A sets out the classifications of visual impact and its associated description. The classifications are tabulated below to appraise the overall visual resultant impact from the proposed development.

Table 5.2 Classification of Overall Resultant Visual Impact

Classification of Overall Resultant Visual Impact	Description
Beneficial	If the project will complement the visual character of its setting, and/or will improve overall visual quality.
Negligible	If the assessment indicates that there will be no noticeable effects or insignificant visual effects caused by the project.
Slight	If there will be slight adverse visual effects caused by the project.
Moderate	If there will be some adverse visual effects caused by the project, but these can be eliminated, reduced or moderated to a certain extent by design/mitigation measures.
Substantial	If the adverse effects are considered too excessive and obstructive, and significant modification is required to mitigate the impacts.

VP1: Entrance of Hung Tak Road Sitting Out Area No.2 outside HSK Light Rail Station (**Figure 1.2** refers)

5.1.4 This medium-ranged VP is approximately 300m away from the Development Sites and represents the transient view of pedestrians, cyclist and active recreational users at the Sitting Out Area within the HSK Light Rail Station area.

5.1.5 **Visual Composition** – The visual composition of this VP in the OZP Compliant Scheme will consist of planned high-rise residential developments in Area 27C zoned "Residential (Group A) 3" ("R(A)3") with a maximum BH of +160mPD, and the planned mixed use development in "OU" in Area 28B with a maximum BH of +180mPD, which form a backdrop for Site 4B-1 in the centre of this VP. The foreground comprises station-adjacent residential areas Coronet Court and Aster Court, between which is a corridor showing partially Site 4B-3. Although the BH under the Indicative Scheme is proposed with an increase as compared to the OZP Compliant Scheme, it will be highly compatible with the planned and existing buildings in terms of height and density, in detail, it blends in with the stepped building height profile descending from +180mPD and +160mPD, to +117.2-98.3mPD, and further down to +47-47.5mPD. Although the increase in height is more visible and noticeable at the building gap at the periphery of this VP, the building bulk largely remains the same and the visual harmony is maintained.

5.1.6 **Visual Obstruction –** The visual permeability of the OZP Compliant Scheme consists of primarily the open sky at the centre of the VP and secondarily the peripheral extent of sky at the corridor between Coronet Court and Aster Court. Given that the Indicative Scheme highly overlaps with the impact footprint of the planned developments, there will be minimal loss of open sky at the periphery of the VP; overall the sense of openness is generally slightly compromised. The key visual resource of this VP is the open sky backdrop and the urban skyline of HSK/HT NDA. Compared with the OZP Compliant Scheme, with the proposed BH lower than that of the planned residential developments in Area 27C and 28B, and the intrusion to the open sky is local at the periphery of this VP respecting existing building disposition, the overall open sky view can be generally maintained. As the view under the OZP Compliant Scheme is already predominately occupied by the planned residential developments in the background as well as residential

type of developments in the foreground, there will be no significant changes in visual resources incurred by the similar nature Indicative Scheme in terms of urban character.

5.1.7 **Visual Change** – In comparison with the OZP Compliant Scheme, although the Indicative Scheme will cause a slight visual change particularly the slight impede of open sky in periphery of this VP, the BH of the Indicative Scheme is still lower than that of the planned high-rise developments in Area 27C and 28B with maximum BHs of +160mPD and +180mPD respectively. In a wider view, the urban skyline is still dominated by the planned high-rise in Area 27C and 28B, while the proposed development will result in closer visual change to viewers. Furthermore, although the visual change is unlikely to attract broad attention of any public viewer, who are engaged in activities of active and transient nature at this VP, the effects on public viewers owing to the proposed developments will be **slight**.

5.1.8 As a whole, the Indicative Scheme will have an overall **slight** impact at VP1 considering its compatible development scale and the minor extent of impact.

VP2: Hung Fuk Shopping Centre (**Figure 1.3** refers)

5.1.9 This medium-range VP is approximately 300m away from the Development Sites and represents transient viewers of travellers to/from the public transport node Hung Shui Kiu (Hung Fuk Estate) Bus Terminus and pedestrians. The view along Hung Shui Kiu Tin Sam Road bounding the Development Sites' northern boundary is represented and the proposed developments are partly visible at the right side of this view.

5.1.10 **Visual Composition** – From the planned developments, the backdrop of open sky is displaced by the planned "Residential (Group A)" developments ("R(A)4") in Area 12 subject to maximum BH of +140mPD, increasing the proportion of urban frontage and building bulk at street-level view from this VP. The planned high-rise mixed-use development at "OU" in Area 28B (+180mPD) will serve as a visual extension of the urban skyline from High Park, which results in the further loss of open sky view. As compared to the Indicative Scheme, Sites 4B-2 and 4B-1 will be screened by High Park. Although Site 4B-3's BH will cause further penetration to the open sky view, the extent partially overlaps with the loss caused by planned developments in Area 28B, the overall BH is also lower than the planned in Area 12 at +140mPD. Therefore, the visual composition as compared to the OZP Compliant Scheme is considered largely maintained with small extension of impact.

5.1.11 **Visual Obstruction** – Under the OZP Compliant Scheme, the existing and planned developments in the surroundings have already largely blocked the open sky view, specifically on the left by the planned developments in Area 12 and by the planned developments in Area 28B. Therefore, the Indicative Scheme's impact is an extension from the already impacted area. It is noteworthy that the Indicative Scheme respects the existing urban skyline by its high compatibility with the existing high points Eminence Terrace I and High Park, therefore the proposed BH is contained within the existing urban skyline. As such, the open sky continuity, domination and sense of openness are preserved.

5.1.12 **Visual Change** – Although Site 4B-3 will result in slight visual change to public viewers, the BH of the Scheme remain comparable or lower than the adjacent planned high-rise residential developments in Area 12 with maximum BH at 140mPD in the near field on the left. As Sites 4B-2 and 4B-1 will be screened off, the attention of public viewers from

this VP will be unlikely drawn to the visual changes with the increased development height given the transient nature. Furthermore, overall, the Indicative Scheme's scale aligns with adjacent buildings e.g. Eminence Terrace I, High Park and street proportions, reinforces continuity with surrounding development and strengthens the existing urban rhythm and maintains a coherent residential neighbourhood identity for public viewers. Given the above, there will be **slight** effects on public viewers at this VP as compared to the OZP Compliant Scheme.

5.1.13 Based on the above, there will be an overall **slight** impact associated with VP2 considering the transient nature of viewers, the highly compatible development scale and the resultant skyline.

VP3: Tin Ha Road Playground (**Figure 1.4** refers)

5.1.14 This short-range VP is approximately 60m away from the Development Sites and represents recreational users of local communities from surrounding areas. The Development Sites are visible on the left side of the view from this VP.

5.1.15 **Visual Composition** – From this VP, Site 4B-1 is viewed in a close distance, resulting in a visual composition of which the lower floors of the proposed development occupies the majority of the mid ground of this VP in both the OZP Compliant Scheme and the Indicative Scheme. As referring to the OZP Compliant Scheme, the open sky portion is already reduced by developments in the Development Sites. Therefore, the Indicative Scheme will give an extended impact in terms of scale and location of the OZP Compliant Scheme. Nevertheless, the Indicative Scheme with the proposed building disposition and form will break down the bulkiness, and the building gap would feature a portion of open sky view as compared to the OZP Compliant Scheme.

5.1.16 **Visual Obstruction** – From the OZP Compliant Scheme, the building outline will introduce blockage of the open sky at this VP. In comparison, the Indicative Scheme allows some permeability with the visual corridor which improves visual openness. The key visual resources at this VP are the playground boundary vegetation in the foreground and the open sky view. As the existing developments have not yet built to the OZP permissible maximum BH, from which the sky view would already be affected as demonstrated in the OZP Compliant Scheme. Therefore, the impact generated by the Indicative Scheme would be considered an extension from the OZP Compliant Scheme. The vegetation in the foreground would be unaffected.

5.1.17 **Visual Change** – Owing to the close viewing distance, the impact of both the OZP Compliant Scheme and the Indicative Scheme on the visual openness will be inevitable. Due to the increase in building height in the Indicative Scheme, the effect on visual permeability is profound. The open sky is visible through the building gap. Although most of the public viewers from this VP are recreation users who are engaged in active recreations, it is unlikely for the visual change to attract broad attention from users, therefore the effects on public viewers are graded as **moderate**.

5.1.18 As a whole, the Indicative Scheme will have an overall **moderate** impact on the visual quality at VP3.

VP4: Tin Sum Tsuen Playground (**Figure 1.5** refers)

5.1.19 This medium-range VP represents the view of recreational users at a recreational node for local communities of surrounding residential areas, e.g. Tin Sam Tsuen. The Development Sites and the surrounding planned residential developments of the NDA along Tin Ha Road are visible at this VP.

5.1.20 **Visual Composition** – The proposed developments with increased building height and density as compared to the OZP Compliant Scheme will change the baseline visual composition. Nevertheless, the proposed building height profile and density are compatible with the planned high-rise residential development in "R(A)3" in Area 27C with a maximum BHR at +160mPD. Furthermore, the proposed disposition respects the existing village houses disposition in the foreground.

5.1.21 **Visual Obstruction** – The visual permeability of the VP consists of primarily the open sky view. As the planned developments have already reduced the open sky view, with significant loss on the right of this VP, the Indicative Scheme is expected to incur additional impact by a partial and local obstruction of open sky view. It is important to note that the change is in alignment with the planned modern service centre character of the NDA, of which the visual character is bond to increment in development height. In general, the proposed building disposition preserves various view corridors between the building clusters, the sense of openness is maintained.

5.1.22 **Visual Change** – In comparison with the planned development in "R(A)3" in Area 27C with a maximum BHR at +160mPD, the BH of the Indicative Scheme is lower which results in a compatible view for public viewers. Given the close viewing distance, the visual change caused by the proposed developments is bound to be visible. Nevertheless, the sightline of public viewers to the open sky is maintained given the preservation of view corridors. Furthermore, the village character of this VP is retained, in combination with enhanced synergy with the NDA's new-generation new town identity. Hence, the effects on visual change are graded as **slight**.

5.1.23 Based on the above, there will be **slight** impacts on the visual composition, visual obstruction, and visual change associated with VP4.

VP5: Planned Open Space at the northern end of the future HSK Station (**Figure 1.6** refers)

5.1.24 This medium-range VP represents the view at the future open space spine, featuring public viewers of travellers and recreational users from the new and existing communities in the NDA and the surrounding areas. The Development Sites and the surrounding planned high-rise developments of the NDA are visible at this VP.

5.1.25 **Visual Composition** – The planned high-rise high-density developments in "R(A)2" in Area 10 and the surrounding "R(A)3" (subject to maximum BHRs of +140mPD and +120mPD respectively) have already changed the visual composition at this VP by clusters of intrusion to the open sky proportion. In comparison, the proposed developments are compatible with the planned development clusters in terms of building height and density. In general, the proposed massing are in visual balance with the planned building bulks, which adds similar punctuation alongside the planned building bulks in the background of this VP where the open sky proportion remains dominant.

5.1.26 **Visual Obstruction** – Similarly, the planned high-rise high-density developments in "R(A)2" in Area 10 and in "R(A)3" (subject to maximum BHRs of +140mPD and +120mPD respectively) have already impeded the open sky resource. The impact caused by the proposed developments will be similar to that caused by the planned developments in terms of impediment. Nevertheless, the proposed developments maintain multiple view corridors to preserve visual access to the open sky. Therefore, the visual permeability and the overall sense of openness is retained.

5.1.27 **Visual Change –** Although the proposed development will result in visual change to public viewers by introducing new building clusters, the BH of the Scheme remain comparable with the adjacent planned developments in "R(A)2" in Area 10 and in the surrounding "R(A)3". It is important to note the planning background – these planned developments subject to BHRs of +140mPD to +120mPD fall within the planned Residential Area of the HSK/HT NDA, which intend to create new synergy with the revitalized riverside promenade in the future urban scene. Taking note of the planned visual character and transformative nature at this VP, and the compatible proposed development, the impact on visual change is graded as **slight**.

5.1.28 Based on the above, there will be **slight** impacts on the visual composition, visual obstruction, and visual change associated with VP5.

5.1.29 A summarised assessment of the visual impacts of the Indicative Scheme is given in **Table 5.3**.

Table 5.3 Visual Impact Assessment Summary

VP	Visual Sensitivity	Appraisal Component	Overall Visual Impact
		Visual Change	
VP 1: Entrance of Hung Tak Road Sitting Out Area No.2 outside HSK Light Rail Station	Medium	Slight	Slight
VP 2: Hung Fuk Shopping Centre	Low	Slight	Slight
VP 3: Tin Ha Road Playground	High	Moderate	Moderate
VP 4: Tin Sum Tsuen Playground	Medium	Slight	Slight
VP 5: Planned Open Space at the northern end of the future HSK Station	High	Slight	Slight

6. Conclusion

6.1.1 This VIA is prepared in support of the Planning Application for the Proposed Amendment to the Approved HSK/HT OZP No. S/HSK/2 at Various Lots in D.D. 124 and adjoining Government Land in Hung Shui Kiu, to rezone the Development Sites from "R(B)3" to "R(A)6", to facilitate the implementation of a high-end professional services and logistics hub development encompassing the Development Sites.

6.1.2 With the wider HSK/HT development goals include releasing the land potential of the existing scattered land resources, consolidation of temporary structures of brownfield sites into Multi-Storey Buildings (MSBs) is one of the key strategies to eventually create land-efficient spaces for modern industries and brownfield operations.

6.1.3 Repurposing the existing brownfield structures and rezoning for a higher density residential development, the Indicative Scheme of the Development Sites synergizes with the HSK/HT NDA strategically and visually by providing housing in harmony with the planned stepped building height concept. With BH planned highest at the high-density high-rise future Town Centre, the Indicative Scheme is designed with a descending scale and building density creating a compatible Residential Area transiting from the Town Centre. As detailed in **Section 3**, the Indicative Scheme also celebrates views by the carefully designed building disposition/ layout to maximise the visual permeability. The Indicative Scheme reinforces the Green Spine concept by an integrated landscape design aiming to enhance the visual amenity and harmony in tight relationship with the TSW River Channel and riverside promenade in vicinity.

6.1.4 In this Visual Impact Assessment, a total of 5 VPs (including short, medium and long-range) are assessed, which are of different visual sensitivity, ranging from low, medium, to high. In short, 4 VPs are identified with slight visual impact, and 1 VP is identified with moderate visual impact, as comparing the Indicative Scheme against the OZP Compliant Scheme.

6.1.5 Based on the above, the visual impact of the Indicative Scheme at the Development Sites is considered fully acceptable after the implementation of mitigation measures, which elevate the visually compatibility with the surrounding built environment, building form, scale and masses, with the HSK/HT NDA context and the wider natural environment.

Figures

LOGISTICS, ENTERPRISE AND TECHNOLOGY QUARTER

SOCIAL AND RECREATIONAL HUB

DISTRICT COMMERCIAL NODE

RESIDENTIAL AREA

RESIDENTIAL AREA

REGIONAL ECONOMIC AND CIVIC HUB

YUEN TAU SHAN

KAU KENG SHAN

TIN SHUI WAI RIVER CHANNEL

MTR WEST RAIL LINE

KONG SHAM WESTERN HIGHWAY

HUNG SHUI KIU STATION

HUNG TIN ROAD

CASTLE PEAK ROAD - HUNG SHUI KIU

HUNG SHUI KIU-TIN SAM SOAD

HUNG PING ROAD

HUNG YU ROAD

CUI PAK ROAD

TAK HING BUILDING

TAK CHEUNG BUILDING

LAI HUNG GARDEN

TREASURE COURT

TAN KWAI TSUEN ROAD

YUEN LONG HIGHWAY

HUNG FUK ESTATE

EMINENCE TOWER

SHEFFIELD VILLAS

EMINENCE TERRACE I

HIGH PARK

YAN OI HOUSE

ASTER COURT

CORONET COURT

THE WOODSIDE

UPTOWN

BEAUTY COURT

SHUNG TAK CATHOLIC ENGLISH COLLEGE

FORMER PAK U MIDDLE SCHOOL

THE WOODSVILLE

SAN LEE UK TSUEN

ZION CHURCH

FLOURISH GARDEN

TIN SUM TSUEN PLAYGOUND

TIN HA ROAD PLAYGROUND

WO PIING SAN TSUEN

THE VERDANCY

BAUHINIA GARDEN

CASA DE ORO

VP1

VP2

VP3

VP4

VP5

4B-1

4B-2

4B-3

N

0 50 100 200 300 m

LEGEND

- Development Site Boundary
- HSK/HT NDA Boundary
- Assessment Area
- Proposed Indicative Scheme Layout
- Development Area of HSK/HT NDA
- Other Planned / Committed Developments
- V Land Use Zoning
- (1) Planning Area Number

HSK/HT NDA Development Phase

- First Phase Development
- Second Phase Development
- Remaining Development

Viewing Point

- **VP1:** Entrance of Hung Tak Road Sitting Out Area No.2 outside HSK Light Rail Station
- **VP2:** Hung Fuk Shopping Centre
- **VP3:** Tin Ha Road Playground
- **VP4:** Tin Sum Tsuen Playground
- **VP5:** Planned Open Space at the northern end of the future HSK Station

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Location of Viewing Points

Drawing no.	Figure 1.1		Rev.
Drawn AC	Date Feb 2026	Checked GL	Approved CY
Scale 1:7000 @A3		Status	

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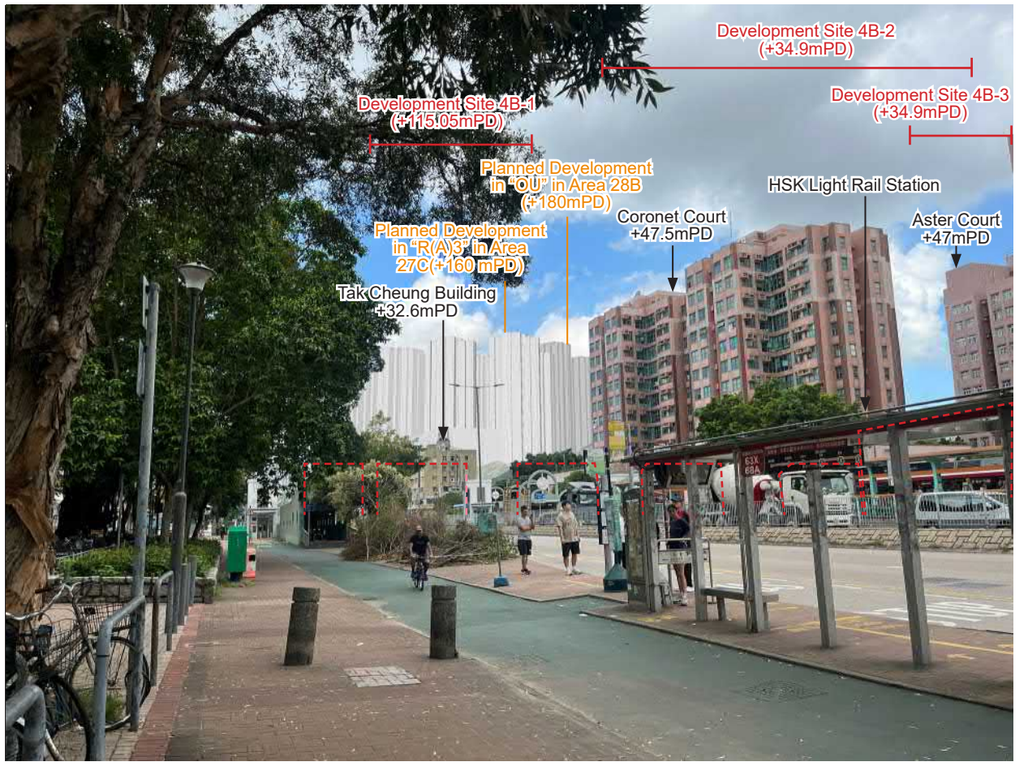
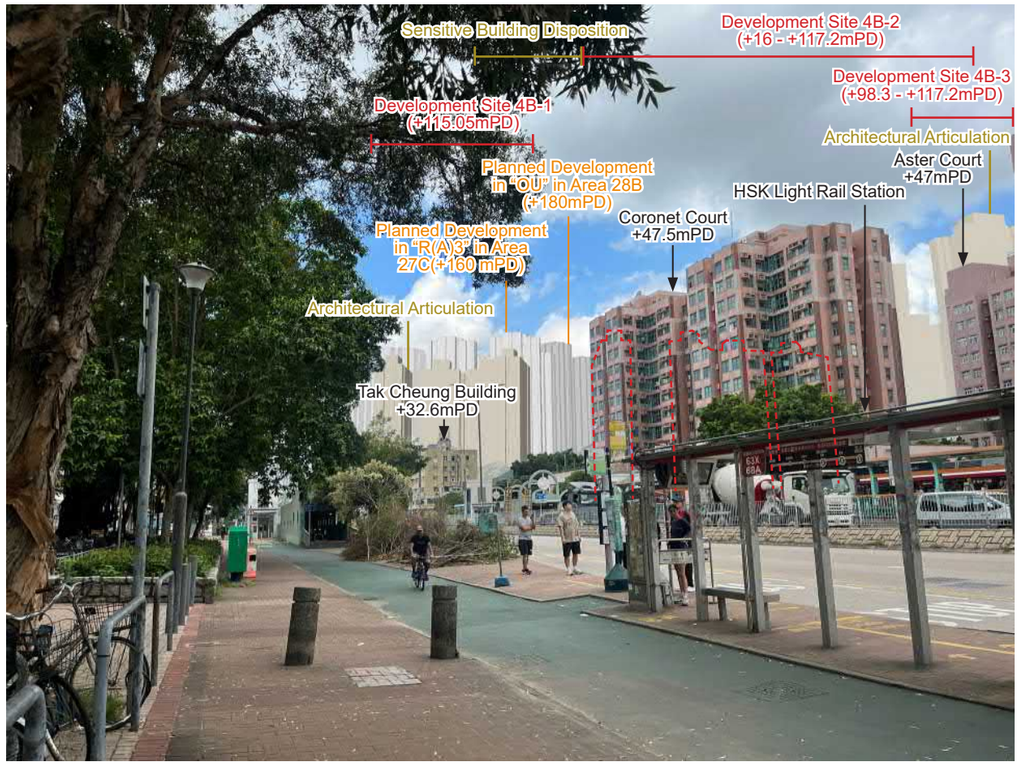
Baseline Condition

