

Enclosure 1

Response-to-Departmental Comments Table

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Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3) (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

Responses to Comments from Government Departments via Planning Department’s email on 12.12.2023 on the Further Information 02 (FI02) issued on 15.11.2023

Comments from the Commissioner for Transport for Transport Department (TD) via Planning Department’s email on 12.12.2023; Contact Person: Mr. Stephen KO (Tel: 2399 2402)		
<u>Comments on Traffic Impact Assessment (TIA)</u>		
Item	Comments	Responses
TD – TIA1	<u>Section 3.1.3</u> Our previous comment to include the Pak Wai roundabout in the study has not been addressed by the applicant.	The wordings "Pak Wai Roundabout" was missing in Section 3.1.3. However, this junction was assessed in Section 4 of the TIA (Ver. B). Since no development traffic was assigned to it, there are nil traffic impact expected due to the proposed development. Section 3.1.3 was rectified in latest Traffic Impact Assessment (Version C) (TIA(Ver. C)) as Appendix 1 of Attachment 1 Planning Statement (Version C) (PS (Ver. C)).
TD – TIA2	<u>Section 5.1.1</u> please justify not providing loading/unloading area and turning facilities in Parcel C.	One loading/unloading area and turning facilities will be provided in Parcel C. Section 5.1.1 and associated Figures have been updated in the TIA (Ver. C) as Appendix 1 of the attached PS (Ver. C).
TD – TIA3	<u>Section 5</u> please demonstrate the sight distance at the vehicular access.	The sight distance at the vehicular access has been added. Please see Figure 5.4 of the TIA (Ver. C) for the sightline analysis.
TD – TIA4	<u>Figure 5.2</u> please include the traffic aid, e.g. road marking in the drawing.	All associated figures have been updated in the TIA (Ver. C) as Appendix 1 of the attached PS (Ver. C) to include the traffic aid.

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3) (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

TD – TIA5	<u>Figure 5.2</u> it is noted that the egress out of the proposed development would encroach to the opposite lane in Ho Chung North Road. Please clarify.	The egress route was wrongly taken to eastward in the previous Traffic Impact Assessment (Version B) (TIA (Ver. B)). The correct egress route should be westward to have shortest route to Kowloon bound. The updated swept path in TIA (Ver. C) demonstrated egress vehicles will not unnecessarily encroach to the opposite lane in Ho Chung North Road.
TD – TIA6	<u>Figure 5.2 and Figure 5.3</u> Please provide the swept path for vehicular access to the site.	Noted. The swept path for vehicular access to the site have been provided. Figure 5.2 and 5.3 has been updated in the TIA (Ver. C) as Appendix 1 of the attached PS (Ver. C).
TD – TIA7	Subject to the applicant's response to our comments, we reserve our comments to the assessments upon receiving further information.	Noted.
Comments from the Acting Director of Drainage Services for Drainage Services Department (DSD) via Planning Department’s email on 12.12.2023; Contact Person: Mr. Henry YEUNG (Tel: 2300 1343)		
<u>Comments on Sewerage Impact Appraisal (SIA)</u>		
Item	Comments	Responses
DSD – SIA1	Having reviewed the updated sewerage and drainage impact appraisal (ver B in Nov 2023) for the subject application, please be advised that we have no further comment on the sewerage impact appraisal.	Noted with thanks.

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3) (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

Comments on Drainage Impact Appraisal (DIA)		
Item	Comments	Responses
DSD – DIA1	<p><u>Further comment on R-to-C table (item no. DIA3)</u></p> <p>Please clarify whether the calculated rainfall intensity had been taken into account the climate change effect in accordance with Stormwater Drainage Manual Corrigendum No.1/2022.</p> <p>Assessment of existing drainage system before development had not been discussed in the report.</p> <p>The ratio of paved / unpaved areas in each catchment should be clearly shown in the calculation.</p>	<p>It is clarified that rainfall intensity has taken into account the climate change effect. A new column has been added in Figure 3.5 of the drainage calculation for increased rainfall intensity due to climate change. The Sewerage and Drainage Impact Appraisal (Version C) (SDIA (Ver. C)) has been updated in Appendix 3 of the attached PS (Ver. C).</p> <p>Noted. Section 3.2 has been added to assess the existing drainage system in the SDIA (Ver.C).</p> <p>The ratio of paved / unpaved areas in each catchment have been added in Figure 3.5 of the drainage calculation. The SDIA (Ver. C) has been updated in Appendix 3 of the attached PS (Ver. C).</p>
DSD – DIA2	<p><u>Attachment 4 to Sewerage and Drainage Impact Appraisal.</u></p> <p>In previous planning application no. A/SK/HC/326, it is noted from the Appendix H that there are 2 new proposed 300mm and 525mm drain pipes conveying the surface runoff from Catchment A1-A3 and its upstream catchment to the nearest drainage system. However, the previously proposed 525mm drain pipe is not covered in this application. Please clarify how the surface runoff from the upstream catchment be conveyed to the nearest drainage system.</p>	<p>Noted. To err on the side of caution, the previous larger 525mm dia. drain pipes have been incorporated into the drainage proposal to accommodate the surface runoff from the upstream catchment. The relevant sections of the report and figures have been updated in the SDIA (Ver. C).</p>
DSD – DIA3	<p>Subject to further information/clarification provided by the applicant, we reserve the right to provide more comments on the subject application.</p>	<p>Noted.</p>

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3) (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