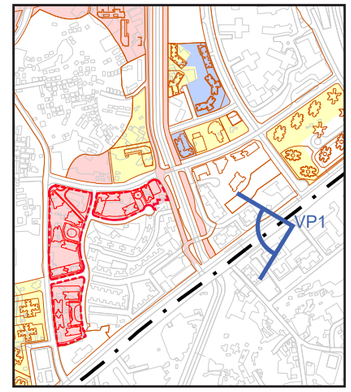


Full Development of HSK/HT NDA + OZP Compliant Scheme



Full Development of HSK/HT NDA + Indicative Scheme

KEY PLAN



Development Site

Planned Developments under HSK/ HT NDA Phase

Second Phase Development

Design Considerations/ Mitigation Measures

Sensitive Building Disposition

Architectural Articulation

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Viewing Point 1: Entrance of Hung Tak Road Sitting Out Area No.2 outside HSK Light Rail Station

Drawing no.	Figure 1.2		Rev.
Drawn AC	Date Feb 2026	Checked GL	Approved CY
Scale		Status	

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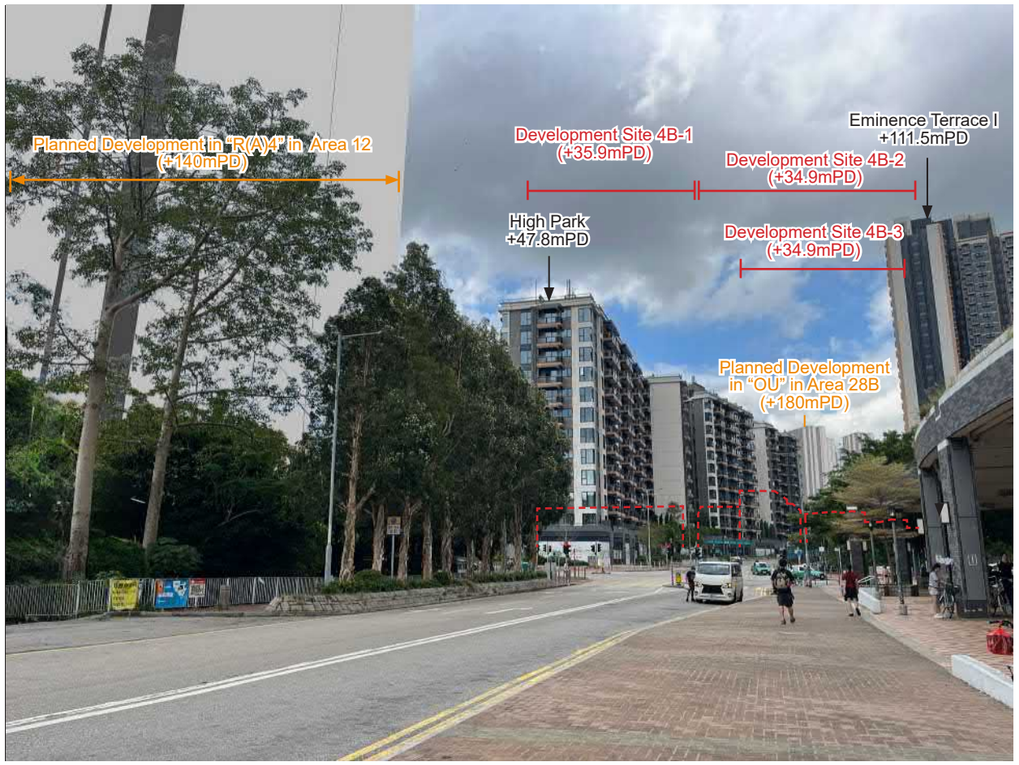
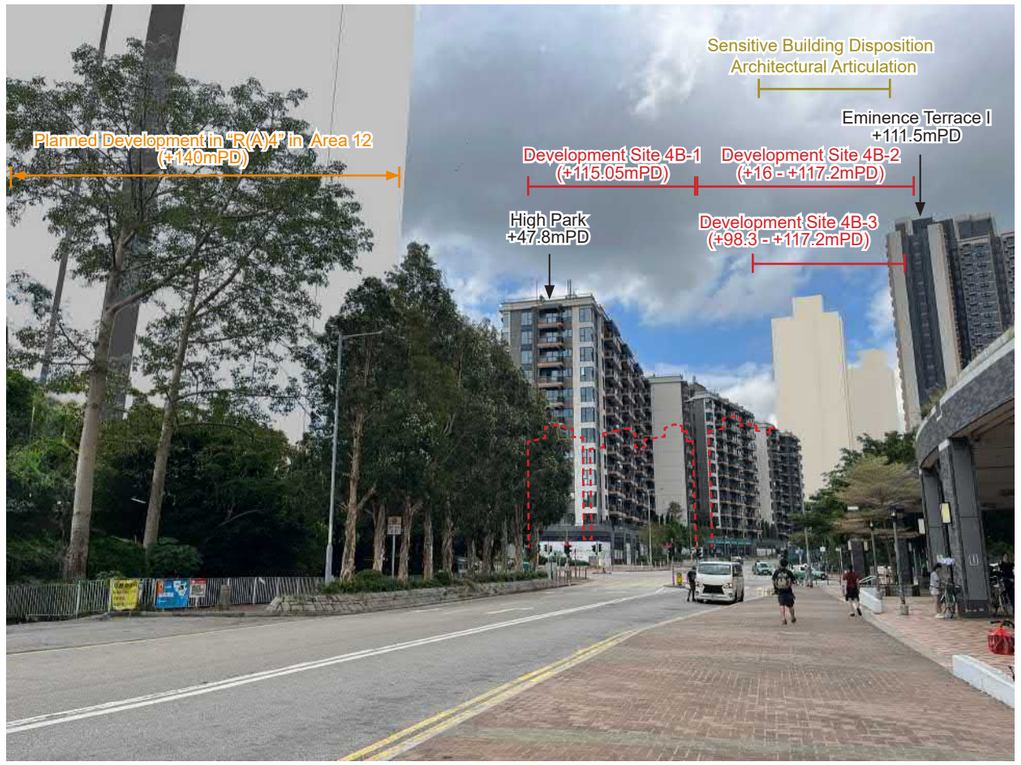
Baseline Condition

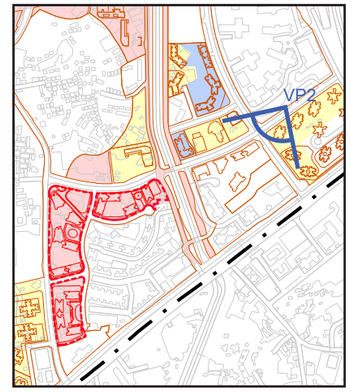


Full Development of HSK/HT NDA + OZP Compliant Scheme



Full Development of HSK/HT NDA + Indicative Scheme

KEY PLAN



Development Site

Planned Developments under HSK/ HT NDA Phase

Second Phase Development

Design Considerations/ Mitigation Measures

Sensitive Building Disposition

Architectural Articulation

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Viewing Point 2: Hung Fuk Shopping Centre

Drawing no.	Figure 1.3		Rev.
Drawn AC	Date Feb 2026	Checked GL	Approved CY
Scale		Status	

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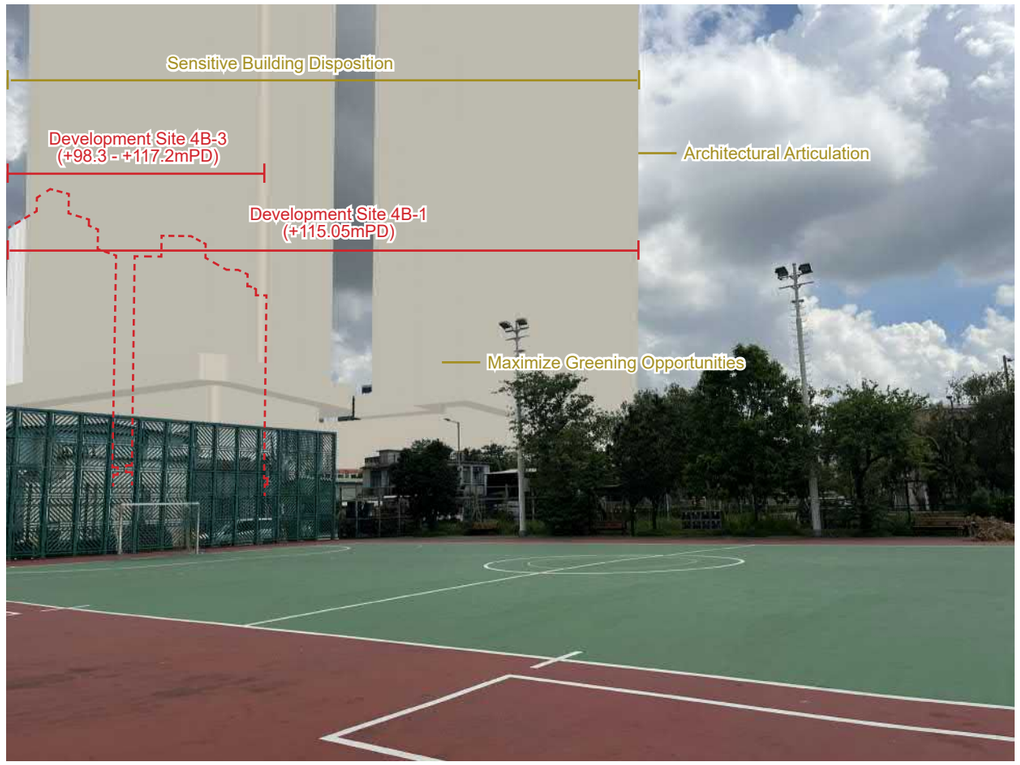
Baseline Condition

Full Development of HSK/HT NDA + OZP Compliant Scheme



Full Development of HSK/HT NDA + Indicative Scheme

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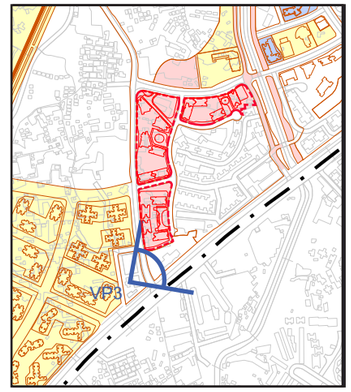

Development Site

Planned Developments under HSK/ HT NDA Phase

Remaining Development

Design Considerations/ Mitigation Measures

Sensitive Building Disposition

Architectural Articulation

Maximize Greening Opportunities

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Viewing Point 3: Tin Ha Road Playground

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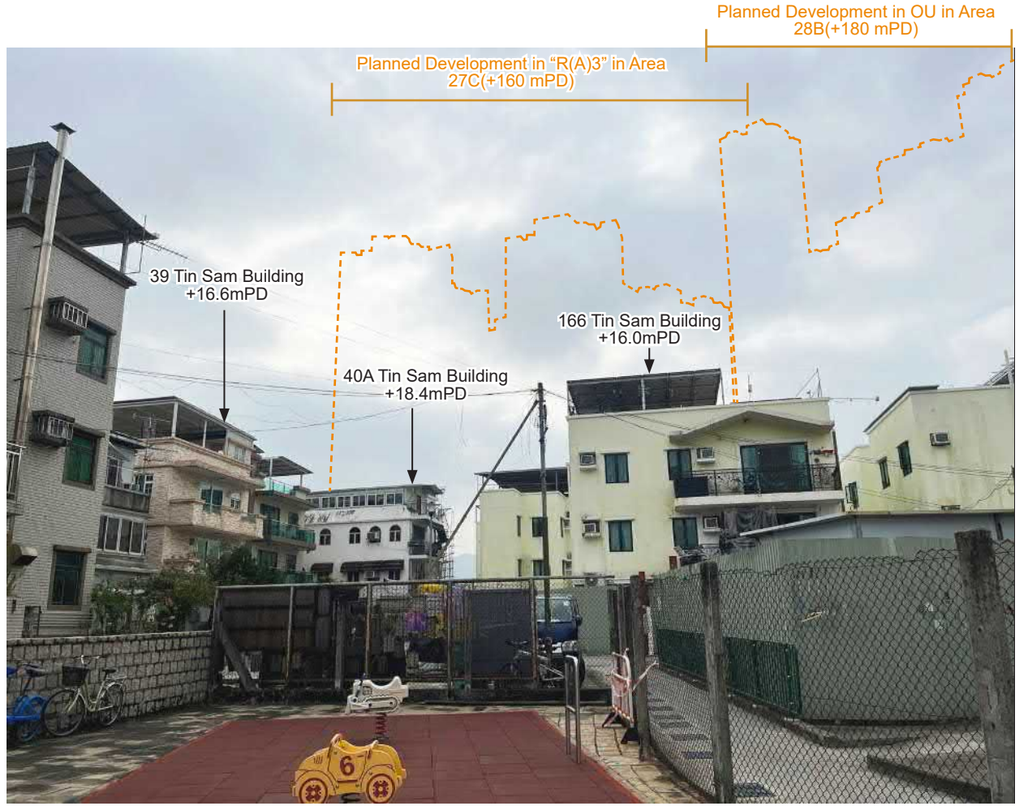

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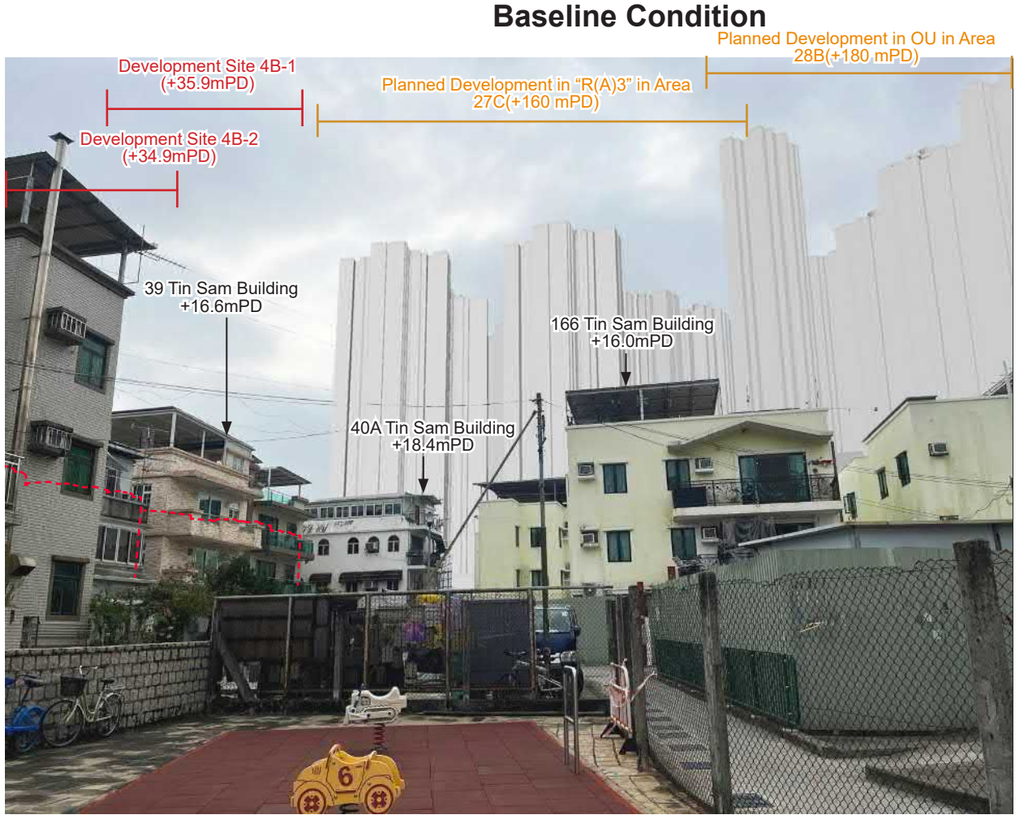

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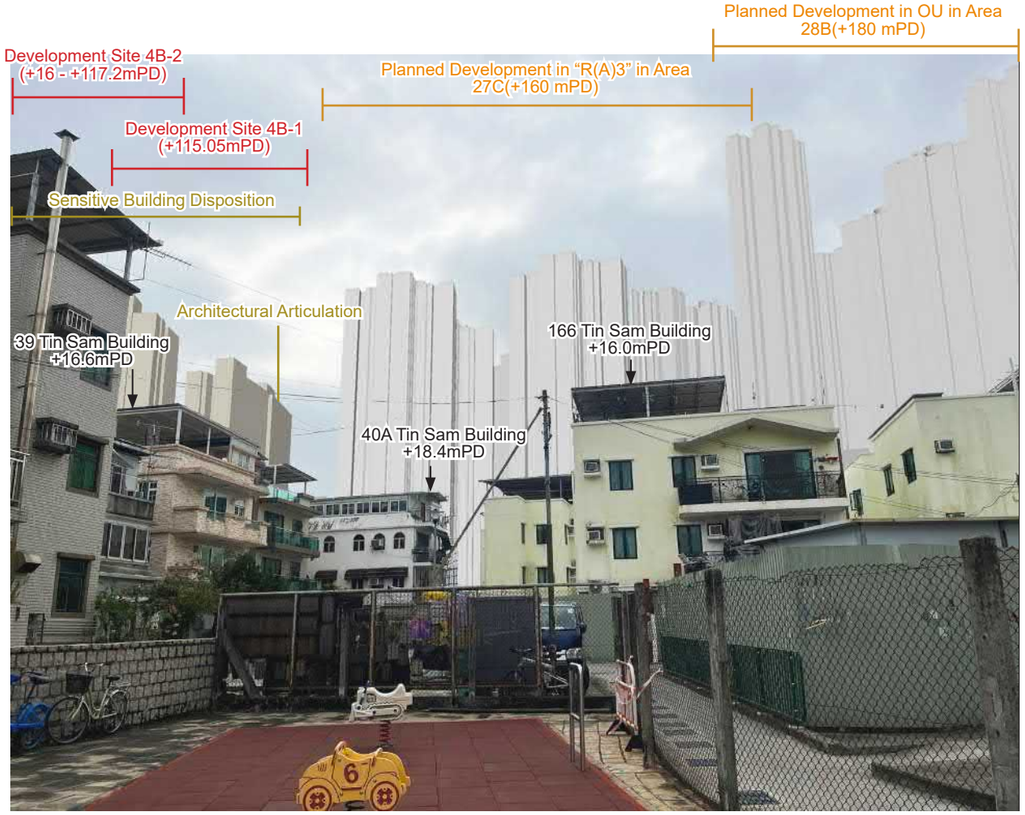