Comments from the Director of Water Supplies for Water Supplies Department (WSD) via Planning Department’s email on 12.12.2023; Contact Person: Mr. Brandon CHUNG (Tel: 2152 5577)																		
<u>Comments on Water Supply Appraisal (WSA)</u>																		
Item	Comments	Responses																
WSD – WSA1	<p><u>Table 3.1 of Water Supply Appraisal (Version B)</u></p> <p>Please elaborate the "Daily Water Demand of Proposed Development (m³/day)" for both fresh (i.e. potable, irrigation or other necessary uses, etc.) and flushing water in detailed for our consideration.</p>	<p>Noted. Table 3.1 have been updated to provide the fresh and flushing water calculations. The Water Supply Appraisal (Version C) (WSA (Ver. C)) has been updated in Appendix 4 of the attached PS (Ver. C).</p>																
WSD – WSA2	<p>The peak demand of flushing water shall be derived using peaking factor 2 (i.e. 2MDD), instead of 3.</p>	<p>Noted. Table 3.1 have been updated using peaking factor 2 for flushing water. The Water Supply Appraisal (Version C) (WSA (Ver. C)) has been updated in Appendix 4 of the attached PS (Ver. C).</p>																
WSD – WSA3	<p><u>Table 3.2 of Water Supply Appraisal (Version B)</u></p> <p>For the maximum and minimum of flow velocity, please adopt the below requirements.</p> <p>(a) A maximum flow velocity of 3 m/s under peak flow for both pumping mains and distribution mains.</p> <p>(b) Flow velocity limit for fresh water distribution mains:</p> <table border="0"> <tr> <td>>DN 700</td> <td>≤3 m/s</td> </tr> <tr> <td>DN 700 – DN 525</td> <td>≤2.5 m/s</td> </tr> <tr> <td>DN 450 – DN 375</td> <td>≤2 m/s</td> </tr> <tr> <td>DN 300 – DN 200</td> <td>≤1.5m/s</td> </tr> </table> <p>(c) Flow velocity limit for salt water distribution mains:</p> <table border="0"> <tr> <td>>DN 1000</td> <td>≤3 m/s</td> </tr> <tr> <td>DN 900 – DN 800</td> <td>≤2.5 m/s</td> </tr> <tr> <td>DN 700 – DN 525</td> <td>≤2 m/s</td> </tr> <tr> <td>DN 450 – DN 300</td> <td>≤1.5m/s</td> </tr> </table> <p>(d) A minimum flow velocity of 0.9 m/s under peak flow condition is to be adopted for both pumping mains and distribution mains.</p> <p>(e) No restriction on flow velocity under fire flow condition provided that the required fire fighting pressure at fire hydrants can be maintained.</p>	>DN 700	≤3 m/s	DN 700 – DN 525	≤2.5 m/s	DN 450 – DN 375	≤2 m/s	DN 300 – DN 200	≤1.5m/s	>DN 1000	≤3 m/s	DN 900 – DN 800	≤2.5 m/s	DN 700 – DN 525	≤2 m/s	DN 450 – DN 300	≤1.5m/s	<p>Noted. Table 3.2 have been updated with the flow velocity range of 0.9-2m/s. The Water Supply Appraisal (Version C) (WSA (Ver. C)) has been updated in Appendix 4 of the attached PS (Ver. C).</p>
>DN 700	≤3 m/s																	
DN 700 – DN 525	≤2.5 m/s																	
DN 450 – DN 375	≤2 m/s																	
DN 300 – DN 200	≤1.5m/s																	
>DN 1000	≤3 m/s																	
DN 900 – DN 800	≤2.5 m/s																	
DN 700 – DN 525	≤2 m/s																	
DN 450 – DN 300	≤1.5m/s																	

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3) (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

WSD – WSA4	<p><u>Table 3.2 of Water Supply Appraisal (Version B)</u></p> <p>Please provide the detailed calculation breakdown to support the water supply estimation for our consideration.</p>	<p>Noted. Table 3.2 have been updated to provide detail calculations. The Water Supply Appraisal (Version C) (WSA (Ver. C)) has been updated in Appendix 4 of the attached PS (Ver. C).</p>
WSD – WSA5	<p><u>Figure 3.2 of Water Supply Appraisal (Version B)</u></p> <p>Please advise the pipe sizes of the proposed connection pipes to Parcel B and Parcel C and provide the capacity checking of the proposed connection pipes for our consideration.</p>	<p>Noted. Figure 3.2 have been updated with the proposed pipe size. Capacity checking of the proposed connection pipes have been provided in the updated Table 3.2. The Water Supply Appraisal (Version C) (WSA (Ver. C)) has been updated in Appendix 4 of the attached PS (Ver. C).</p>
<p>Comments from the Chief Town Planner/Urban Design & Landscape (Ch Town Plnr/UD&L) for the Urban Design Unit, Urban Design and Landscape Section, Planning Department (UD&L, PlanD) via Planning Department’s email on 12.12.2023; Contact Person: Mr. Edward LI (Tel: 3565 3961)</p>		
<p><u>Comments on Visual Impact Assessment (VIA)</u></p>		
<p>Item</p> <p>PlanD – VIA1</p>	<p>Comments</p> <p><u>Para. 7.2.1</u></p> <p>It should read “Therefore the impact on visual composition would be low.”</p>	<p>Responses</p> <p>Noted. This have been revised accordingly in the Visual Impact Assessment (Version C) (VIA (Ver. C)) and has been updated in Appendix 2 of the attached PS (Ver. C).</p>

Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3) (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

<p>PlanD – VIA2</p>	<p>Please note that if the site is developed according to the current OZP zoning or the previous approved scheme, the temporary structures would also be removed or screened off at the concerned VPs.</p> <p>As the VIA submitted for the proposed development is comparing with the existing condition, instead of the OZP compliant scheme/previous approved scheme, the obstruction to the open sky view and mountain backdrop is more significant. Therefore, it is misleading to claim that the proposed development could enhance the visual quality at VP1 and VP4.</p> <p>To facilitate TPB’s consideration, you may also wish to prepare photomontages with respect to the OZP-compliant scheme/previous approved scheme and review the relevant discussions.</p>	<p>Noted.</p> <p>The previous approved scheme has been included in the comparison and VP1 and VP4 have been assessed accordingly. Relevant section of Section 7 has been revised accordingly in the VIA (Ver. C) of Appendix 2 of the attached PS.</p> <p>Noted. The previous approved scheme has been included in the comparison of photomontages.</p>
<p>Comments from the Chief Town Planner/Urban Design & Landscape (Ch Town Plnr/UD&L) for the Landscape Unit, Urban Design and Landscape Section, Planning Department (UD&L, PlanD) via Planning Department’s email on 12.12.2023; Contact Person: Mr. Leo LAM (Tel: 3565 3956)</p>		
<p><u>Comments on Landscape Proposal (LP)</u></p>		
<p>Item</p>	<p>Comments</p>	<p>Responses</p>
<p>PlanD – LA1</p>	<p><u>Site Photos Taken on 27 Oct 2023 (Attachment 8):</u></p> <p>Photo J as shown on the key plan is missing in Attachment 8. Please supplement and show in appropriate scale.</p> <p>Further to Applicant’s response to our previous comment (b), noting “there were no mature trees locate on the site”, however trees planting are observed in Photo K. Our previous comment (b) are reiterated as follow, please provide relevant trees information unless justified.</p>	<p>Noted. The missing photo has been added and rearranged in the figure. The figure has also printed as A3 size in the hard copy submission and is enclosed in this RtoC Table as Attachment 2.</p> <p>Noted. With the identification of trees on the Site, a Broad Brush Tree Survey have been conducted and have incorporated into the Landscape Proposal (Version C) (LP (Ver. C)) as Appendix B of the attached PS (Ver. C).</p>

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	<i>“Existing trees/ vegetation are observed within the application site but no information provided in the submission, please provide a board brush tree survey with information (i.e. size, species, form, health condition and amenity value) and photo records, and their proposed treatments/ related mitigation proposal.”</i>	
Comments from the Dist Lands Offr/Sai Kung (District Lands Office, Sai Kung) for Lands Department (LandsD) via Planning Department’s email on 12.12.2023; Contact Person: Mr. Raymond LAU (Tel: 2791 7014)		
<u>Comments on Planning Application</u>		
Item	Comments	Responses
LandsD - PA1	No further comment.	Noted.
Comments from the Director of Environmental Protection for Environmental Protection Department (EPD) via Planning Department’s email on 12.12.2023; Contact Person: Mr. Alan LI (Tel: 2835 1114)		
<u>Comments on Planning Application</u>		
Item	Comments	Responses
EPB - PA1	No further comment.	Noted.