Full Development of HSK/HT NDA + Indicative Scheme

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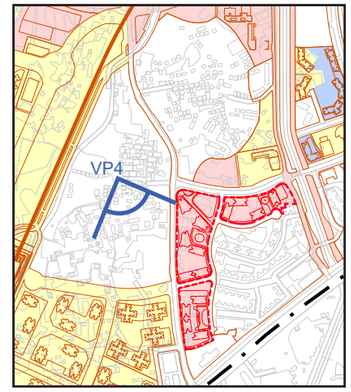

Development Site

Planned Developments under HSK/ HT NDA Phase

Second Phase Development

Design Considerations/ Mitigation Measures

Sensitive Building Disposition

Architectural Articulation

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Viewing Point 4: Tin Sum Tsuen Playground

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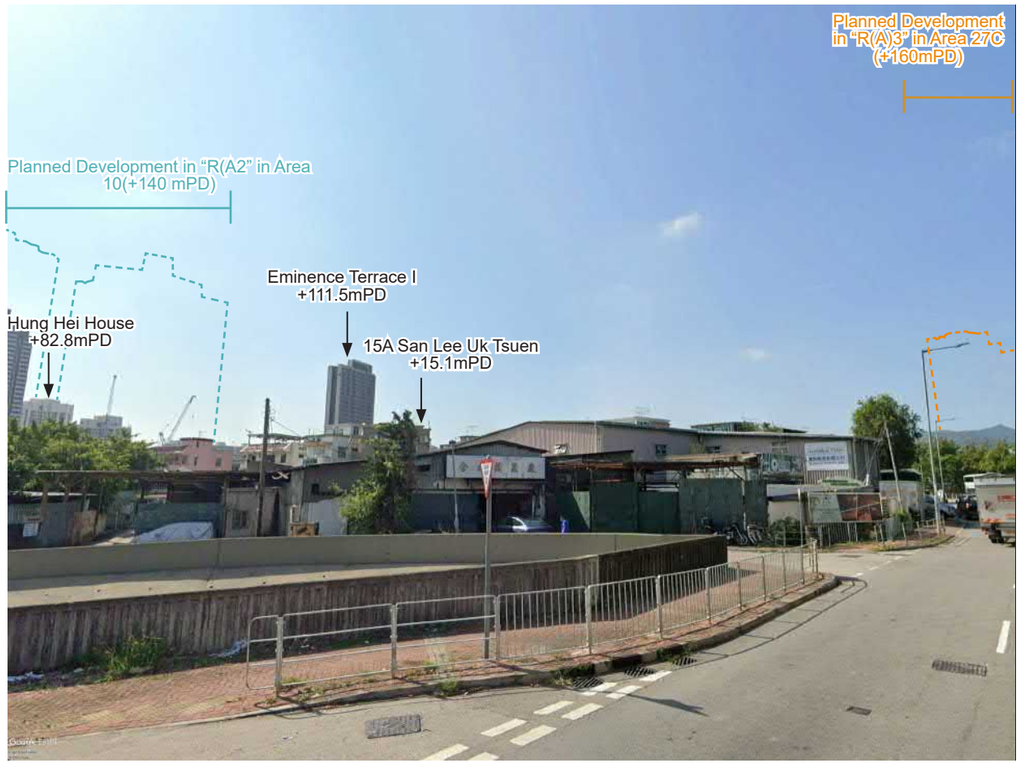

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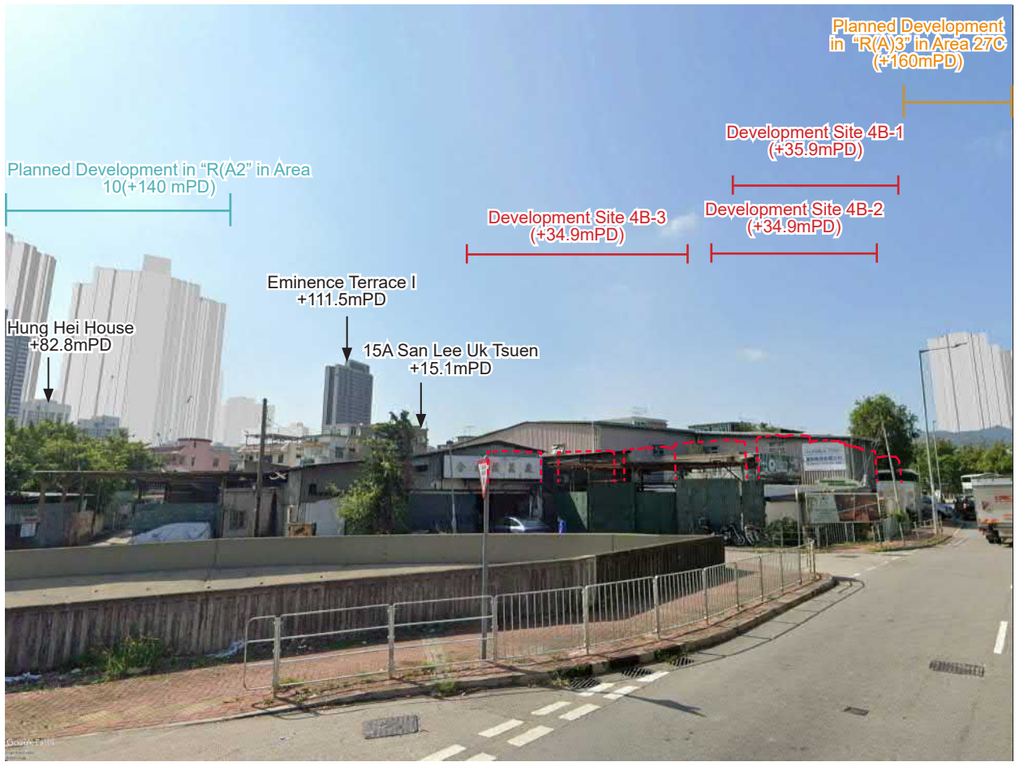

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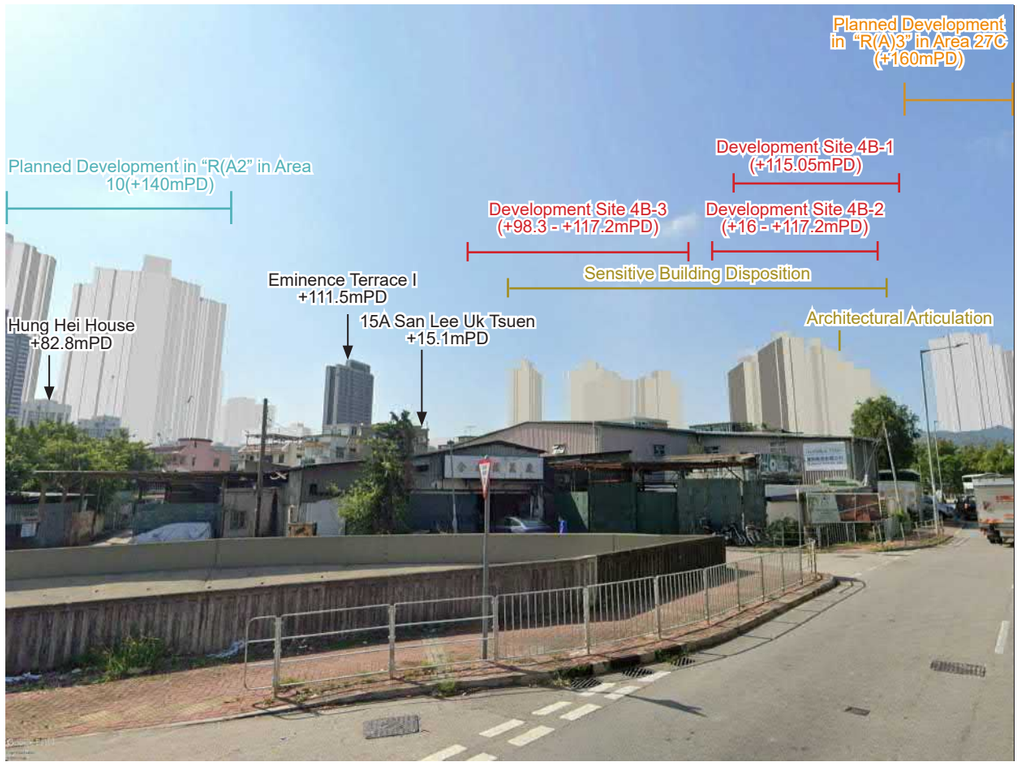
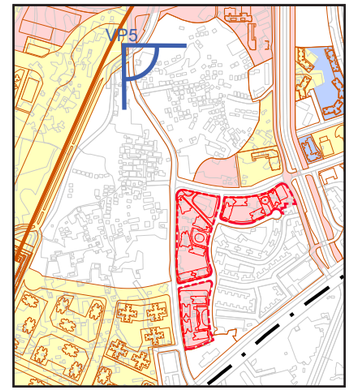


Full Development of HSK/HT NDA + Indicative Scheme

KEY PLAN



Development Site

Planned Developments under HSK/ HT NDA Phase

First Phase Development

Second Phase Development

Design Considerations/ Mitigation Measures

Sensitive Building Disposition

Architectural Articulation

Rev	Description	By	Date

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to rezone the Subject Site from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

Viewing Piont 5: Planned Open Space at the northern end of the future HSK Station

Drawing no.			Rev.
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Drawn AC	Date Feb 2026	Checked GL	Approved CY
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Annex J Air Ventilation Assessment – Expert Evaluation

ARUP

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Development Sites from "Residential (Group B)3" to "Residential (Group A)6", Various Lots in D.D. 124 and Adjoining Government Land, Hung Shui Kiu, New Territories

Air Ventilation Assessment - Expert Evaluation

Issue | February 2026

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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Appendix A **Layout Plan of OZP Compliant Scheme**
Appendix B **Layout Plan of Indicative Scheme**

1. Introduction

1.1 Background

1.1.1 Ove Arup & Partners Hong Kong Limited was commissioned to conduct the Air Ventilation Assessment (AVA) – Expert Evaluation (EE) in support of the Proposed Amendment to the Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan (HSK/HT OZP) No. S/HSK/2 at Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories (Development Sites) from "Residential (Group B) 3" to "Residential (Group A) 6" for Proposed Residential Development.

1.1.2 Falling within Area 4B of the HSK/HT OZP, the Development Sites consist of Site 4B-1, Site 4B-2 and Site 4B-3. They belong to Remaining Phase Development of the HSK/HT NDA. The Development Sites contribute to an area of about 33,775 m^2, intersected by the Hung Shui Kiu Tin Sam Road and Tin Ha Road. The Development Sites are currently occupied by temporary structures for domestic and brownfield operation uses.

1.2 Scope of this Report

1.2.1 The objective of the Study is to investigate the wind performance of the Proposed Comprehensive Development in the form of AVA – EE. The AVA-EE will be conducted in accordance with the "Technical Circular No. 1/06 – Air Ventilation Assessments" (Technical Circular) and its Annex A "Technical Guide for Air Ventilation Assessment for Developments in Hong Kong" (Technical Guide), which is jointly issued by Housing, Planning and Lands Bureau and Environmental, Transport and Works Bureau on 19th July 2006.

1.2.2 The major task of this study is to carry out an expert evaluation on the characteristics of the site wind availability data of the development area and assessment of the wind performance of the proposed development in a qualitative way. The expert evaluation will cover the following tasks:

- Identify the wind condition
- Identify problem areas
- Identify good design features

2. Development Sites

2.1 Overview

2.1.1 The Development Sites are located in the southern part of Hung Shui Kiu/Ha Tsuen Development Area. The Development Sites are divided into three housing sites, Site 4B-1, Site 4B-2, and Site 4B-3, as shown in Figure 1.

2.1.2 The Development Sites are proposed to re-zoned from "Residential (Group B) 3" in the OZP to "Residential (Group A) 6" in the Proposed Amendment to the Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan (HSK/HT OZP) No. S/HSK/2.

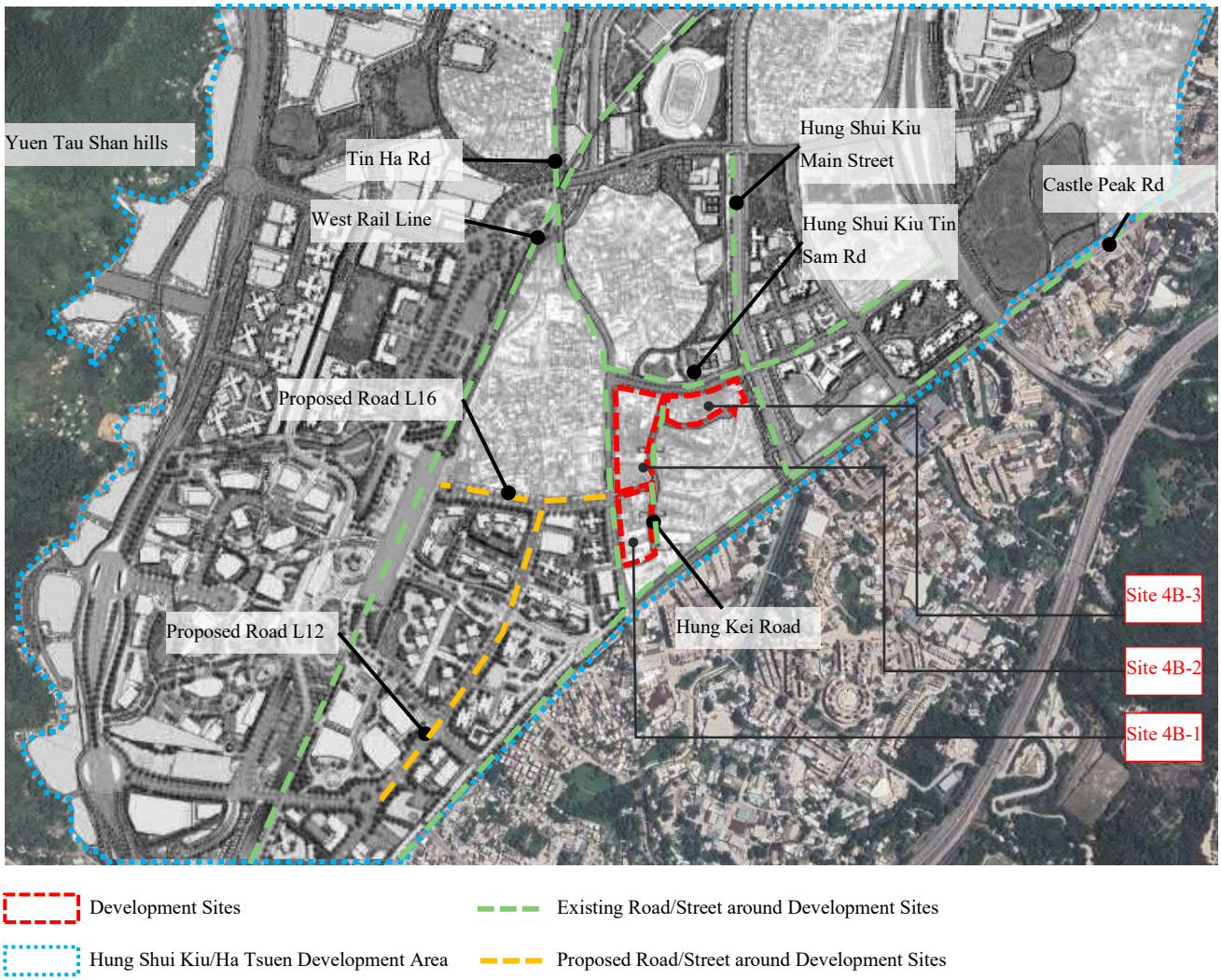


Figure 1 Location of Development Sites

2.2 Site Characteristics and Surrounding Area

2.2.1 The Development Sites location is shown in Figure 1. It is abutted by Hung Shui Kiu Tin Sam Road on its north, Hung Shui Kiu Main Street on its east, Castle peak Road on its south, and Tin Ha Road on its west. The existing road Hung Kei Road is located in N-S

alignment between Site 4B-1, Site 4B-2 and Site 4B-3. Proposed Road L16 would be provided in E-W alignment between Site 4B-1 and Site 4B-2.

2.2.2 The Development Sites are located on flat land. To the north of the Development Sites are mainly low-rise village San Lee Uk Tsuen, Bellevue Court, Flourish Garden (+18mPD, "L2") and low-rise planned G/IC buildings "LP3". To the north-east are high-rise residential building "H1" (+111.5mPD), high-rise planned residential buildings "HP9" (+140mPD), low-rise residential Sheffield Villas (+34.3mPD, "L4") and low-rise planning G/IC buildings "LP4". To east, southeast and south of the Development Sites are existing mid-rise cluster "M2" (+48.5mPD) and low-rise cluster "L5" (+32.6mPD) comprising mainly residential developments. Further to the east, southeast and south of the Development Sites, low-rise cluster "L7" (+39.5mPD), Tan Kwai Tsuen (+37.2mPD, "L10"), low-rise cluster "L6" (+36.7mPD), and Chung Uk Tsuen (+24.9mPD, "L9") are located. To the southwest and west of the Development Sites, high-rise planned buildings "HP4" to "HP8" (+130mPD to +180mPD) and low-rise village Tin Sam Tsuen (+24.6mPD, "L1") are located.

2.2.3 The location of relevant major surrounding area within the OZP is shown in Figure 2. Detailed corresponding building height information are summarised in Table 1.

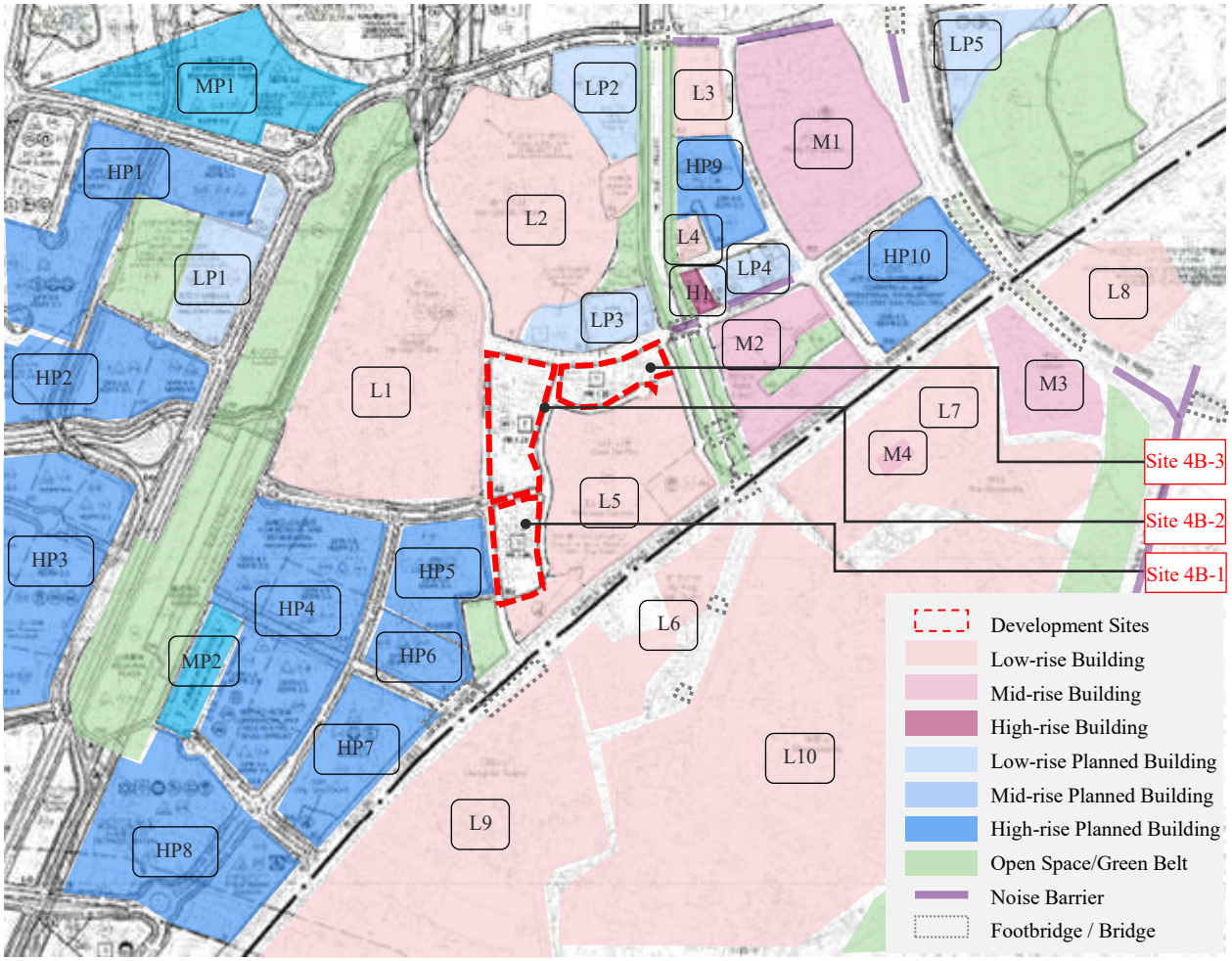


Figure 2 Major Surrounding Areas near Development Sites

Table 1 Summary of Location and Building Height of Surrounding Area of Development Sites

	No.	Location	Maximum/Existing Building Height
Low-rise Building	L1	Tin Sam Tsuen	+24.6mPD
	L2	San Lee Uk Tsuen, Bellevue Court, Flourish Garden	+19.8mPD
	L3	#LYOS	+28.6mPD
	L4	Sheffield Villas	+34.3mPD
	L5	Casa De Oro, Tin Sam Villa, Parkview Garden, Tak Cheung Building, and 181 Castle Peak Road – Hung Shui Kiu	+32.6mPD
	L6	Wo Ping San Tsuen, Bauhinia Garden	+36.7mPD
	L7	Lai Hung Garden, Treasure Court, The Woodside, The Woodsville, Sheung Tak Catholic English College, Ho Dao College	+39.5mPD
	L8	Le Regent, Tai Tao Tsuen Substation	+20.6mPD
	L9	Chung Uk Tsuen	+24.9mPD
	L10	Tan Kwai Tsuen	+37.2mPD
Mid-rise Building	M1	Hung Fuk Estate	+91mPD
	M2	Aster Court, High Park, Yan Oi House, Park Nara, Coronet Court, Beauty Court	+47.8mPD
	M3	Uptown	+77.4mPD
	M4	Symphony Garden	+48.5mPD
High-rise Building	H1	Eminence Terrace I	+111.5mPD
Low-rise Planned Building	LP1	Low-rise planned G/IC buildings in planning area 34C	+35mPD / 8 storeys
	LP2	Low-rise planned G/IC buildings in planning area 6B	8 storeys
	LP3	Low-rise planned G/IC buildings in planning area 6A	8 storeys
	LP4	Low-rise planned G/IC buildings in planning area 8	8 storeys
	LP5	Low-rise planned G/IC buildings in planning area 21	8 storeys
Mid-rise Planned Building	MP1	Mid-rise planned OU buildings in planning area 44B and 46	+90mPD
	MP2	Mid-rise planned OU buildings in planning area 28A	+60mPD
High-rise Planned Building	HP1	High-rise planned residential and G/IC buildings in planning area 34A, 34D, 34E	+160mPD

	No.	Location	Maximum/Existing Building Height
	HP2	High-rise planned residential buildings in planning area 34A, 34B	+180mPD
	HP3	High-rise planned commercial buildings in planning area 32A, 32B, 32D	+200mPD
	HP4	High-rise planned OU buildings in planning area 28A, 28B	+180mPD
	HP5	High-rise planned residential buildings in planning area 27C	+160mPD
	HP6	High-rise planned residential buildings in planning area 27B	+165mPD
	HP7	High-rise planned residential buildings in planning area 27A	+175mPD
	HP8	High-rise planned G/IC buildings in planning area 26A, 26B	+130mPD
	HP9	High-rise planned residential buildings in planning area 10	+140mPD
	HP10	High-rise planned residential buildings in planning area 12	+140mPD

2.3 OZP Compliant Scheme

2.3.1 An OZP Compliant Scheme with reference to Adopted ODP would form the Baseline Scheme. The layout plan of OZP Compliant Scheme and key development parameters is shown in Figure 3 and Table 2, respectively.

2.3.2 Appropriate building setback have been considered as measures to enhance the wind penetration performance. The following indicative building setback have been identified:

- 6m building setback from northern site boundary of Site 4B-1
- 7m building setback from western site boundary of Site 4B-2
- 8m building setback from eastern site boundary of Site 4B-3

Figure 3 Layout Plan of OZP Compliant Scheme

2.4 Indicative Scheme

2.4.1 Indicative layout plan of the Development Sites are formulated to assess the ventilation impact arising from re-zoning from "Residential (Group B) 3" to "Residential (Group A) 6", as shown in Figure 4. The comparison of planning parameter between the Indicative Scheme and OZP Compliant Scheme is summarized in Table 2.

2.4.2 Appropriate building disposition have been considered as possible design measures to enhance the wind penetration performance under the indicative building layout for analysis in this AVA-EE. Following wind enhancement features have been adopted in Indicative Scheme:

- ≥20m Tower Setback in Site 4B-1 from its northern site boundary
- ≥7.5m Building Setback in Site 4B-1 from its southern site boundary (voluntary feature)
- Three Tower Separations in Site 4B-2
    - One ≥20m tower separation between Block A and B
    - One ≥15m tower separation between Block B and C (voluntary feature)
    - One ≥25m tower separation between Block D and F.
- One ≥20m Building Separation between Block C and D in Site 4B-3
- One ≥15m Tower Separation between Block B and C in Site 4B-3
- ≥25m Tower Setback in Site 4B-3 from its eastern site boundary
- Stepped Height Profile maintained with the neighbouring lots

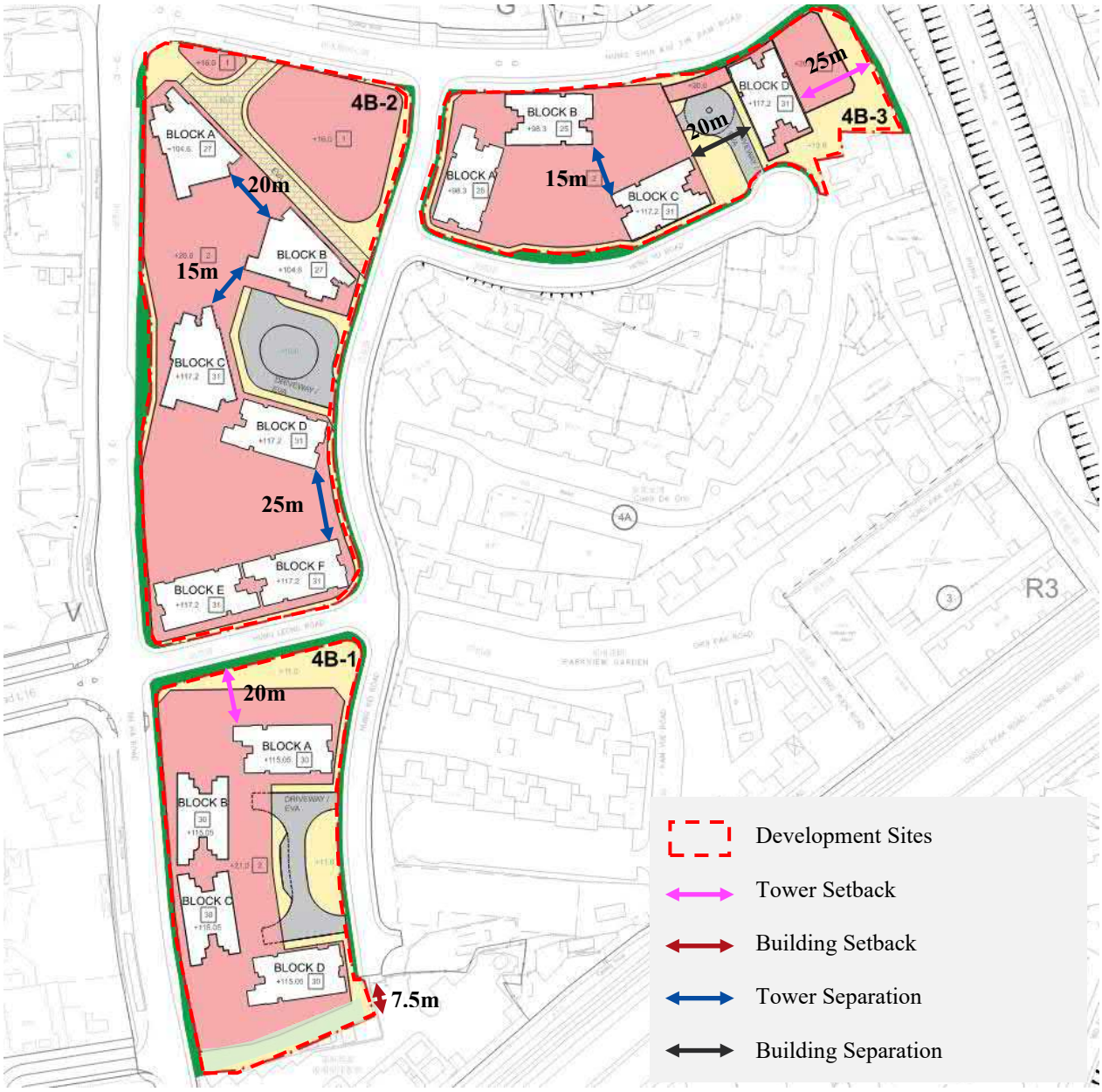


Figure 4 Layout Plan of Indicative Scheme

Table 2 Summary of Planning Parameters of Development Sites

		OZP Compliant Scheme	Indicative Scheme
Site 4B-1	Building Height (mPD)	+35.9	+115.05
	Plot Ratio	1.26	5.2
Site 4B-2	Building Height (mPD)	+34.9	+104.6 to +117.2
	Plot Ratio	1.26	5.2
Site 4B-3	Building Height (mPD)	+34.9	+98.3 to +117.2
	Plot Ratio	1.26	5.2

Remarks:

The OZP Compliant Scheme is based on the maximum domestic and non-domestic plot ratio as stipulated in the Explanatory Statement of the approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2.

Detailed planning parameters for Indicative Scheme are stated in Planning Statement

3. Site Wind Availability

3.1 Site Wind Availability Study

3.1.1 An experimental wind availability study has been conducted as part of a previous AVA study under Agreement No. CE 2/2011 Hung Shui Kiu New Development Area Planning and Engineering Study – Investigation. Two locations have been measured as indicated in Figure 5. As the site is close to the south measurement location and the building height of the Studied Site will be between +98.3mPD to +117.2 mPD, the wind roses at 200m at southern measurement location will be adopted and is shown in Figure 6.

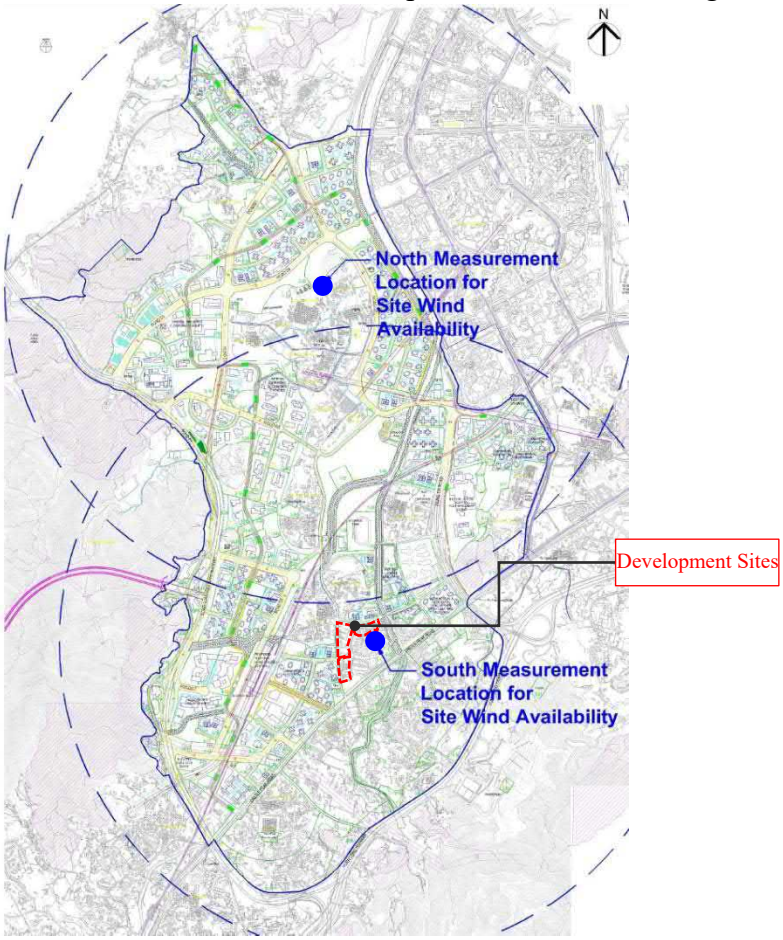


Figure 5 Measurement Locations for Site Wind Availability Study

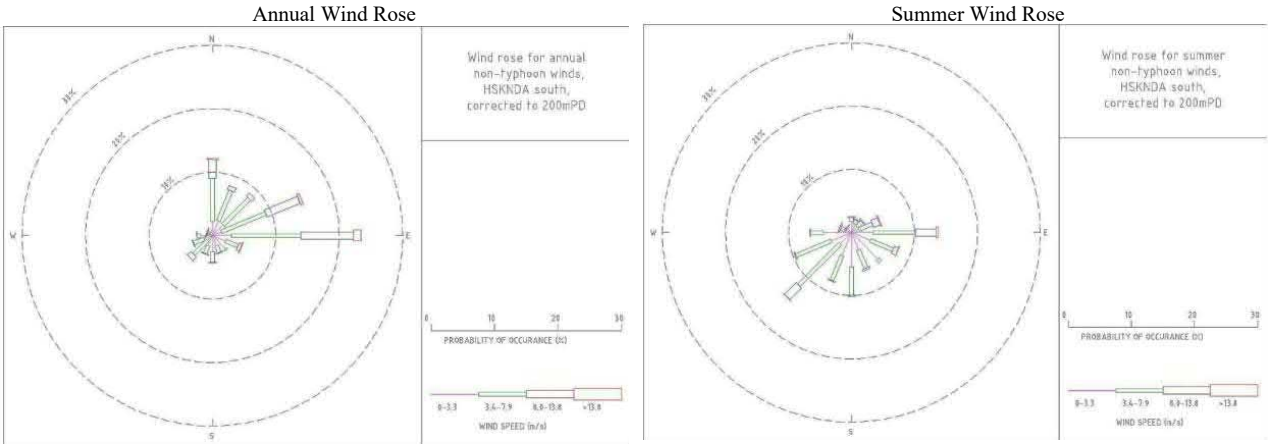


Figure 6 Wind Roses at South Measurement Location

3.2 RAMS

3.2.1 Planning Department (PlanD) has set up a set of simulated meso-scale data of Regional Atmospheric Modelling System (RAMS) of the territory for AVA Study, which can be downloaded from Planning Department Website. Among the wind data at three levels (200m, 300m and 500m), wind data at 200m would be suitable to represent the wind data with consideration of surrounding morphology. The location of the Scheme falls within the location grids (x: 043, y: 067) and (x: 043, y: 068) in the RAMS database as indicated in Figure 7. The annual and summer wind roses at 200m are shown in Figure 8.

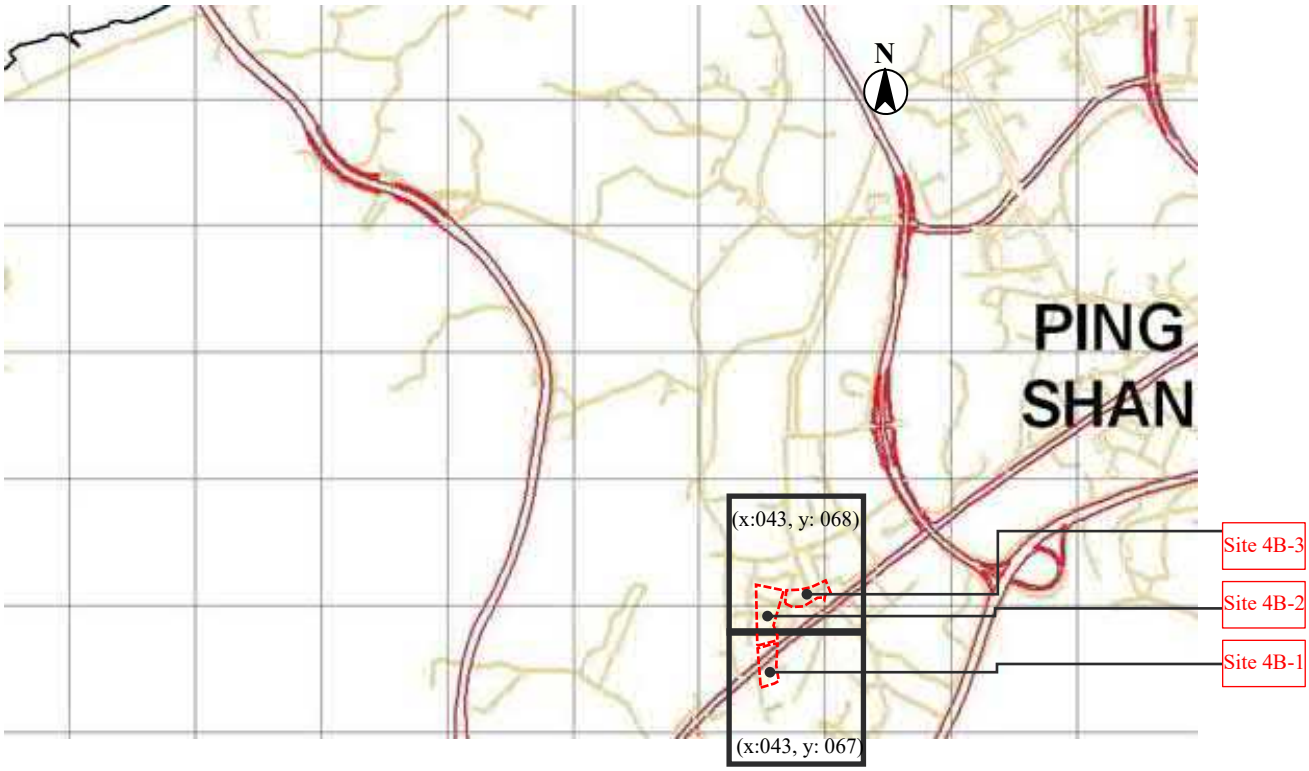


Figure 7 RAMS Grid and the Development Sites Location

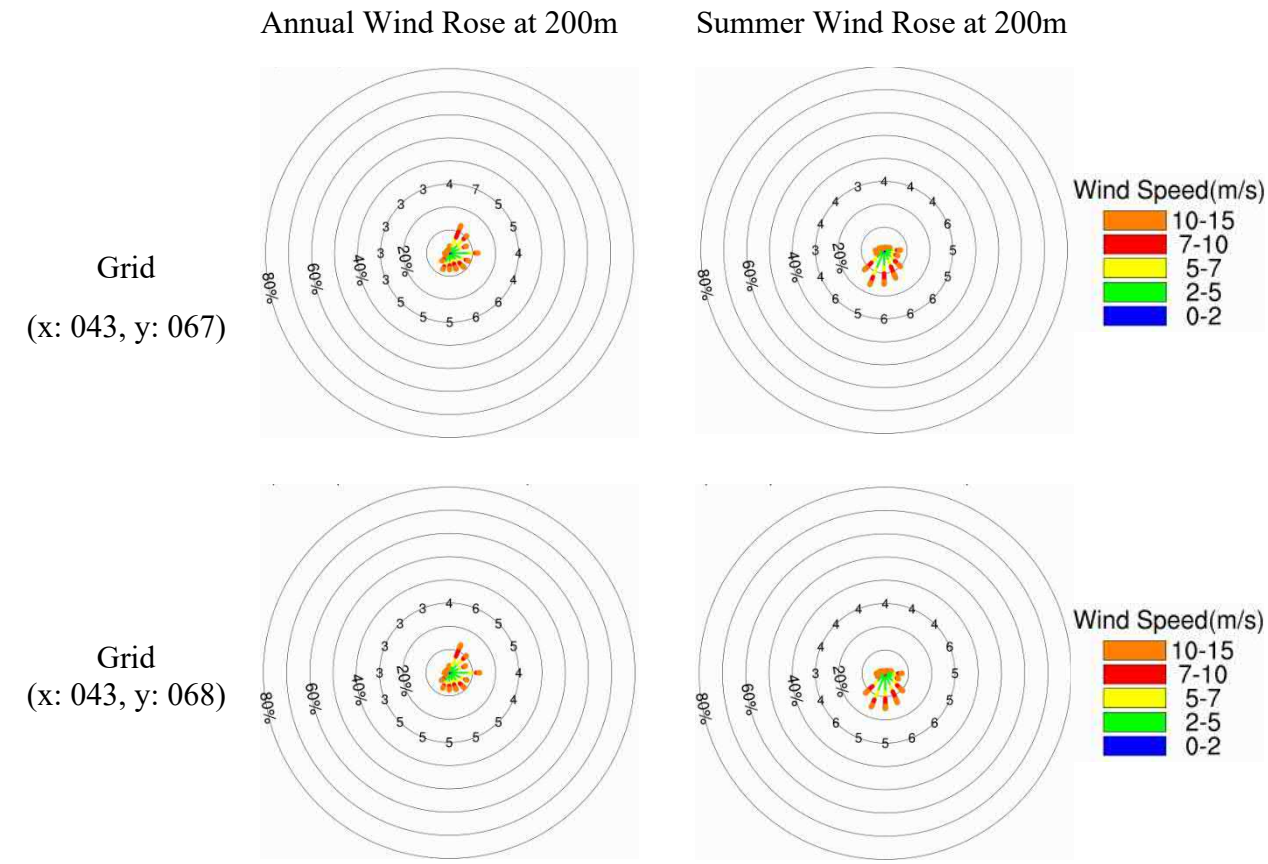


Figure 8 Annual and Summer Wind Roses at Grids (x: 043, y: 067) and (x: 043, y: 068)

3.3 Site Wind Availability Summary

3.3.1 According to the wind roses from previous experimental wind availability study and RAMS, the annual and summer prevailing wind directions are N/NNE/NE/ENE/E and E/SSE/S/SSW/SW, respectively.