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Attachment 1

Planning Statement (Version C)

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Planning Statement

For

**Planning Application under Section 12A of Town Planning Ordinance to
Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)”
 (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3)
 (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-
HC/11 at Various Lots in Demarcation District 210 and Demarcation
District 244 and Adjoining Government land
Ho Chung, Sai Kung, New Territories, Hong Kong**

**Consultant
Version:
Date:**

**Prudential Surveyors International Limited
B C
November December 2023**

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Executive Summary

Prudential Surveyors International Limited (**PSIL/the Consultant**) is appointed by the Client (**the Client/Applicant**) to prepare this planning submission (**the Submission/the Planning Statement**) for proposing amendments (**the Proposed Amendments**) to the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 (the Approved OZP).

The Subject Site (the Site) is of 3,190 sq.m. and falls within an area zoned “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ under the Approved OZP. The Proposed Amendments are to facilitate the development of a proposed residential development (the Proposed Development). It consists of a residential development with the provision of 8 units to provide a Gross Floor Area (GFA) of about 2,393 sq.m. at a Plot Ratio (PR) of 0.75. The Proposed Amendments include to rezone the Subject Site from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) zoned with a maximum PR of 0.75, a maximum site coverage of 25% and a maximum building height of 12m with 3-storey over one storey of carport on the Approved OZP. This Planning Statement is to support the Proposed Amendments.

A series of assessments, including Traffic Impact Assessment, Visual Impact Assessment, Sewerage and Drainage Impact Appraisal, Water Supply Appraisal, Air Quality Impact Assessment and Noise Impact Appraisal, have been carried out to ensure that the Proposed Development is suitable in the current context and is acceptable in planning, urban design, traffic, environment and infrastructural terms. In summary, the Proposed Amendments are justified on the following grounds that the Proposed Development:

- is in line with the Chief Executive’s Latest Policy Address 2022;
- is contributing to the private housing supply;
- is an appropriate zoning to reflect the residential density and current land use;
- is compatible with the surrounding land uses in terms of development intensity and character of the area;
- is compatible with the surroundings in visual and urban design context;
- is a better utilisation of land resources;
- will enable upgrading of the adjoining neighbourhood and improve the quality of the general environment;
- will facilitate local accessibility through grant of right of way of local access road;
- will improve local walkability and safety through provision of dedicated pedestrian footpath;
- has adopted a responsive architecture and landscape layout design;
- provides a landscape plan in compliance with APP-152 and HKPSG;
- has no adverse traffic, visual, air quality, noise impact and infrastructural issues; and
- would not result in undesirable precedent case.

This PS demonstrates that this Submission deserves favourable consideration by the TPB in light of the justifications provided. We trust that the TPB will see fit to adopt the Proposed Amendments.

行政摘要

測建行有限公司(測建行/顧問公司) 代表項目倡議者(項目倡議者/申請人) 準備此規劃申請(申請/規劃聲明)，對已獲核准的蠓涌分區規劃大綱圖編號 S/SK-HC/11 (已獲核准的大綱圖) 提出修訂(擬議修訂)。

申請地點(該地點)面積約 3,190 平方米，位於已獲核准的大綱圖範圍內被劃作「住宅(丁類)」(“R(D)”)用途地帶、「住宅(戊類)」(“R(E)”)用途地帶及顯示為「道路」的地方。擬議修訂旨在促進於申請地點發展住宅項目(擬議用途)。當中包括在該住宅項目根據 0.75 倍的地積比率興建八個單位，以提供 2,393 平方米的總樓面面積。建議的修訂包括把該用地由住宅(丁類)」(“R(D)”)用途地帶、「住宅(戊類)」(“R(E)”)用途地帶及顯示為「道路」的地方改劃為「住宅(丙類)3」(“R(C)3”)用途地帶。於已獲核准的大綱圖的擬議住宅發展的最高地積比率為 0.75 倍，最高上蓋面積為 25%，最高建築物高度為 12 米，即一層開敞式停車間上加三層。此規劃聲明是為了支持擬議修訂。

一系列技術評估，包括交通影響評估、視覺影響評估、污水及排水影響評估、供水評估、空氣質素影響評估和噪音影響評估已完成以確保擬議發展項目符合在該區域目前的情況，以及在規劃、城市設計、交通、環境和基礎設施方面的要求。總括而言，本規劃申請有充份的理據支持，是次規劃申請：

- 符合 2022 年行政長官最新施政報告方針；
- 為私人住宅市場增加供應；
- 反映居住密度和現行的土地用途為適當的區劃；
- 與周邊土地用途兼容，符合地區的發展密度和特徵；
- 與周邊視覺/城市設計框架兼容；
- 善用珍貴土地資源；
- 可協助改善鄰近地區的環境；
- 在地盤上半部分周邊開放道路權，改善區內的可達性；
- 在地盤上半部分周邊開闢行人路，改善區內行人的便利和安全性；
- 擬議發展有多項優點，建築形態與周邊環境融合
- 提供符合 APP-152 和香港規劃標準與準則的景觀概念設計；
- 不會對交通、視覺、空氣質素、噪音影響和土地造成任何不利影響；和
- 不會造成不良先例。

基於以上各點所提出的理據支持，我們懇請城市規劃委員會對是項規劃申請批給許可。

1 Introduction / Background

- 1.1.1 Prudential Surveyors International Limited (**PSIL/the Consultant**) is appointed by the Client (**the Client/the Applicant**) to prepare this planning submission (**the Submission/the Planning Statement**) (**PS**) for proposing amendments (**the Proposed Amendments**) to the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 (**the Approved OZP**) on 21 March 2014.
- 1.1.2 The Subject Site (the Site) is of 3,190 sq.m. and falls within an area zoned “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ under the Approved OZP. The Proposed Amendments are to facilitate the development of a proposed residential development (**the Proposed Development**). It consists of a residential development with the provision of 8 units to provide a Gross Floor Area (GFA) of about 2,393 sq.m. at a Plot Ratio (PR) of 0.75.
- 1.1.3 This PS is to support the Proposed Amendments to rezone the Subject Site from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) zoned with a maximum PR of 0.75, a maximum site coverage of 25% and a maximum building height of 12m with 3-storey over one storey of carport PR of 0.75 on the Approved OZP.
- 1.1.4 The subject site (the Site) is located on various lots in Demarcation District 210 and Demarcation District 244 in Ho Chung, Sai Kung [refer to **Figures 1.1 and 1.2**]. A summary of the development parameters of the “parcels” is shown in **Table 1.1**:

Planning Statement for Amendment of Plan

Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

	“Parcel A” (A)	“Parcel B” (B)	“Parcel C” (C)	Overall (A)+(B)+(C)	Proposed Development
Site Area	About 793 sq.m.	About 1,474 sq.m.	About 923 sq.m.	About 3,190 sq.m.	About 3,190 sq.m.
Current Zoning/ Proposed	“R(D)”	“R(E)” and area shown as ‘Road’	“R(E)”	N.A.	“R(C)3”
Plot Ratio (PR) Restriction on OZP/Proposed	0.2	0.4 (for “R(E)”) Nil (for ‘Road’)	0.4	N.A.	0.75
Site Coverage (SC) Restriction on OZP/Proposed	20%	N.A.	N.A.	N.A.	25%
Building Height Restriction (BHR) on OZP/Proposed	2 storeys (6m)	2 storeys over 1 storey of carport (9m) (for “R(E)”) and Nil (for ‘Road’)	2 storeys over 1 storey of carport (9m)	N.A.	3-storeys over one storey of carport (12m)

Table 1.1 Summary of Development Parameters

- 1.1.5 The purpose of the PS is to provide members of the Town Planning Board (the TPB) with details of the development proposal, justifications on the Proposed Amendments and the relevant information to facilitate the TPB’s consideration.

2 Site Context

2.1 The Site and its Surroundings

- 2.1.1 The Site, with an area of about 3,190 sq.m., is located to the west of the Marine Cove and Hiram’s Highway. [refer to **Figure 2.1**] It is accessible with the Luk Mei Tsuen Road/Ho Chung North Road. The area is served by a number of bus and minibus services to and from Hang Hau, Tseung Kwan O, Choi Hung and Diamond Hill. Hang Hau MTR station is located around 15 minutes’ driving distance from the Site. The access of the area have been enhanced upon the completion of the Hiram’s Highway Improvement Stage 1 in February 2021.
- 2.1.2 The Ho Chung area and its infrastructure and landscape environmental capacity and conditions have been generally enhanced with the completion of the Hiram’s Highway Improvement Stage 1. Many new improvements have been made including the widening of sections of Hiram’s Highway, the widening of the Ho Chung Road and the widening and realignment of the existing Luk Mei Tsuen Road to increase the road capacity. [refer to **Figure 2.2**] In addition, associated civil and road works, slope and geotechnical works, public lighting facilities, drainage and waterworks, and landscaping works have provided utility and infrastructure support to the area. As a result, the access and infrastructure capacity of the Ho Chung area have been enhanced.
- 2.1.3 The Site is divided into two parts by Ho Chung North Road (main road). The majority of the Site is situated to the north of Ho Chung North Road (Parcels A and B) and the remaining portion is situated to the south of Ho Chung North Road (Parcel C). The majority of the Parcels A and B of the Site appears to be occupied by open storage, vehicle repair workshop and other rural workshop activities in similar nature; while the northeastern part of the Parcels A and B are occupied by the existing Luk Mei Tsuen Road (side road) and an association named “西貢區惠州同鄉孟蘭勝會”. Parcel C of the Site is mainly occupied by an open car park with some temporary structures [refer to **Figure 2.3**].
- 2.1.4 The Site is surrounded by rural dwellings, vehicle workshops, light industry, vegetation, former ATV Production Centre (abandoned), Che Kung Temple, residential developments, refuse collection point and New Territories Exempted Houses (NTEHs). The details of the planned context and the current context of the surroundings are as follows [refer to **Figure 2.1**]: -

Planned Context

- to the north east of the Site are 15 planned houses with valid planning permission until 16.04.2025;
- to the far south of the Site are 48 planned houses with valid planning permission until 9.6.2027;

Current Context

- to the north of the Site are some 2- and 3-storey rural dwellings;
- to the east of the Site is some vehicle repair workshops and other light industry uses in temporary structures in a rural industrial setting;
- to the southeast of the Site is an area zoned “Green Belt” (“GB”) under the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 (the OZP) with rich vegetation;
- to the further south is the former ATV Production Centre (abandoned) and Che Kung Temple;

- to the distance south (about 500 metres) are the residential developments of Dynasty Lodge (34 houses) and Villa Royale (10 blocks with 30 units);
- to the west of the Site is a refuse collection point (RCP) and vehicle repair workshops; and
- to the further west is Luk Mei Village with a mixture of traditional single-storey village dwellings and modern 3-storey New Territories Exempted Houses (NTEHs).

3 Planning and Land Contexts

3.1 Statutory Planning Context

Town Planning Ordinance (TPO) (CAP. 131)

- 3.1.1 The Site falls within an area partly zoned “Residential (Group D)” (“R(D)”), partly zoned “Residential (Group E)” (“R(E)”) and partly within an area shown as ‘Road’ under the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 (the OZP) [refer to **Figure 3.1**].
- 3.1.2 Due to different zonings, the Site could be considered as three parcels, namely Parcel A within “R(D)” zone, Parcel B within “R(E)” zone and an area shown as ‘Road’, and Parcel C within “R(E)” zone. Table 3.1 summarises the associated areas of the three parcels.

Site	Zone/ area shown as	Area (Approx.) ¹	Approx. Percentage
Parcel A	“R(D)”	Not more than 793 sq.m.	24.9%
Parcel B	“R(E)” and ‘Road’	Not more than 1,474 sq.m.	46.2%
Parcel C	“R(E)”	Not more than 923 sq.m.	28.9%
Total:		Not more than 3,190 sq.m.	100%

Table 3.1 Site Composition

Note: 1=The data is measured on plan and for indicative purpose only. It shall be subject to future detailed boundary survey.

“Residential (Group D)” zone

- 3.1.3 According to the Schedule of Uses of “R(D)” zone of the OZP, the planning intention of the “R(D)” zone is “*primarily for improvement and upgrading of existing temporary structures within the rural areas through redevelopment of existing temporary structures into permanent buildings.*” It is also “*intended for low-rise, low-density residential developments subject to planning permission from the Town Planning Board.*” [refer to **Figure 3.3**]
- 3.1.4 With reference to the Schedule of Uses of the OZP, the proposed ‘House (not elsewhere specified)’ use is a use under Column 2 and realisation of the proposed use be permissible on application to the TPB under Section 16 of the TPO.
- 3.1.5 The following salient points are applicable to the developments to be erected in the “R(D)” zone: [refer to **Figure 3.3**]
- “*No addition, alteration and/or modification to or in-situ redevelopment of an existing temporary structure or an existing building (except to ‘New Territories Exempted House’ or to those annotated with #) shall result in a total development and/or redevelopment in excess of a maximum building area of 37.2m² and a maximum building height of 2 storeys (6m), or the building area and height of the*

building which was in existence on the date of the first publication in the Gazette of the notice of the interim development permission area plan, whichever is the greater.”

- *“No development including redevelopment for ‘Flat’ and ‘House’ (except ‘New Territories Exempted House’) uses, other than those to which paragraph (a) above shall apply, shall result in a development and/or redevelopment in excess of a maximum plot ratio of 0.2, a maximum site coverage of 20% and a maximum building height of 2 storeys (6m).”*
- *“Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio, site coverage and building height restrictions stated in paragraph (b) [i. e. The above stated para.] above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.”*

“Residential (Group E)” zone

- 3.1.6 According to the Schedule of Uses of “R(E)” zone of the OZP, the planning intention of the “R(E)” zone is “primarily for phasing out of existing industrial uses through redevelopment for residential use on application to the Town Planning Board. Whilst existing industrial uses will be tolerated, new industrial developments are not permitted in order to avoid perpetuation of industrial/residential interface problem.” [refer to **Figures 3.5A and 3.5B**]
- 3.1.7 With reference to the Schedule of Uses of the OZP, the proposed ‘House (other than rebuilding of NTEH or replacement of existing domestic building by NTEH permitted under the Covering Notes)’ use is a use under Column 2 and realisation of the proposed use be permissible on application to the TPB under Section 16 of the TPO.
- 3.1.8 The following salient points are applicable to the developments to be erected in the “R(E)” zone [refer to **Figures 3.5A and 3.5B**]:
- *“No new development (except ‘New Territories Exempted Houses’) shall exceed a maximum plot ratio of 0.4 and a maximum building height of 9m with 2 storeys over one storey of carport.”*
 - *“No addition, alteration and/or modification to or redevelopment of an existing building (except redevelopment to ‘New Territories Exempted Houses’) shall exceed the plot ratio and building height restrictions stated in paragraph (a) above [i.e. the above bullet point], or the plot ratio and height of the building which was in existence on the date of the first publication in the Gazette of the notice of the interim development permission area plan, whichever is the greater, subject to redevelopment to the plot ratio in the latter restriction shall be permitted only if the existing building is a domestic building.”*
 - *“Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio and building height restrictions stated in paragraphs (a) and (b) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.”*

Area shown as ‘Road’

- 3.1.9 According to Para (10) of the Covering Notes of the OZP, in any area shown as ‘Road’, all uses or developments except those specified in paragraphs (8)(a) to (8)(d) and (8)(g) of

the Covering Notes of the OZP or “road and on-street vehicle park”, would require permission from the Town Planning Board (the TPB). [refer to **Figure 3.2**]

Summary of the Zones

3.1.10 Table 3.2 is a summary of the permissible development parameters pertaining to the residential development/redevelopment.

Zone	Type	Maximum Building Area	Maximum Building Height	Site Coverage (SC)
“R(D)”	Residential Development	Plot Ratio (PR) 0.2	2 Storeys (6m)	20%
“R(E)”	Residential Redevelopment/ development (for permanent structure)	Plot Ratio (PR) 0.4	2 Storeys over one storey carport (9m)	-
Area shown as ‘Road’	All uses except road will require planning permission	-	-	-

Table 3.2 Permissible Development Parameters from the OZP

3.1.11 In addition to the planning context mentioned in Paras. 3.1.1 to 3.1.10, minor relaxation of the PR, site coverage and building height restrictions may be considered by the TPB on application under S16 of the TPO (S16 Planning Application) based on its individual merits for both “R(D)” and “R(E)” zones.

3.2 Non-Statutory Planning Context

Explanatory statement (ES) of the OZP

3.2.1 With reference to Para. 7.1 of the ES of the OZP, opportunities brought by improve access can be realized *“upon the completion of Hiram’s Highway Improvement Stage 1 of Phase 4 – Dualling of Hiram’s Highway between Clear Water Bay Road and Marina Cove, accessibility to the Area would be enhanced.”*

3.2.2 With reference to Para. 8.1 of the ES of the OZP, the general planning intention is to *“consolidate existing village type development and to provide adequate land for village expansion and low-rise and low-density residential development in an orderly pattern....to phase out the undesirable industrial uses including open storage and car repairing activities, which have proliferated in Ho Chung valley.”*

“R(D)” [refer to **Figure 3.4**]

With reference to Para. 9.3.1 of the ES of the OZP, the planning intention of land on “R(D)” zone is primarily for *“improvement and upgrading of existing temporary structures within the rural areas through redevelopment of existing temporary structures into permanent buildings. It is also intended for low-rise, low-density residential developments subject to planning permission from the Board.”*

“this is in line with the Government policy of designating ‘residential upgrading areas’ in the urban fringe in the late 1980’s to encourage self-improvement or redevelopment of

temporary domestic structures by properly designed permanent houses. Within this zone, new replacement houses are encouraged to be constructed in permanent materials. Each plot shall be provided with water supply and connections for sewage disposal. To avoid pollution, the site shall be connected to a Government reticulatory sewage treatment facilities. For safety and hygienic purposes, fire hydrants and refuse collection points shall be provided.”

- 3.2.3 With reference to Para. 9.3.4, this zoning “provides the opportunity and incentive for individual owners or developers to improve and upgrade the areas. Besides, it provides a proper planning control on redevelopment and ensures the provision of basic facilities to serve the developments.”

“R(E)” [refer to **Figure 3.6**]

- 3.2.4 According to Para. 9.4.1 of the ES of the OZP, the planning intention of “R(E)” is primarily for “phasing out of existing industrial uses through redevelopment for low-rise and low-density residential use on application to the Board. In submitting redevelopment proposals to the Board, the developers are required to provide adequate information in their submission to ensure that the new residential development will be environmentally acceptable, and suitable mitigation measures, if required, will be implemented to address any potential industrial/residential interface problem.”

“whilst existing industrial uses would be tolerated, new industrial development are not permitted in order to avoid the perpetuation of the industrial/residential interface problem. Any modification of use from non-industrial to industrial uses within existing industrial establishments will also require the permission of the Board.”

- 3.2.5 According to Para 9.4.2 of the ES of the OZP, the intention of the zone is to “provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the plot ratio and building height restrictions may be considered by the Board through the planning permission system.”
- 3.2.6 According to Para 9.4.5 of the ES of the OZP, the preferred development is with “the accessibility of these sites will be further enhanced upon completion of the Hiram’s Highway Improvement Stage 1 of Phase 4 ... residential use is preferred upon redevelopment as it is more compatible with the nearby Marina Cove development and the village settlements.”