Table 3 Summary of Prevailing Wind Direction for Development Sites

	Annual Winds	Summer Winds
Referenced from previous experimental wind availability study	N/ENE/E	E/S/SW
Referenced from RAMS	NNE/NE/E	SSE/S/SSW

4. Expert Evaluation

4.1 N Wind

4.1.1 N wind is one of the major prevailing wind directions under annual condition. As indicated in Figure 9, majority of N prevailing wind would skim over the low-rise cluster "L2", subsequently reaching Site 4B-2 and Site 4B-3. A portion of N wind would reach the western portion Site of 4B-1 and Site 4B-2 by channelling along Tin Ha Road. Another portion of N wind would travel along the Hung Shui Kiu Main Street to reach eastern portion of Site 4B-3.

4.1.2 Under OZP Compliant Scheme, the low-rise nature of Development Sites would allow prevailing wind to flow over it relatively freely and ventilate downwind environment. Nevertheless, low-level wind may be shielded by the Development Sites from reaching the downwind areas, casting a wind shadow in its immediate vicinity in the downwind region. Under Indicative Scheme in all sites, the building height would be increased relative to OZP Compliant Scheme, a relatively larger wind shadow would be cast on the low-rise clusters to south of the Development Sites as compared to that under OZP Compliant Scheme.

4.1.3 In Site 4B-3, under OZP Compliant Scheme, the 7m and 8m building setbacks at western and eastern portion would allow incoming wind to reach downwind areas along Hung Kei Road and Hung Shui Kiu Main Street more freely (blue arrows in Figure 10). As for Indicative Scheme, the low-rise portion in the northern portion of 4B-2, and 25m tower setback at eastern portion of Site 4B-3 would serve as widened wind entrances along Hung Kei Road and Hung Shui Kiu Main Street as compared to OZP compliant Scheme, which could enhance the wind availability of downwind areas, alleviating ventilation impact in low-rise clusters "L5" and "L6" located along Hung Kei Road and Hung Shui Kiu Main Street (blue arrows in Figure 11).

4.1.4 In addition, the 20m-wide building separation at Site 4B-3 under Indicative Scheme would facilitate the incoming wind in directly accessing the downwind area at all levels (purple arrow in Figure 11).

4.1.5 Under both schemes, the Site 4B-1 would be located in the wind sheltered area of Site 4B-2, relatively calm wind environment would be expected. The effect of Site 4B-1 on its surroundings would be minimal.

4.1.6 Additionally, as compared to the OZP Compliant Scheme, the Indicative Scheme would form a more varied building height profile, which would promote more air flow.

4.1.7 In general, the podium free design of the OZP Compliant Scheme may provide a slightly higher permeability at pedestrian level. That being said, the podium structure of the Indicative Scheme would be relatively short and not more than 25mPD, which aligns with BH restriction to be stipulated for this Sites, the impact is thus expected to be moderate.

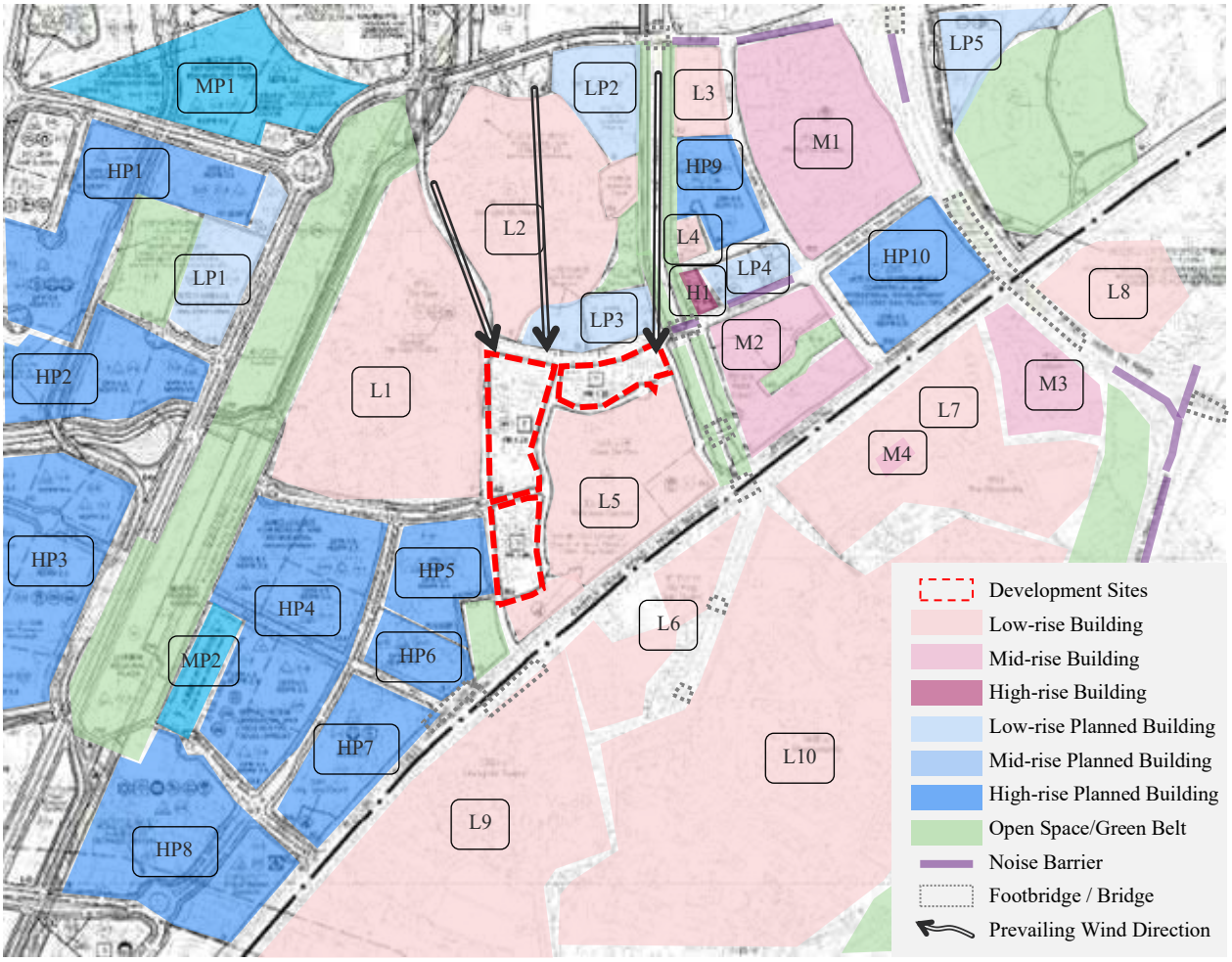


Figure 9 Wind Environment under N Wind in Surrounding Area

Figure 10 Wind Environment under N Wind for OZP Compliant Scheme

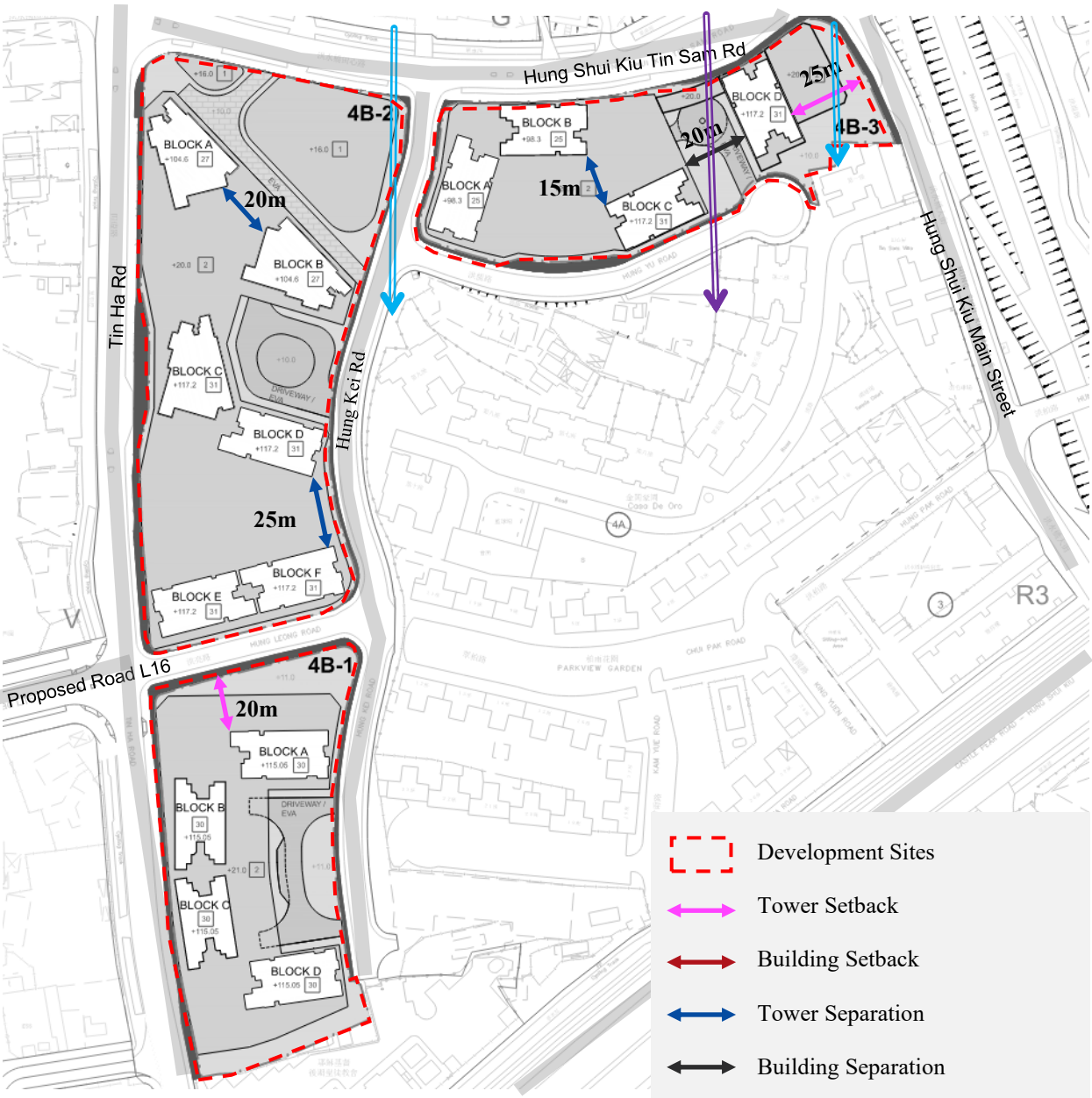


Figure 11 Wind Environment under N Wind for Indicative Scheme

4.2 NNE/NE Winds

4.2.1 NNE and NE wind directions are major prevailing wind directions under annual condition. As indicated in Figure 12, with high-rise residential building "H1" and "HP9" and low-rise planned G/IC buildings "LP3" and "LP4" at immediate upwind direction of Development Sites, some NNE/NE prevailing wind would be shielded. Nevertheless, a portion of NNE/NE wind would travel along the Hung Shui Kiu Main Street to east of Site 4B-3. On the other hand, a portion of incoming NNE/NE wind would be able to reach Site 4B-2 and Site 4B-3 by skimming over low-rise cluster "L2" and "LP3".

4.2.2 Under OZP Compliant Scheme, the low-rise Development Sites would facilitate prevailing wind to traverse and access downwind areas, such as low-rise clusters "L5", "L6", Chung Uk Tsuen ("L9"), as well as high-rise planned residential buildings "HP4" to "HP7". Nevertheless, low-level wind may be shielded by the Development Sites from reaching the downwind areas, casting a wind shadow in its immediate vicinity in the downwind region. Under Indicative Scheme in all sites, a relatively larger wind shadow as compared to that under OZP Compliant Scheme would be cast on downwind areas to south and southwest of the Development Sites.

4.2.3 In Site 4B-3, under OZP Compliant Scheme, portion of incoming NNE/NE wind would be able to travel through the 7m and 8m building setbacks at western and eastern portion respectively, reaching downwind areas such as low-rise cluster "L5" (blue arrows in Figure 13). Under Indicative Scheme, northeast of low-rise cluster "L5" would be directly reached by NNE/NE winds skimming over the 25m tower setback at eastern portion in Site 4B-3 (red arrow in Figure 14), enhancing the wind environment there as compared to OZP Compliant Scheme. With the 15m-wide tower separation, the wind permeability of Site 4B-3 can be enhanced, alleviating downwind wind environment in low-rise cluster "L5" (blue arrows in Figure 14).

4.2.4 On the other hand, the 20m-wide tower separation in Site 4B-2 under Indicative Scheme would direct incoming wind to ventilate leeward areas in Tin Ha Road and Tin Sam Tsuen ("L1") (purple arrow in Figure 14).

4.2.5 Under both schemes, as Site 4B-1 is located at the downwind location of Site 4B-2 and Site 4B-3, relatively calm wind environment in Site 4B-1 would be expected. The effect of Site 4B-1 on its surroundings would be minimal.

4.2.6 Additionally, as compared to the OZP Compliant Scheme, the Indicative Scheme would form a more varied building height profile, which would promote more air flow.

4.2.7 In general, the podium free design of the OZP Compliant Scheme may provide a slightly higher permeability at pedestrian level. That being said, the podium structure of the Indicative Scheme would be relatively short and not more than 25mPD, which aligns the BH restriction to be stipulated for the Sites, the impact is thus expected to be moderate.