Hong Kong Planning Standards and Guidelines (HKPSG)

- 3.2.7 According to Para. 3.4.1 and 3.4.2 of the Hong Kong Planning Standards and Guidelines Chapter 2 – Residential Densities (HKPSG Ch.2), “in the rural areas, densities need to be much lower than those in the urban areas, partly because of the limited capacity of transport, utility and social infrastructure but in many cases also because of the need to protect fine natural landscape from undesirable urban encroachment. Six Rural Residential Density Zones cover those parts of the Rural Areas which may be designated as suitable for development: RR1 to RR5 and Village.”
- 3.2.8 With reference to bullet point 4 of Para 3.4.2 of HKPSG Ch. 2, “Rural Residential Density Zone 4 (RR4) relates to detached or semi-detached houses on up to 3 storeys (including carports), residential floors, in similar locations to RR3 but where development intensity is restricted by infrastructure or landscape constraints. (Maximum plot ratio 0.4 over the Development Site Area)”

3.2.9 With reference to bullet point 3 of Para 3.4.2 of HKPSG Ch. 2 "Rural Residential Density Zone 3 (RR3) relates to terraced housing or flats on up to 3 residential floors (over car port). These may be in peripheral parts of Rural Townships or other rural development areas, or in locations away from existing settlements but with adequate infrastructure and no major landscape or environmental constraints. (Maximum plot ratio 0.75 over the Development Site Area)"

3.2.10 In other words, without any (severe) infrastructure constraints, it is considered appropriate and possible to allow a Residential Density Zone with a maximum PR of 0.75 and 3-storey over one storey of carport as applied to RR3.

3.3 Planning History

3.3.1 There are seven planning applications (No. A/SK-HC/29, 32, 34, 46, 85, 94, and 117) that partly cover "Parcels A and B" of the Site all considered in or before 2004. And one case No. A/SK-HC/326 that covers "Parcels A, B and C" of the site was considered in 2021. Details of the previous applications are summarised at Table 3.3.

	Application No. (Applied Use)	Zoning(s)	Date of Consideration	Decision
1.	A/SK-HC/29 (21 3-storey village-type houses)	"Residential (Group D)" ("R(D)")	15.12.1995	Rejected
2.	A/SK-HC/32 (Eight 3-storey "New Territories Exempted Houses")	"Comprehensive Development Area", "R(D)" and area shown as 'Road'	6.9.1996	Rejected
3.	A/SK-HC/34 (Eight 2-storey Houses)	"R(D)"	28.2.1997	Approved with conditions
4.	A/SK-HC/46 (Eight 2-storey Houses)	"R(D)"	16.1.1998	Approved with conditions
5.	A/SK-HC/85 (Proposed Eleven 2 to 3-storey Houses)	"R(D)" and area shown as 'Road'	30.6.2000	Rejected
6.	A/SK-HC/94 (Proposed Eight 2-storey Houses)	"R(D)" and area shown as 'Road'	3.8.2001	Approved with conditions
7.	A/SK-HC/117 (Minor Amendments to the Approved Scheme for Proposed Development of Eight 2-storey Houses)	"R(D)" and area shown as 'Road'	5.11.2004	Approved with conditions
8.	A/SK-HC/326 (Four 2-storey Houses)	"R(D)", "R(E)" and area shown as 'Road'	15.10.2021	Approved with conditions

Table 3.3 Previous Planning Applications 1995 to 2021.

3.3.2 The history of the zonings of each parcel (as identified in Para.3.1.1) are summarised in Table 3.4 to elaborate the planning history of the Site.

	IDPA/SK-HC/1 17.8.1990	DPA/SK-HC/1 12.7.1991	S/SK-HC/1 20.5.1994	S/SK-HC/3 19.5.2000	S/SK-HC/11 11.3.2014 (Latest)
Parcel A	'Unspecified Use'	'Unspecified Use'	"R(D)"	"R(D)"	"R(D)"
Parcel B	'Unspecified Use'	'Road' & "R(E)2"	'Road' & "CDA"	'Road' & "R(E)"	'Road' & "R(E)"
Parcel C	'Unspecified Use'	"R(E)2"	"CDA"	"R(E)"	"R(E)"

Table 3.4 Current and Previous Zonings of the Parcels of the Site Since 1990

3.3.3 Since the gazette of the first DPA (DPA/SK-HC/1) and the subsequent OZP (S/SK-HC/1), part of Parcel B has always been an area shown as 'Road' up to now, which was likely reserved for the widening, realignment and extension of a road (Luk Mei Tsuen Road/Ho Chung North Road). It was however never utilised in the construction of Luk Mei Tsuen Road/Ho Chung North Road as part of the Hiram's Highway Improvement Stage 1. Instead, an area to its south was used.

3.4 Similar Cases

3.4.1 A desktop search was conducted for similar cases on the Ho Chung Outline Zoning Plan in the last 5 years (14.08.2018 to 15.08.2023 via the Statutory Planning Portal 2 (SPP2) website on 15.08.2023. There were no similar cases identified within the said period.

3.4.2 Notwithstanding five Nos. of cases were approved/ agreed or partially approved/partially agreed to be rezoned to "Residential (group C)" for other parts of Hong Kong were located and are summarised in Table 3.5.

No.	Application No.	Proposed Amendments	Location	Decision	Decision Date
1	Y/H10/14	To rezone the application site from "Government, Institution or Community" to "Comprehensive Development Area" or "Residential (Group C) 7"	The Ebenezer School and Home for The Visually Impaired, 131 Pok Fu Lam Road, Pok Fu Lam, Hong Kong (RBL 136RP)	Partially approved /Partially agreed	06.05.2022
2	Y/H12/2	To rezone the application site from "Residential (Group C) 1", "Government, Institution or Community (4)" and "Green Belt" to "Residential (Group C) 3" Amend the Notes of the zone applicable to the site	Nos. 24 and 15 Stubbs Road, No. 7 Tung Shan Terrace and adjoining Government land, Mid-levels East, Hong Kong (IL Nos. 8371, 2958 and 2939)	Partially approved /Partially agreed	05.05.2023

No.	Application No.	Proposed Amendments	Location	Decision	Decision Date
3	Y/I-DB/2	To rezone the application site from "Other Specified Uses" annotated "Staff Quarters (5)" to "Residential (Group C) 12"	Lot 385 RP & Ext. (Part) in D.D. 352, Area 6f, Discovery Bay	Approved /Agreed	14.01.2022
4	Y/KTN/2	To rezone the application site from "Comprehensive Development Area" to "Residential (Group B) 1" and "Residential (Group C)1"	Lots 684 RP, 705 RP, 706 RP, 709 RP (Part), 711 RP (Part), 712, 713 RP, 714 RP, 715, 716, 717 RP (Part), 718 RP (Part), 719, 721 RP (Part) and 2158 RP (Part) in D.D. 92 and adjoining Government Land, Kwu Tung North, New Territories	Partially approved /Partially agreed	01.06.2022
5	Y/TKO/5	To rezone the application site from "Residential (Group C)1", "Green Belt" and area shown as 'Road' to "Residential (Group C)2" and "Green Belt"	Lot 310 in D.D. 224 and Adjoining Government Land, Hang Hau Road, Sai Kung	Partially approved /Partially agreed	18.09.2020

Table 3.5: Similar Cases on Proposed Amendments of Plan

3.4.3 These recent cases commonly demonstrated that it is achievable to increase the PR for proposed residential developments supported by the results of relevant technical assessments and sometimes with planning merits. The TPB has granted approval in suitable planning and site context for the proposed "R(C)" zoning.

3.5 Land Status

3.5.1 The Site consists of various lots in D.D. 210 and D.D.244 at Ho Chung, Sai Kung, New Territories, Hong Kong, which is entirely owned by the Applicant. Followings are details of the lots are shown in **Tables 3.6 and 3.7**:

Demarcation District 210 held under Block Government Lease

Lot No.
Lot No. 402 (part)
Lot No. 403 (part)
Lot No. 404 (part)
Lot No. 405
Section A of Lot No. 406
Remaining Portion of Lot No. 406
Section A of Lot No. 407
Remaining Portion of Section B of Lot No. 407
Remaining Portion of Lot No. 407
Section A of Lot No. 409 (part)
Remaining Portion of Section B of Lot No. 409
Remaining Portion of Lot No. 409
Remaining Portion of Lot No. 410
Remaining Portion of Lot No. 411
Lot No. 412
Lot No. 414
Remaining Portion of Section A of Lot No. 418 (part)
Remaining Portion of Lot No. 418
Adjoining government land in Demarcation District 210

Table 3.6 Lots in Demarcation District 210

Demarcation District 244 held under Block Government Lease

Lot No.
Remaining Portion of Lot No.1860 (part)
Remaining Portion of Section A of Lot No.1861
Adjoining government land in Demarcation District 244

Table 3.7 Lots in Demarcation District 244

3.5.2 For more efficient land utilisation and better configuration, the Applicant will undertake a land exchange process of ‘re-acquired and regrant’ upon approval of this rezoning. It is proposed to re-acquired an area of about 453 sq.m. that were previous allotted to the Government for road works and to regrant an area of about 153 sq.m. [refer to **Figure 3.7**]. Thereinto, parts of the private land (highlighted in pink and purple in Figure 3.7) are currently occupied by Luk Mei Tsuen Road, which the Applicant intends to **grant right of way and to devote it for public use**.

4 Policy Context

Long Term Housing Strategy

- 4.1.1 Inadequate housing supply is currently the issue of the biggest public concern in Hong Kong. According to the projection based on the established mechanism under the Long Term Housing Strategy (LTHS)¹ and objective data, *“the total housing demand for the 10-year period from 2022-23 to 2031-32 is 422 800 units ... after balancing various factors, including the community’s keen demand for public housing and the need to maintain the private housing supply and its healthy and steady development, the Government has decided to maintain the public/private split of new housing supply at 70:30 for the above 10-year period. Based on this ratio, the public housing supply target is 301 000 units and the private housing supply target is 129 000 units”*.
- 4.1.2 According to the Legislative Council Panel on Housing (LC Paper No. CB(1)33/2022(01)), *“identifying land for housing development in a proactive manner is the most fundamental solution to the demand-supply imbalance of housing”*. To meet the demand for private housing, the Government has facilitated to *“increase land supply and ... to further streamline the land development process ... for private housing development”*.

Policy Address

- 4.1.3 Relevant points relevant to the Proposed Development under the Chief Executive’s 2022 Policy Address (2022 Policy Address) is as follow: -

Private Housing Supply

- As mentioned in Para. 66 of the 2022 Policy Address, the Government *“based on the latest projection in the Long Term Housing Strategy (LTHS), the demand for private housing in the next 10 years will be 129 000 units. [The Government] will work to achieve this basic target and get sufficient land ready for providing no less than 72 000 residential units in the next five years”*.

Land: Increasing Reserve and Regaining Control of Supply

- As mentioned in Para. 68 of 2022 Policy Address, *“to assume a leading role in land supply, the Government will identify more land to meet demand and build up the land reserve, including developable land from the new round of study on “Green Belt” zone and the consultancy study on Agricultural Priority Areas with potential for housing development, which can provide 70 000 units. The rezoning of the first batch of sites will commence by 2024”*.

Develop Northern Metropolis as the New Engine for Growth

- As mentioned in Para. 56 (ii) of 2022 Policy Address, via *“increase development intensity we will make the best use of the land resources in the Northern Metropolis by adopting higher plot ratios”*.

Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030

¹ Legislative Council Panel on Housing (2022) Housing-related Initiatives in the Chief Executive’s 2021 Policy Address and Policy Address Supplement LC Paper No. CB(1)33/2022(01)

4.1.4 Points related to the Proposed Development from the Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030 (Hong Kong 2030+) for creating development capacity include the following key actions:

- As mentioned in Para 3.2 (i) of Hong Kong 2030+, “increasing the development intensity of land under planning studies or in areas outside the densely built-up areas as an expedient way to gain more developable floor area while taking into account infrastructure capacity and urban design considerations”.
- As mentioned in Para 3.2 (ii) of Hong Kong 2030+, “upzoning/ rezoning sites suitable for development with land use reviews of existing land (e.g. government sites) or converting reserved sites with no development plan or that are no longer used for their original purposes to other uses.”

4.1.5 In sum, the message is very clear and positive that policy context as a whole is favourable to proposals of facilitating development of readily available land for additional housing units both rural and urban areas of Hong Kong.

5 Amendment Proposal

5.1.1 The Proposed Amendments are to rezone the Site from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) zone on the Approved OZP with a maximum PR of 0.75, a maximum site coverage of 25% and a maximum building height of 12m with 3-storey over one storey of carport PR of 0.75 and with “Flat” under a Column 1 use.

5.1.2 The “R(C)3” zone is intended for low-rise, low density residential development. Figures 5.1 to 5.3 illustrated the Proposed Amendments to facilitate the Proposed Development described in Section 6. The proposed “R(C)3” zone laid down the development restriction while meeting the planning objectives of the area.

6 Proposed Development

6.1 Proposed Residential Development

6.1.1 The Proposed Development is a low-density and low-rise residential development including 8 no. of 3-storey houses with 2 car parking spaces each (including one no. of accessible car parking space). The proposed PR 0.75, and the absolute building height of about 12m (refer to Figure 5.1). Green noise barriers are proposed along both sides of Ho Chung North Road to reduce noise pollution might be caused as well as strengthening the privacy of the Proposed Development.

6.1.2 **Appendix A** illustrates the architectural plans including the Floor layout plans and Sections of the Proposed Development. The Table 6.1 lists out the major proposed development schedules under the current proposal:

Major Development Schedules	Proposed Development Schedules
Total Site Area:	About 3,190 sq.m.
Total Plot Ratio:	Not more than 0.75
Total Gross Floor Area:	About 2,393 sq.m.
Total No. of Houses:	8
Total No. of Car Parking Spaces:	16 nos. of private car parking spaces (incl. 8no.