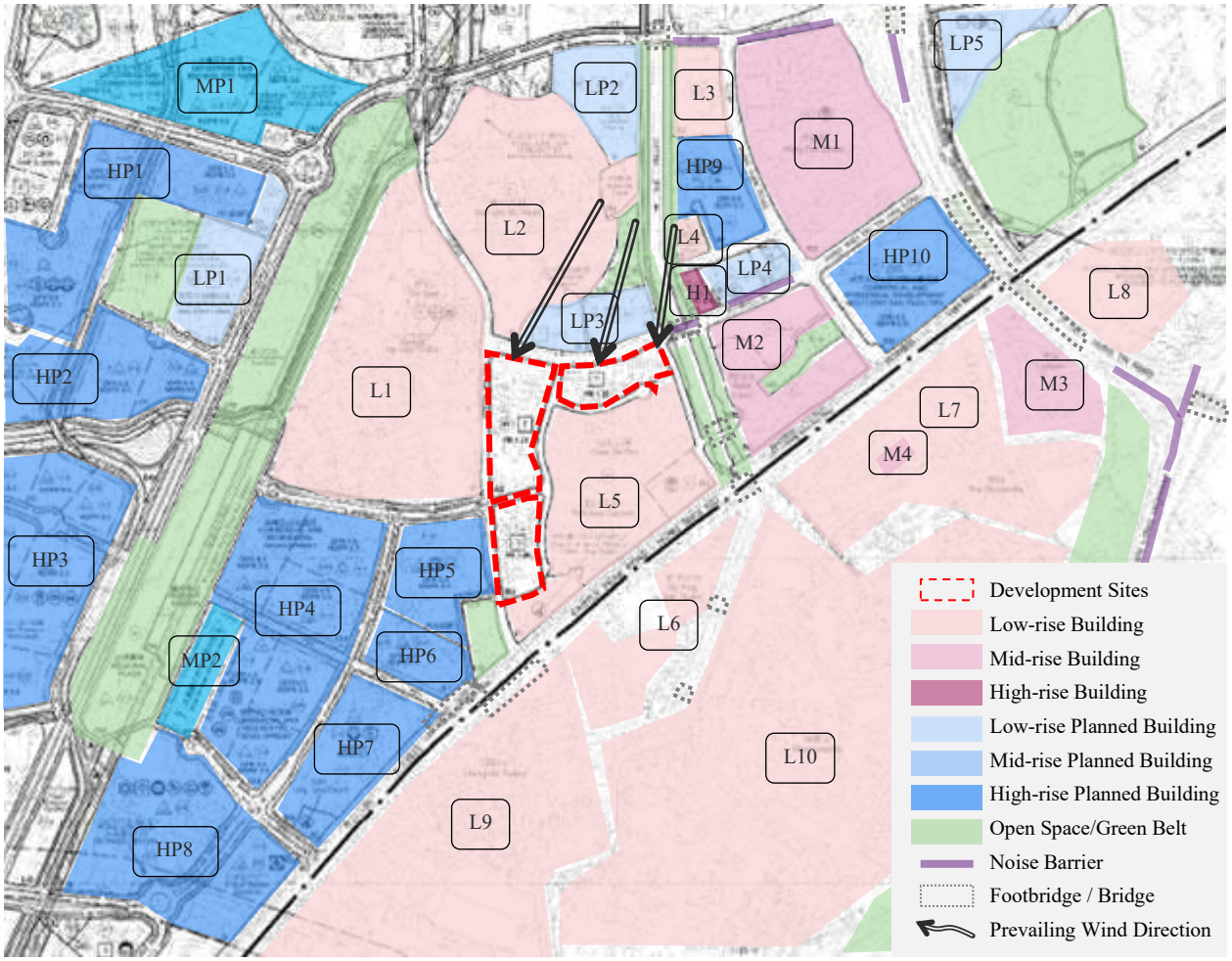


Figure 12 Wind Environment under NNE/NE Wind in Surrounding Area

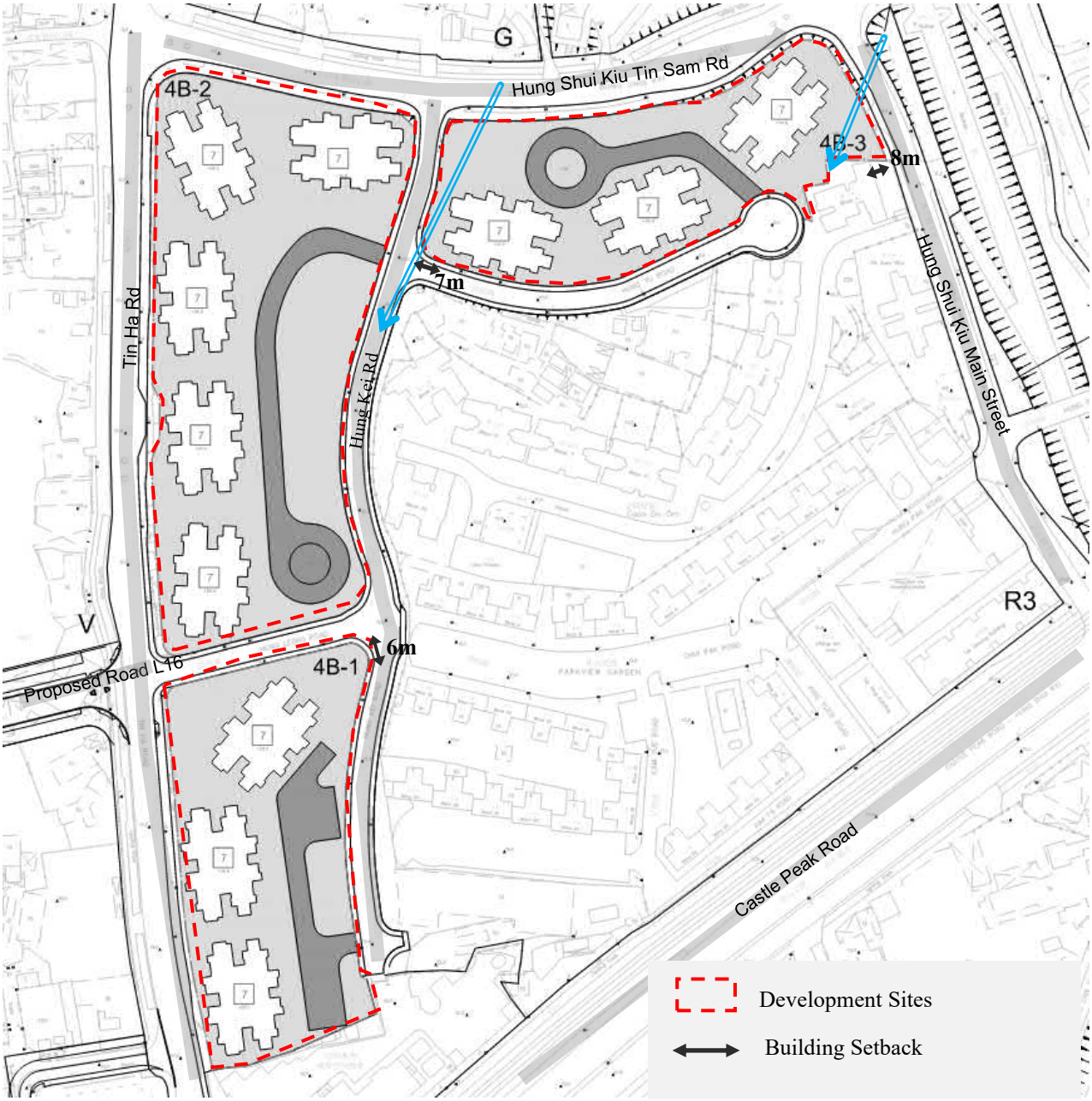


Figure 13 Wind Environment under NNE/NE Wind for OZP Compliant Scheme

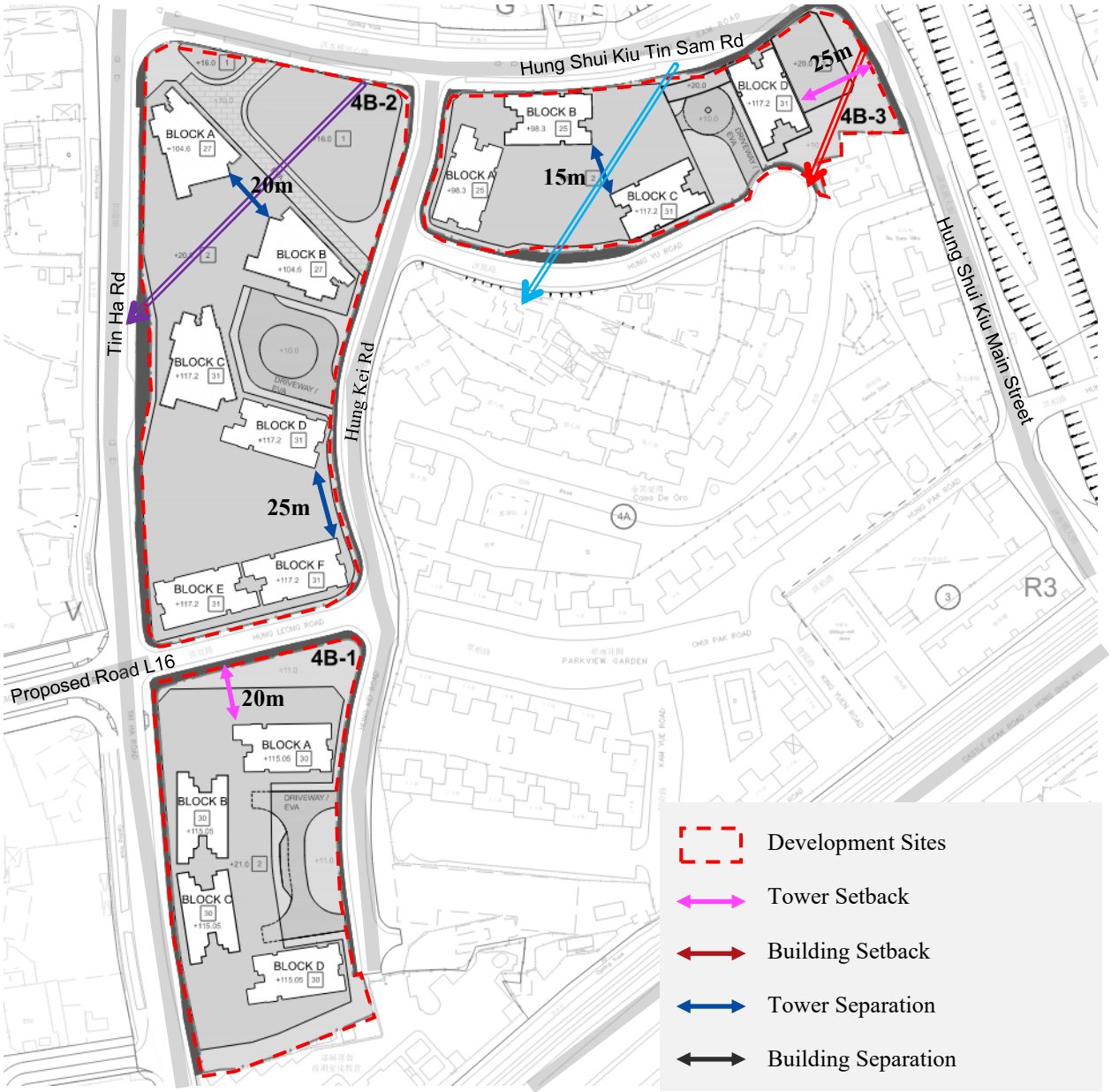


Figure 14 Wind Environment under NNE/NE Wind for Indicative Scheme

4.3 ENE/E Winds

4.3.1 ENE wind is one of the major annual prevailing wind directions and E wind is one of the major prevailing winds under both annual and summer conditions. As indicated in Figure 15, mid-rise cluster "M2" is located at upwind environment of Development Sites, a portion of low-level incoming ENE/E wind would be shielded. Nevertheless, incoming ENE/E wind would be able to reach whole Development Sites by skimming over low-rise cluster "L5" and mid-rise cluster "M2". Portions of incoming ENE/E wind could reach Site 4B-1 along Castel Peak Road, and reach Site 4B-2 and Site 4B-3 along Hung Shui Kiu Tin Sam Road respectively.

4.3.2 Under OZP Compliant Scheme, with the low-rise nature of Development Sites, incoming wind would be able to flow to the downwind areas relatively freely, ventilating areas such as low-rise village Tin Sam Tsuen ("L1"), and high-rise planned residential buildings "HP5" to "HP6". Nevertheless, low-level wind may be shielded by the Development Sites from reaching the downwind areas, casting a wind shadow in its immediate vicinity in the downwind region. Under Indicative Scheme in all sites, the taller buildings as compared to OZP Compliant Scheme would cast a relatively larger wind shadow on downwind areas to the west of Development Sites.

4.3.3 In Site 4B-2 of OZP Compliant Scheme, as mentioned, low-level wind would be hindered from reaching the low-rise village Tin Sam Tsuen ("L1"). On the other hand, the tower separations reserved in Site 4B-2 under Indicative Scheme would enhance wind permeability of the site. The 20m-wide tower separation would allow ENE wind to penetrate Site 4B-2, alleviating the ventilation impact on leeward low-rise village Tin Sam Tsuen ("L1") (purple arrow in Figure 17). In addition, the provision of 25m-wide tower separation would also enhance the wind permeability of Site 4B-2 (blue arrow in Figure 17), allowing prevailing wind flowing over the low-rise cluster "L5" to penetrate the Development Sites to leeward areas, providing ventilation further therein.

4.3.4 The 6m building setback at northern portion Site 4B-1 under OZP Compliant Scheme would enable wind penetration through the Development Sites to reach downwind areas such as high-rise planned residential buildings "HP5" and "HP4" along the Proposed Road L16 (red arrow in Figure 16). As for the Site 4B-1 under Indicative Scheme, the widened 20m tower setback at the northern portion of Site 4B-1 would allow more incoming wind to reach the downwind areas in high-rise planned residential buildings "HP4" and "HP5" (red arrow in Figure 17).

4.3.5 Additionally, as compared to the OZP Compliant Scheme, the Indicative Scheme would form a more varied building height profile, which would promote more air flow.

4.3.6 In general, the podium free design of the OZP Compliant Scheme may provide a slightly higher permeability at pedestrian level. That being said, the podium structure of the Indicative Scheme would be relatively short and not more than 25mPD, which aligns the BH restriction to be stipulated for the Sites, the impact is thus expected to be moderate.

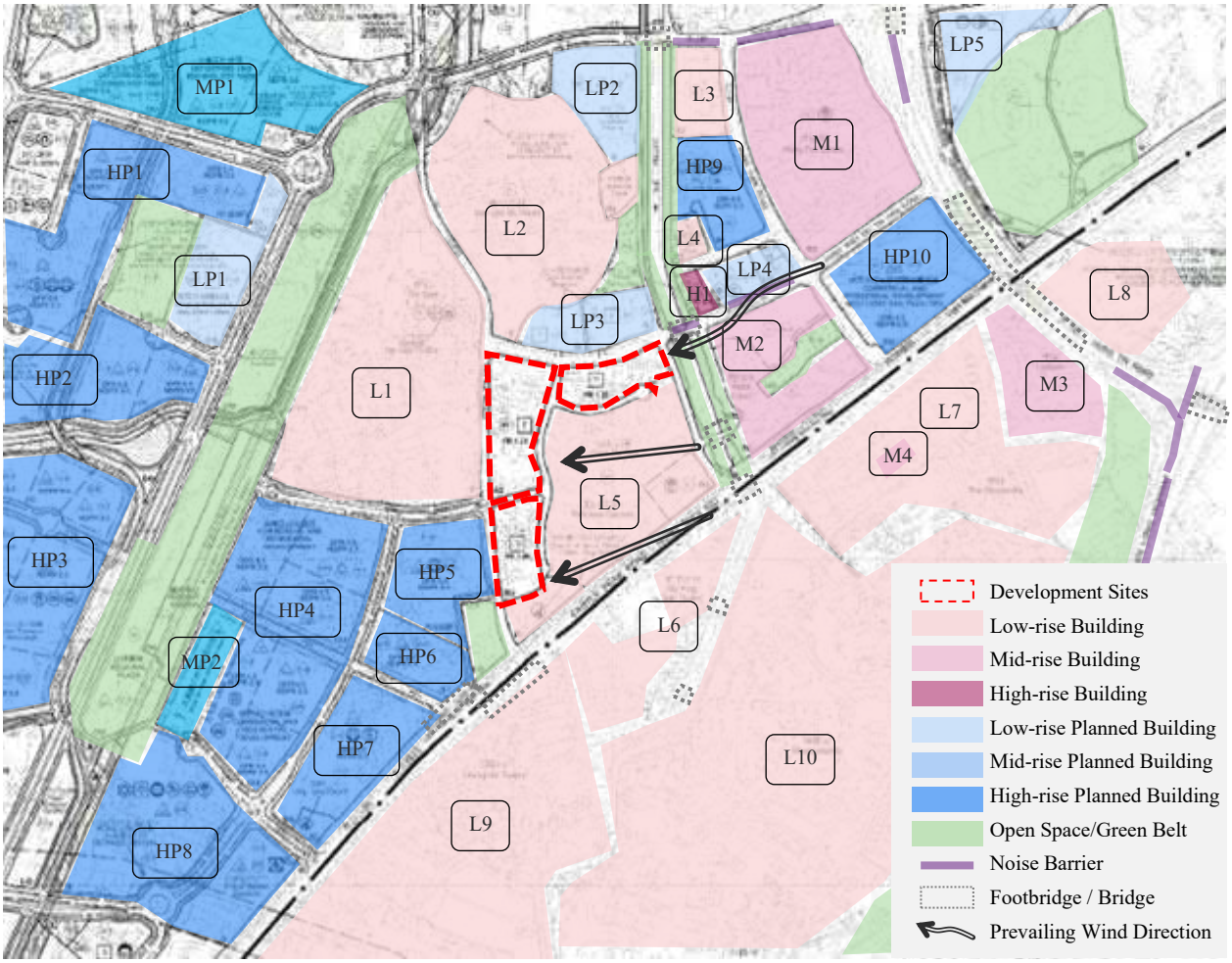


Figure 15 Wind Environment under ENE/E Wind in Surrounding Area

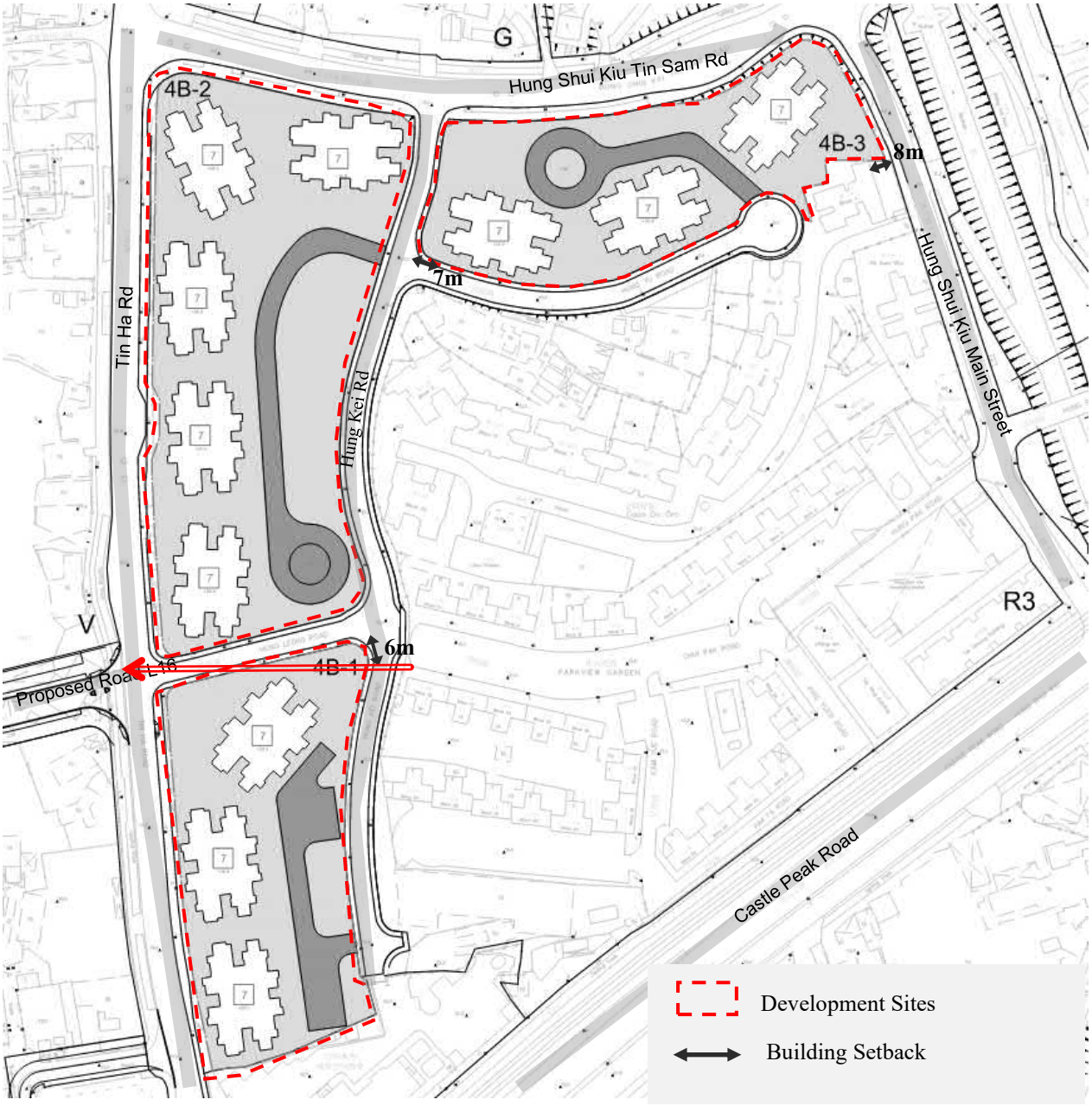


Figure 16 Wind Environment under ENE/E Wind for OZP Compliant Scheme

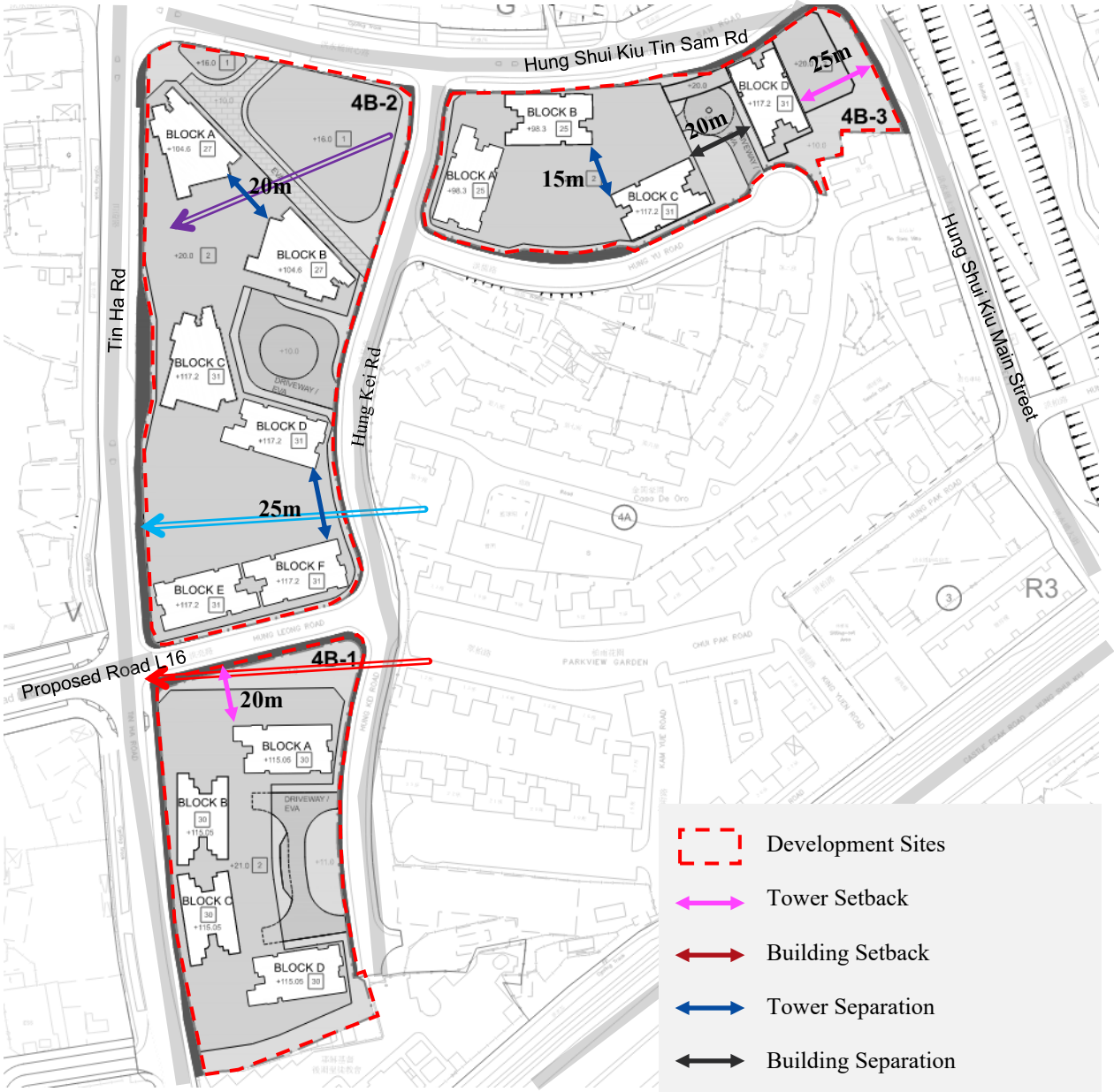


Figure 17 Wind Environment under ENE/E Wind for Indicative Scheme

4.4 S/SSE Winds

4.4.1 S and SSE winds are major prevailing wind directions under summer condition. As indicated in Figure 18, with the low-rise upwind environments, incoming S/SSE wind would be able to reach whole Development Sites freely by skimming over low-rise clusters "L5", "L6" and Chung Uk Tsuen ("L9"). Portions of incoming S/SSE wind could reach Site 4B-1 and Site 4B-2 along Tin Ha Road, and reach Site 4B-3 along Hung Shui Kiu Main Street, respectively. Additionally, Site 4B-2 may be hindered by Site 4B-1 under S/SSE wind, in particular under S wind.

4.4.2 Under OZP Compliant Scheme, the low-rise nature of the Development Sites would allow prevailing wind to flow over it and reach downwind low-rise clusters "L2" and low-rise planned G/IC building "LP3". Nevertheless, low-level wind may be shielded by the Development Sites from reaching the downwind areas, casting a wind shadow in its immediate vicinity in the downwind region. Under Indicative Scheme in all sites, the taller buildings as compared to OZP Compliant Scheme would cast a relatively larger wind shadow on downwind areas north and northwest of the Development Sites, such as low-rise village Tin Sam Tsuen ("L1"), low-rise clusters "L2" and low-rise planned G/IC building "LP3".

4.4.3 Apart from casting a wind shadow on the surroundings, Site 4B-1 would also cast a wind shadow on site 4B-2 under S and SSE wind. The effect is expected to be more significant under the Indicative Scheme owing to its taller building height as compared to that under OZP Compliant Scheme.

4.4.4 In Site 4B-2 of Indicative Scheme, the permeability along Hung Kei Road would be enhanced by the lower-rise buildings in the northern portion of Site 4B-2, allowing for wind through the Development Sites more freely to reach leeward low-rise clusters "L2" and low-rise planned G/IC building "LP3" (orange arrow in Figure 20).

4.4.5 In Site 4B-3 under OZP Compliant Scheme, the 7m and 8m building setbacks at western and eastern portion would allow incoming wind to reach downwind areas along Hung Kei Road and Hung Shui Kiu Main Street accordingly (blue arrows in Figure 19). As for Site 4B-3 under Indicative Scheme, the 25m tower setback at eastern portion of Site 4B-3 together with the Hung Shui Kiu Main Street would create a widened wind entrance for wind to enter the northern surrounding area such as the low-rise cluster "LP3" and high-rise cluster "H1", reducing the ventilation impact therein brought by the Development Sites (blue arrow in Figure 20). In addition, the provision of the 20m-wide building separation would facilitate wind penetration through Site 4B-3 to reach downwind low-rise clusters "L2" and low-rise planned G/IC building "LP3" more freely compared to that under OZP Compliant Scheme, alleviating the wind ventilation there (purple arrow in Figure 20).

4.4.6 Additionally, as compared to the OZP Compliant Scheme, the Indicative Scheme would form a more varied building height profile, which would promote more air flow.

4.4.7 In general, the podium free design of the OZP Compliant Scheme may provide a slightly higher permeability at pedestrian level. That being said, the podium structure of the Indicative Scheme would be relatively short and not more than 25mPD, which aligns with BH restriction to be stipulated for this Sites, the impact is thus expected to be moderate.

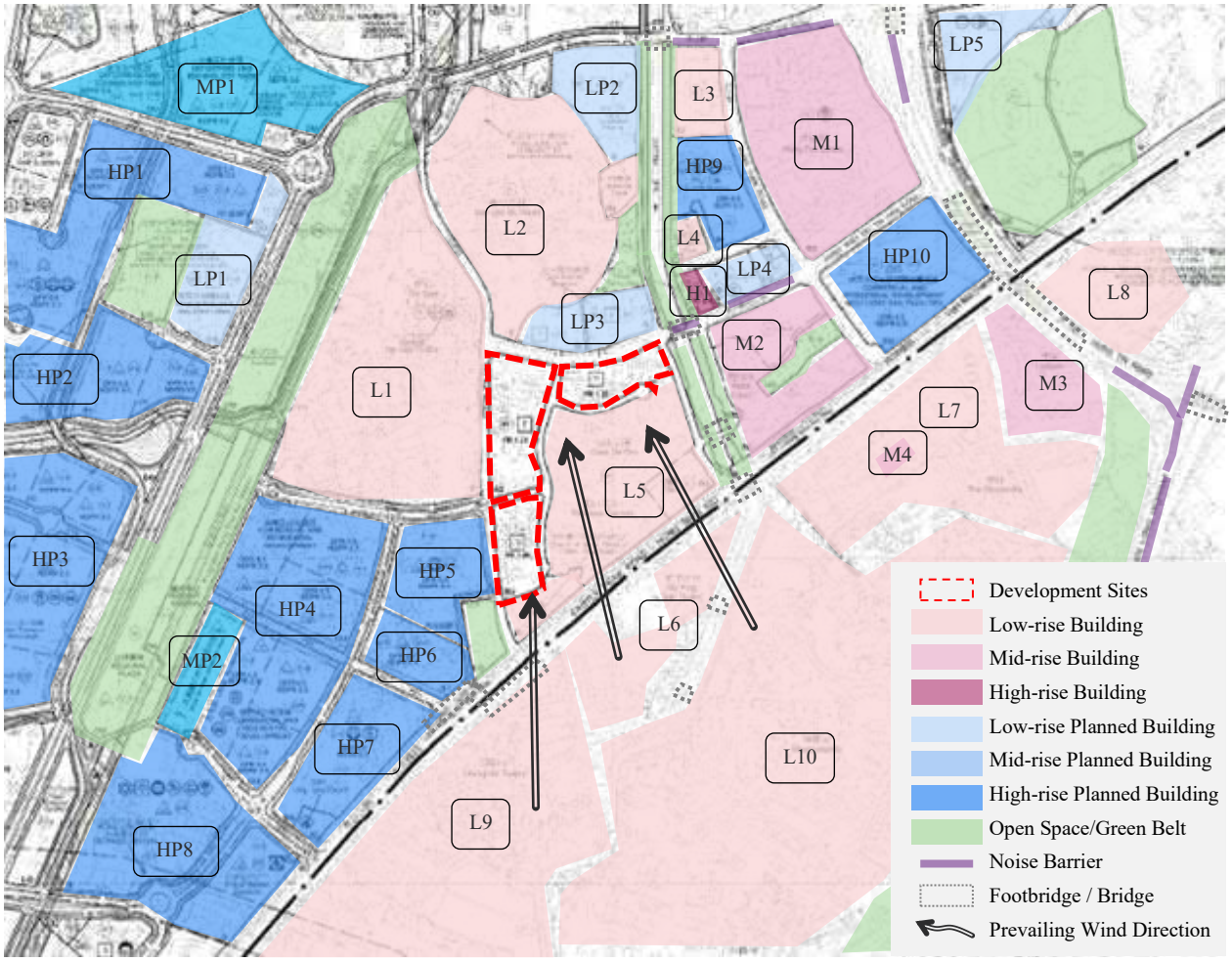


Figure 18 Wind Environment under S/SSE Wind in Surrounding Area

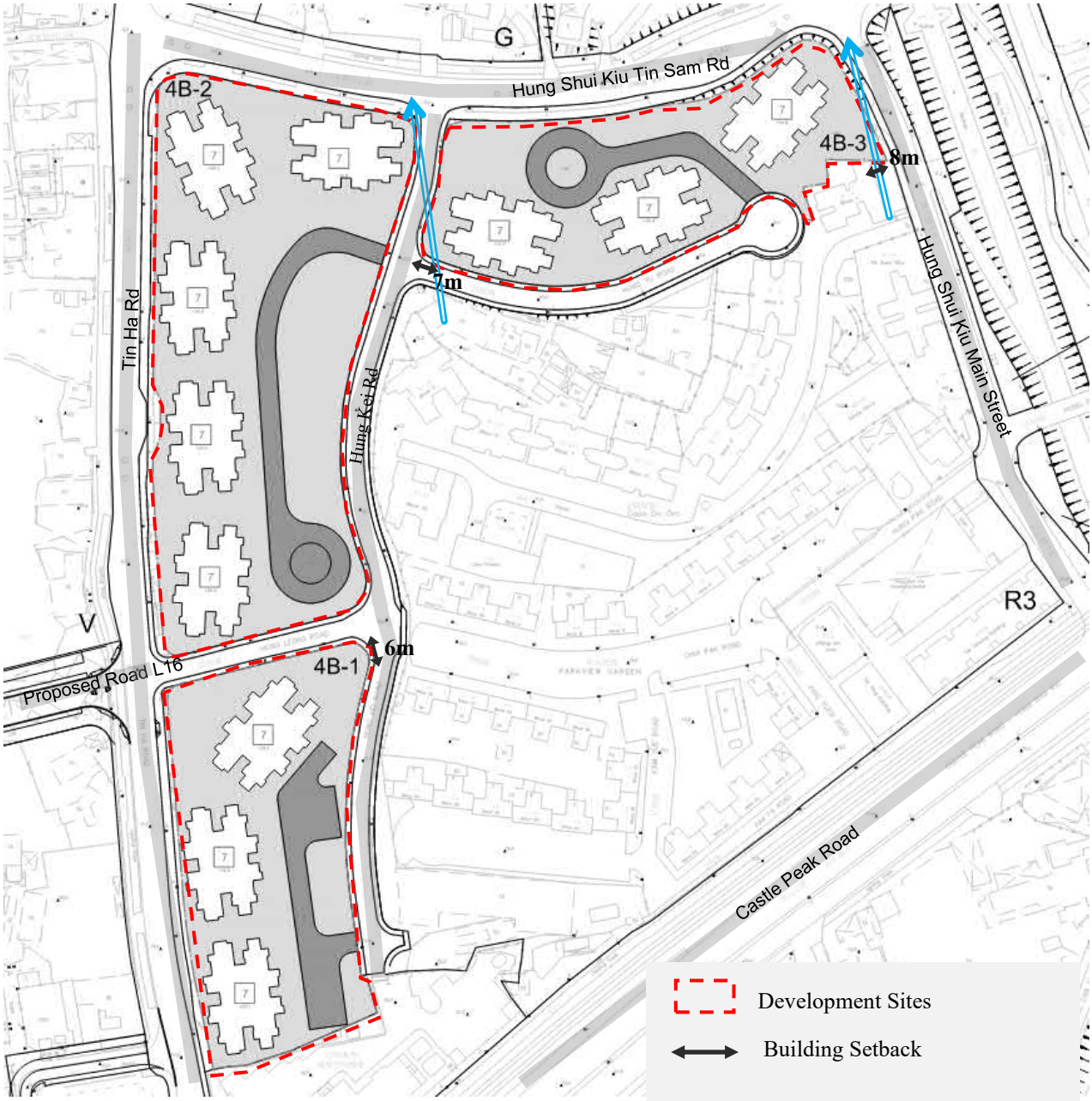


Figure 19 Wind Environment under S/SSE Wind for OZP Compliant Scheme

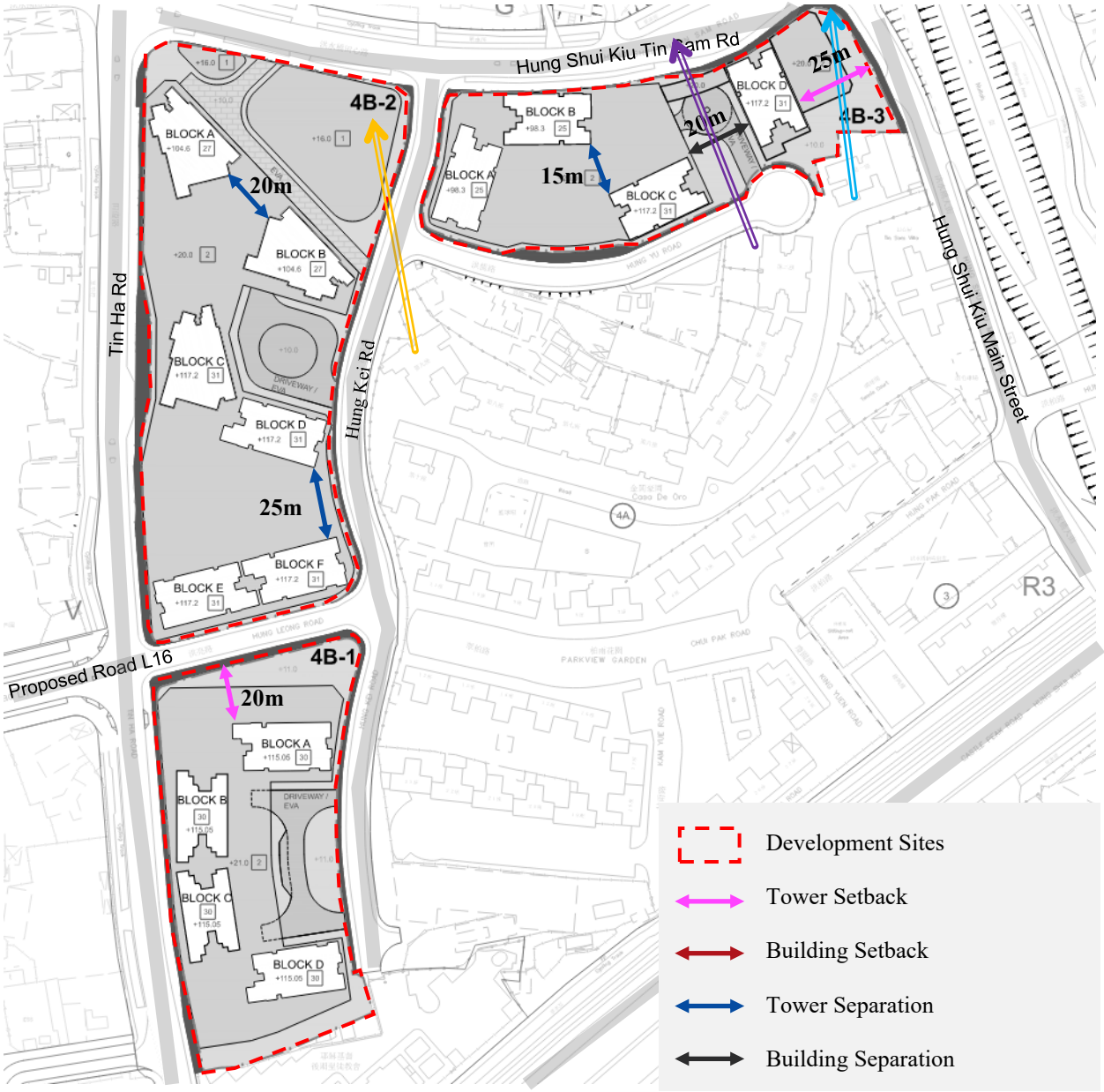


Figure 20 Wind Environment under S/SSE Wind for Indicative Scheme

4.5 SSW/SW Wind

4.5.1 SSW and SW wind directions are major prevailing wind directions under summer condition. As indicated in Figure 21,with the high-rise planned buildings "HP4" to "HP8" located at upwind direction of the Development Sites, incoming SSW/SW would be shielded. Nevertheless, a portion of SSW/SW wind along the Castle Pead Road would skim over the low-rise cluster "L5" to reach Site 4B-1 and Site 4B-3. A portion of SSW/SW wind along Proposed Road 12 would fly atop low-rise village Tin Sam Tsuen ("L1") and reach the western portion of Site 4B-2. Under both schemes, the overall wind environment of Development Sites are relatively calm under SSW/SW wind direction.

4.5.2 Under OZP Compliant Scheme, the low-rise Development Sites would enable prevailing wind to flow over the it and reach downwind low-rise clusters "L2" and low-rise planned G/IC building "LP3", and high-rise residential building "H1". Nevertheless, low-level wind may be shielded by the Development Sites from reaching the downwind areas, casting a wind shadow in its immediate vicinity in the downwind region. Under Indicative Scheme in all sites, with increased building height in the Development Sites, larger wind shadow would be cast to northeast of the Development Sites. Wind environment in downwind areas, such as low-rise clusters "L2" and "L5", and low-rise planned G/IC building "LP3", and high-rise residential building "H1" would be affected. Additionally, since the wind environment would be dominated by the upwind high-rise buildings, the ventilation impact of the Indicative Scheme would be less significant.

4.5.3 Apart from casting a wind shadow on the surroundings, Site 4B-1 would also cast a wind shadow on site 4B-2 and low-rise cluster "L5" under SSW wind. The effect is expected to be more significant under the Indicative Scheme owing to its taller building height as compared to that under OZP Compliant Scheme.

4.5.4 In Site 4B-2 under Indicative Scheme, the provision of 20m-wide tower separation would allow more prevailing wind traveling through the Development Sites to leeward areas as compared to OZP compliant scheme, alleviating the wind shadow effect in low-rise cluster "L2" and low-rise planned G/IC building "LP3"(purple arrow in Figure 23).

4.5.5 In Site 4B-3 under OZP Compliant Scheme, portion of low-level incoming SSW/SW wind would be able to travel through the 7m and 8m building setbacks at western and eastern portion respectively, ventilating downwind areas such as low-rise planned G/IC building "LP3", and high-rise residential building "H1" (pink arrows in Figure 22). As for Site 4B-3 under Indicative Scheme, the introduction of a 15m-wide tower separation would increase wind permeability of the site by allowing more wind penetrating the Development Sites to reach leeward low-rise planned G/IC building "LP3" and high-rise residential building "H1" (blue arrow in Figure 23). In addition, the 25m tower setback at eastern portion in Site 4B-3 would create a widened wind entrance for wind to enter the northeastern surroundings (red arrow in Figure 23).

4.5.6 Additionally, as compared to the OZP Compliant Scheme, the Indicative Scheme would form a more varied building height profile, which would promote more air flow.

4.5.7 In general, the podium free design of the OZP Compliant Scheme may provide a slightly higher permeability at pedestrian level. That being said, the podium structure of the

Indicative Scheme would be relatively short and not more than 25mPD, which aligns with BH restriction to be stipulated for this Sites, the impact is thus expected to be moderate.

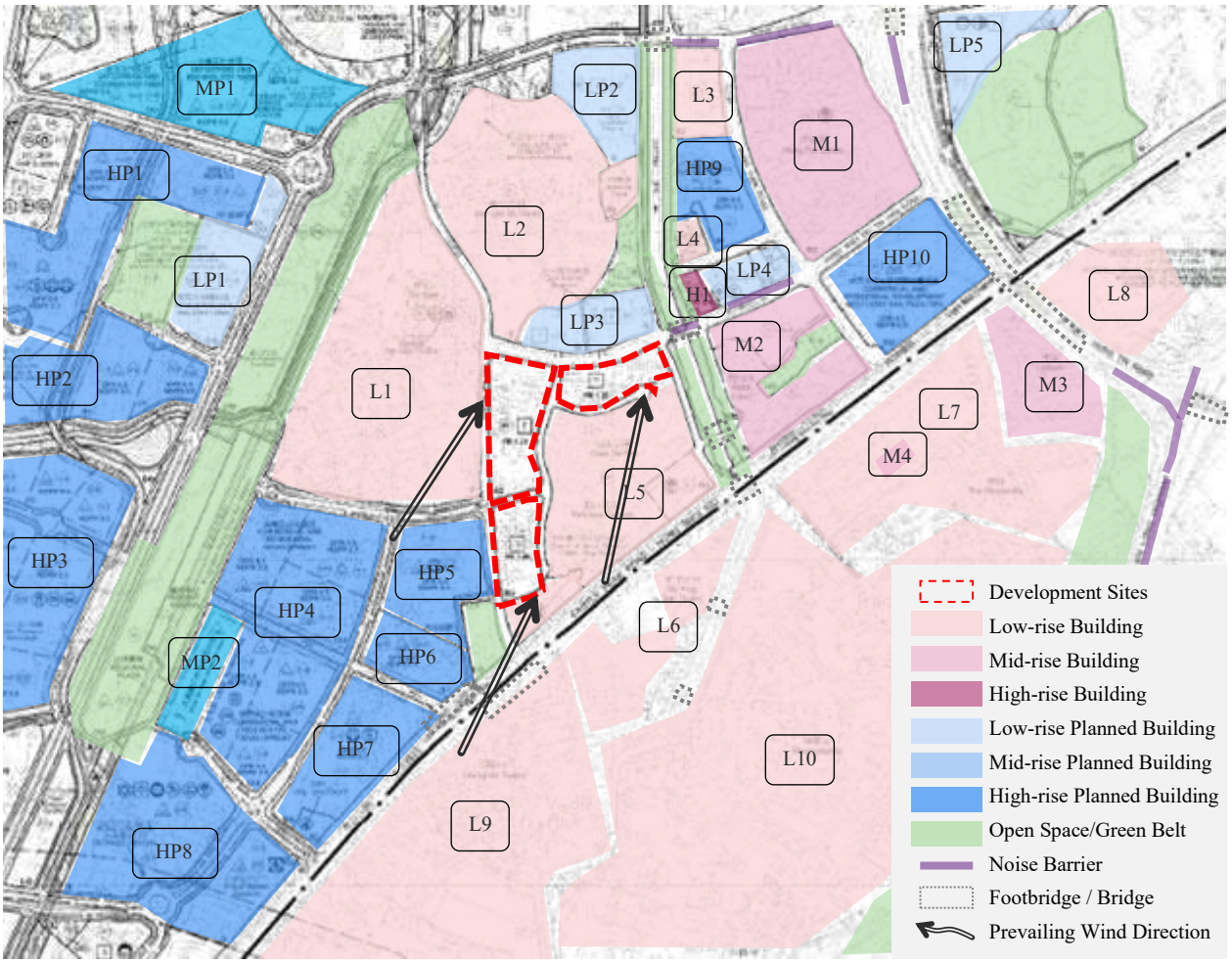


Figure 21 Wind Environment under SSW/SW Wind in Surrounding Area

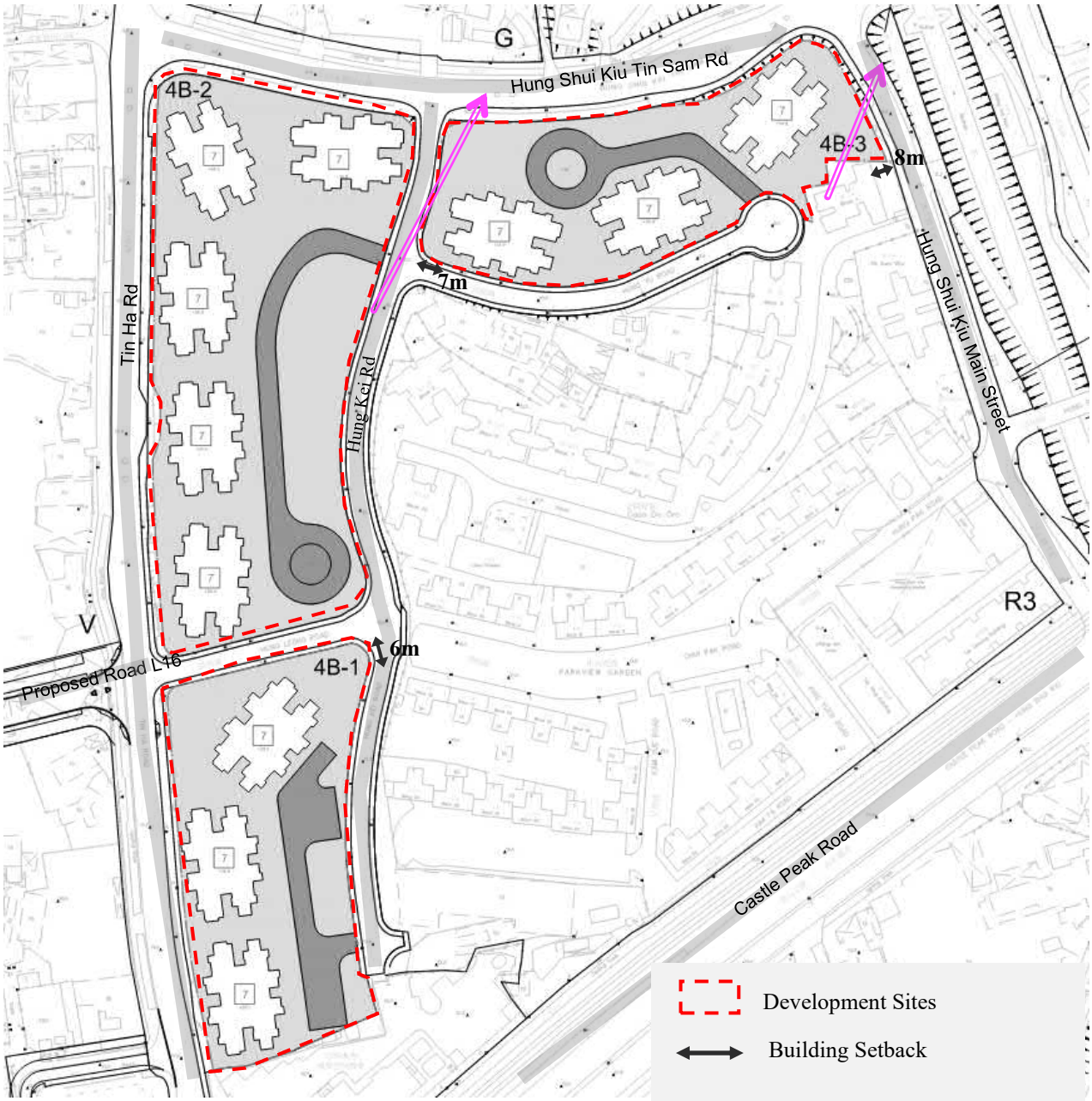


Figure 22 Wind Environment under SSW/SW Wind for OZP Compliant Scheme

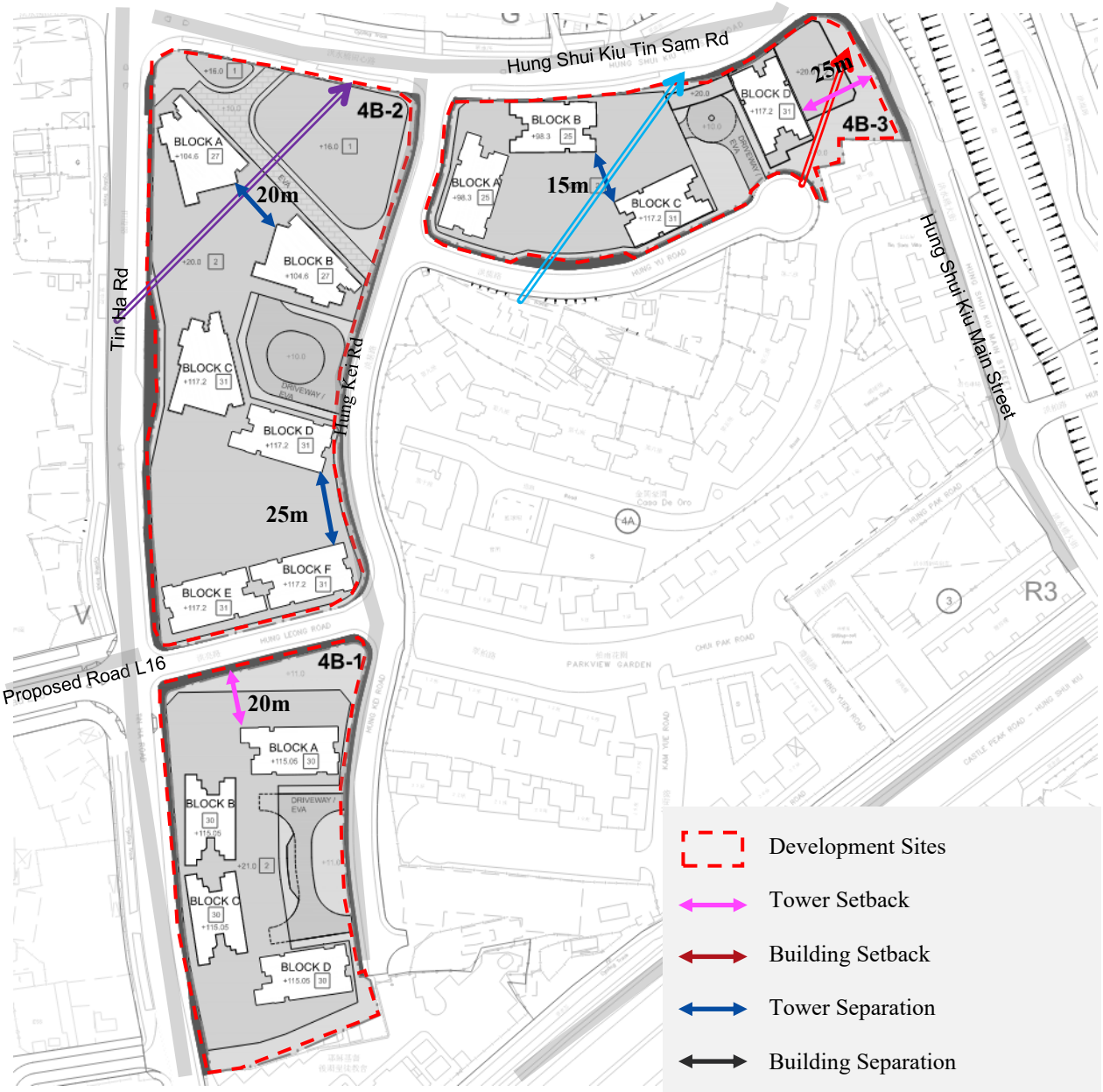


Figure 23 Wind Environment under SSW/SW Wind for Indicative Scheme

5. Conclusion

5.1 Overview

5.1.1 Qualitative assessment of the wind environment of the Development Sites was conducted. According to the wind availability data from previous experimental wind / site wind availability studies, the annual prevailing winds mainly come from N/NNE/NE/ENE/E directions, while summer prevailing winds mainly come from E/SSE/S/SSW/SW directions.

5.2 Under Annual Wind Conditions (N/NNE/NE/ENE/E)

5.2.1 Under annual condition, the Development Sites are mainly located downwind of low-rise cluster "L2", low-rise planned G/IC buildings "LP3", high-rise residential building "H1", and mid-rise cluster "M2". Owing to the relatively openness to the north of Development Sites, the incoming wind from north quadrant is relatively more abundant.

5.2.2 Under OZP Compliant Scheme, the low-rise nature of the Development Sites would enable prevailing wind to skim over it and reach the downwind environment freely, including low-rise clusters "L1", "L5", and "L6", as well as high-rise clusters "HP4" to HP6". However, low-level winds may be hindered by the Development Sites from entering the southern and western surroundings, casting a wind shadow in its immediate proximity in leeward areas, including low-rise clusters "L1" and "L5", and high-rise cluster "HP5".

5.2.3 Under Indicative Scheme, the taller buildings within the Development Sites would cast a relatively larger wind shadow compared to OZP Compliant Scheme. Ventilation in downwind surrounding areas, such as low-rise cluster "L1", "L5", "L6" and high-rise planned residential buildings "HP4" to "HP7" would be affected. Nonetheless, various ventilation enhancement measures have been incorporated into the Indicative Scheme, which could mitigate the ventilation impact.

5.2.4 In Site 4B-2 of the Indicative Scheme, the two tower separations (20m-wide, and 25m-wide) would enhance the permeability of the Development Sites, hence improving wind availability of the leeward areas such as the low-rise cluster "L1" and high-rise cluster "HP5", in particular at low level, as compared to OZP Compliant Scheme under annual condition.

5.2.5 In Site 4B-3, annual prevailing wind would flow through the 20m-wide building separation and the 15m-wide tower separation to ventilate the leeward low-rise cluster "L5" under Indicative Scheme. Additionally, the 25m tower setback at eastern portion abutting Hung Shui Kiu Main Street would act as widened wind entrance to introduce wind into same leeward area of the Development Sites, as compared to OZP Compliant Scheme.

5.2.6 In Site 4B-1, the widened 20m tower setback from the northern site boundary would allow more incoming winds travel through the site to leeward areas such as the low-rise cluster "L1" and high-rise cluster "HP5", enhancing wind permeability of Indicative Scheme.

5.2.7 Additionally, the more varied building height profile formed by the Indicative Scheme with the surrounding buildings could enhance the ventilation performance in the neighbourhood.

5.3 Under Summer Wind Conditions (E/SSE/S/SSW/SW)

5.3.1 Under Summer condition, the Development Sites are mainly located downwind of low-rise cluster "L5", high-rise planned residential buildings "HP4" to "HP7", and mid-rise cluster "M2". Owing to the relatively openness to the south of Development Sites, the incoming wind from south quadrant is relatively more abundant.

5.3.2 Under OZP Compliant Scheme, the low-rise nature of the Development Sites would enable prevailing wind to flow over it and reach the leeward area relatively freely such as the low-rise clusters "L1", "L2", and "LP3", as well as the high-rise clusters "HP5" and H1". That said, low-level wind may be shielded, casting a wind shadow in the portions of these leeward areas closer to the site boundary.

5.3.3 Under Indicative Scheme, the taller buildings within the Development Sites would cast a relatively larger wind shadow compared to OZP Compliant Scheme. Ventilation in downwind surrounding areas, such as low-rise cluster "L1", "L2", low-rise planned G/IC buildings "LP3", high-rise residential building "H1" would be affected. To mitigate potential impacts on air ventilation, wind enhancement features have been integrated to enhance the wind permeability.

5.3.4 In Site 4B-1, the widened of 20m tower setback from the northern site boundary would allow more wind penetration through the Development Sites to downwind areas under E wind condition, as compared to OZP Compliant Scheme, such as the low-rise cluster "L1" and high-rise cluster "HP5".

5.3.5 In Site 4B-2, the two tower separations (20m-wide, and 25m-wide) would enhance the permeability of the Development Sites, hence improving wind availability of leeward areas, in particular at low level, as compared to OZP Compliant Scheme under summer condition, mitigating the wind shadow at leeward areas such as the low rise clusters "L1", "L2", and "LP3" .

5.3.6 As for Site 4B-3, summer prevailing wind would be able to travel through the 20m-wide building separation and 15m-wide tower separation to leeward area, alleviating the wind shadow impact at the low-rise clusters "LP2" and "LP3". In addition, the 25m tower setback at eastern portion abutting Hung Shui Kiu Main Street would act as widened wind entrance to introduce wind into leeward areas of the Development Sites such as the low-rise cluster "LP3" and high-rise cluster "H1", as compared to OZP Compliant Scheme.

5.3.7 Additionally, the varied building height profile formed by the Indicative Scheme could help to promote air flow, thereby enhancing the ventilation performance in the neighbourhood as compared to the OZP Complaint Scheme would.

5.4 Summary

5.4.1 In summary, due to the plot ratio and building height of the Indicative Scheme being generally higher than that of OZP Compliant Scheme, it is expected the air ventilation performance of Indicative Scheme would be slightly lower than that of OZP Compliant Scheme. That said, various wind enhancement features are observed in the Indicative Scheme, which would alleviate the ventilation impact in the surrounding areas under Indicative Scheme.

5.4.2 In this AVA-EE study, a range of wind enhancement features has been identified to mitigate the air ventilation impact associated with the Indicative Scheme. They are listed below:

- ≥20m Tower Setback in Site 4B-1 from its northern site boundary
- ≥7.5m Building Setback in Site 4B-1 from its southern site boundary (voluntary feature)
- Three Tower Separations in Site 4B-2
    - One ≥20m tower separation between Block A and B
    - One ≥15m tower separation between Block B and C (voluntary feature)
    - One ≥25m tower separation between Block D and F
- One ≥20m Building Separation between Block C and D in Site 4B-3
- One ≥15m Tower Separation between Block B and C in Site 4B-3
- ≥25m Tower Setback in Site 4B-3 from its eastern site boundary
- Stepped Height Profile maintained with the neighbouring lots

5.4.3 These identified features are indicative and for assessment purpose only. Design and parameters including the width and orientation of the separations, no. of towers within the Development Sites etc. are subject to detailed design at later stage.

5.5 Generic Recommendations

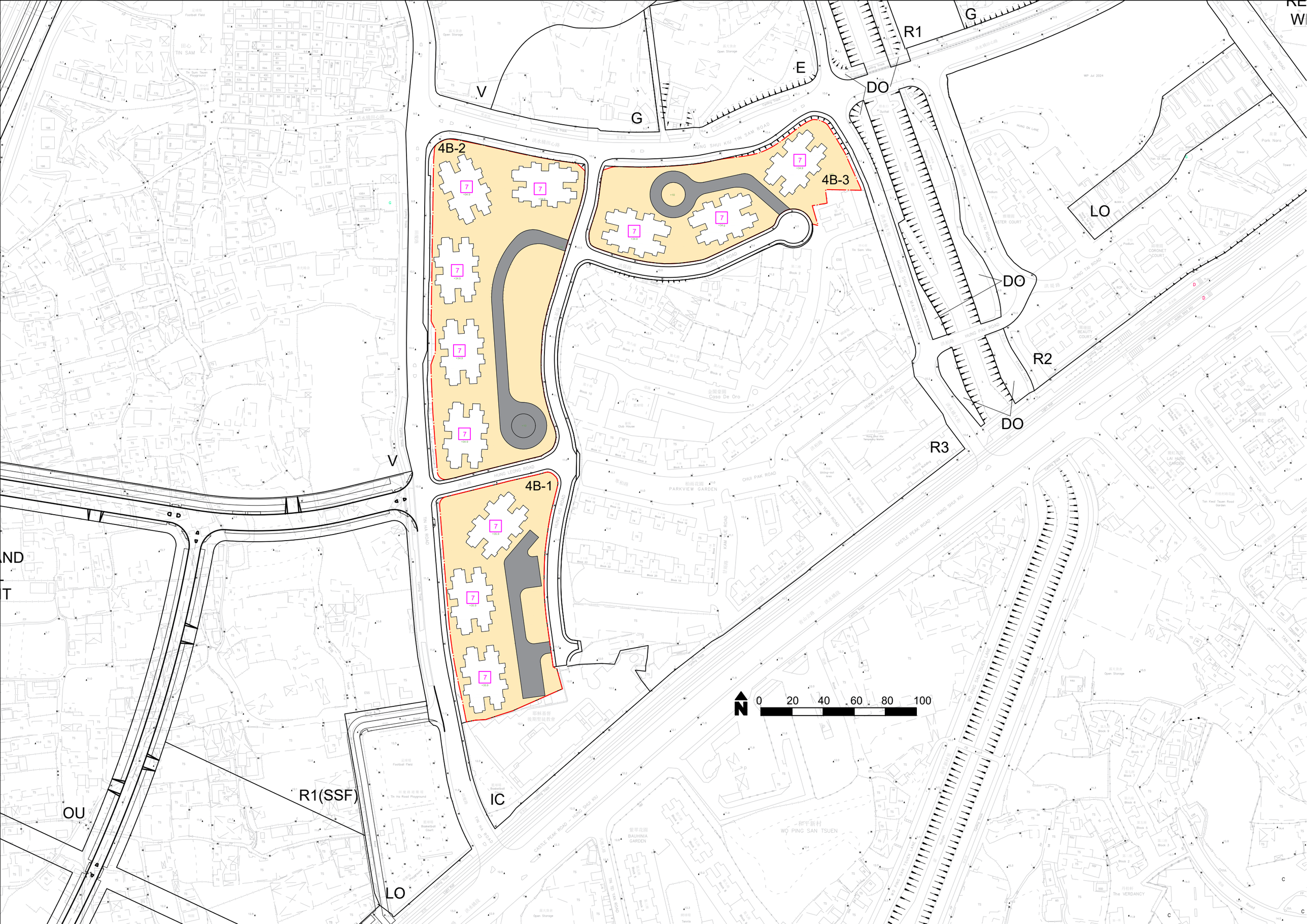
5.5.1 Some generic recommendations at building level are proposed to enhance the wind permeability/ penetration and minimize the ventilation impact to their surrounding areas.

5.5.1.1 Minimization of podium bulk or adoption of podium-free design

5.5.1.2 Other wind enhancement, such as urban windows, terraced podium, additional building setback as listed in Hong Kong Planning Standards and Guidelines (HKPSG) and Sustainable Building Design (SBD) guideline shall be referenced.

Appendix A

Layout Plan of OZP Compliant Scheme


4B-2
4B-3
4B-1
V
G
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R1
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DO
LO
DO
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IC
R1(SSF)
OU
LO
0
20
40
60
80
100

Appendix B

Layout Plan of Indicative Scheme

DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.
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OVE ARUP & PARTNERS HONG KONG LIMITED.

NOTATIONS

- Development Site Boundary
- Area for Footpath Widening
- Domestic Block
- Non-Domestic Podium with Rooftop Podium Garden
- Driveway / Emergency Vehicular Access
- Emergency Vehicular Access only
- At-grade Landscape Area

- 25 — No. of Storey
- +20.0 — Building Height at Main Roof Level in mPD
- +10.0 — Site Formation Level in mPD

Planned in HSK/HT ODP

- LO — Land Use Zoning
- (1) — Planning Area Number

Consultant

ARUP

Project Title

Proposed Amendment to Approved Hung Shui Kiu and Ha Tsuen Outline Zoning Plan No. S/HSK/2 to Rezone the Application Site from “Residential (Group B)3” to “Residential (Group A)6”, Various Lots in D.D. 124 and adjoining Government Land, Hung Shui Kiu, New Territories

Drawing title

BLOCK PLAN

Drawing no.			Rev.
01			
Drawn	Date	Checked	Approved
ZL	JAN 2026	LH	WL
Scale		Status	

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