Major Development Schedules	Proposed Development Schedules
	of accessible car parking spaces)
Total No. of Loading/Unloading Bay:	1 2 light goods vehicle loading/unloading bay (7m x 3.5m)
Total Site Coverage:	About 25%
Total Greenery Coverage:	Not less than 10% Primary Zone Not less than 20% Overall
Total private open space:	Not less than 32 sq.m.
Parcels A and B	
Site Area:	About 2,267 sq.m.
Plot Ratio:	Not more than 0.75
Gross Floor Area:	About 1,700 sq.m.
Site Coverage:	About 25%
Absolute Building Height:	12m (Flat Roof)
No. of House	6
No. of Storey:	3
No. of Car Parking Spaces:	2 nos. of car parking spaces (incl. 1 no. of accessible car parking spaces) per House
Parcel C	
Site Area:	About 922 sq.m.
Plot Ratio:	Not more than 0.75
Gross Floor Area:	About 691 sq.m.
Site Coverage:	About 27%
Absolute Building Height:	12m (Flat Roof)
No. of House	2
No. of Storey:	3
No. of Car Parking Spaces:	2 nos. of private car parking spaces (incl. 1 no. of accessible car parking space) per House

Table 6.1: Proposed Development Schedules

6.2 Landscape Proposal

6.2.1 The Landscape Proposal (enclosed in **Appendix B**) in support of the proposed development is prepared. The aim of the landscape proposal is to respond to the site conditions, building form and function and to provide a quality landscape scheme. In summary, it has achieved a site coverage of greenery of not less than 10% (Primary Zone) and not less than 20% (Overall) in accordance with the APP-152² and with private open space of no less than 32 sq.m. in accordance with HKPSG³.

6.3 Proposed Traffic Arrangement

6.3.1 The entrances to Parcels A and B and Parcel C are proposed to be located at Ho Chung North Road (Main Road), serving as run-in / run-out of the vehicular and pedestrian

² Building Department (BD) Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers (PNAP) APP-152 - Sustainable Building Design Guidelines (APP-152)

³ Hong Kong Planning Standards and Guidelines (HKPSG) Chapter 4 Recreation, Open Space and Greening

access. Internally, the carriageway of the Parcels A and B connecting to Ho Chung North Road is proposed to be 7.3m wide, which also serves as the EVA of the Site.

- 6.3.2 Externally, a dedicated footpath of 1.5m along the east and north boundaries of Parcels A and B of the Site is proposed to be provided for public use to enhance the walkability and pedestrian accessibility of the surroundings. The Applicant will take up the maintenance responsibility of the footpath.
- 6.3.3 The Proposed Development also proposes to provide 2 nos. of car parking spaces (including 1 no. of disabled car parking space) for each house, and **1 2** no. of light goods vehicle loading/unloading bay.

7 Technical Assessments supporting the application

7.1 Traffic Impact Assessment

- 7.1.1 A Traffic Impact Assessment (TIA) (enclosed in **Appendix 1**) has been carried out to assess the potential traffic impact of the Proposed Development. It concludes that the proposed development would not cause any significant adverse traffic impact to the vicinity of the Site.

7.2 Visual Impact Assessment

- 7.2.1 A Visual Impact Assessment (VIA) (enclosed in **Appendix 2**) has been carried out to assess the visual impact of the proposed development as seen from several Viewing Points (VPs) and concludes that the Proposed Development is considered to be fully acceptable in terms of visual impact and will not be incompatible to the surrounding visual context. Instead, it would enhance the visual impact on visual sensitive receivers at certain VPs.

7.3 Sewerage and Drainage Impact Appraisal

- 7.3.1 A Sewerage Impact Appraisal (SIA) (enclosed in **Appendix 3**) has been carried out to assess the sewerage impact of the proposed development. In the view of the absence of public sewerage system serving the vicinity of the Site, an underground sewerage treatment plant (i.e. septic tank and soil soakaway pit) will be provided for the proposed development. Once a public sewerage system is available in the vicinity in the future, the on-site septic tank will be abandoned and replaced with a pump pit and a connection terminal manhole. All sewage generated will then be conveyed to the public sewerage system.
- 7.3.2 A Drainage Impact Appraisal (DIA) (enclosed in **Appendix 3**) has been carried out to assess the potential impacts on drainage from the proposed development. The surface runoff from the site will be collected by the proposed perimeter U-channel and discharged to the unnamed storm water manholes along Ho Chung Road/Luk Mei Tsuen Road. It is anticipated that there will be no serious adverse drainage impact to the existing drainage system after the implementation of the development.

7.4 Water Supply Appraisal

- 7.4.1 A Water Supply Appraisal (WSA) (enclosed in **Appendix 4**) has been carried out to assess the potential water supply impact from the proposed development. It concludes that the in general, fresh water supply could be provided to the Site through connecting

the existing freshwater main located on Ho Chung North Road to Parcels A and B and Parcel C of the Site. The existing water mains located within the Site would be diverted.

7.5 Air Quality Impact Assessment

7.5.1 An Air Quality Impact Assessment (AQIA) (enclosed in **Appendix 5**) has been carried out to evaluate the potential air quality impacts likely to arise from the proposed development. With the implementation of relevant mitigation measures and good site practices during construction stage, no adverse air quality impact is anticipated. Also, there is no active industrial chimney in the vicinity. With the incorporation of 5m buffer from the road kerb, no adverse air quality impact is expected during the operation phase of the development.

7.6 Noise Impact Appraisal

7.6.1 A Noise Impact Appraisal (NIA) (enclosed in **Appendix 6**) has been carried out to assess the potential noise impacts likely to arise from the proposed development. It concludes that no adverse noise impact is anticipated during operation stage. And with the implementation of appropriate mitigation measures, no adverse noise impact from the construction of the proposed development is anticipated.

7.7 Land Contamination Review

7.7.1 Upon site visit on 13th July 2023, it was observed that there is a vehicle repair shop on the Site, such that potential land contamination issue is anticipated. Therefore, a land contamination assessment will be submitted to the satisfaction of the relevant governmental departments prior to the commencement of development of the Site.



Photos of the Vehicle Repair Shop

8 Planning Justifications

8.1 In line with the Chief Executive’s Latest Policy Address 2022

8.1.1 Increasing housing supply is always the top priority of the Government. The Government has adopted multi-pronged approaches to increase land supply for housing by unlocking development potential through rezoning sites of underutilised land.

8.1.2 The Proposed Development is in line with the Government approach to increase the private housing supply by getting sufficient land ready for development, rezoning land for housing and slight increasing development intensity. The Proposed Development upon completion would provide 8 nos. houses to contribute to the private housing supply.

8.2 Contributing to the Private Housing Supply

8.2.1 With the enhancement in development intensity (from existing PR of about 0.34 to about 0.75) through rezoning to “R(C)3” to replace the outdated “R(D)”, “R(E)” and area shown as ‘Road’ the Proposed Development can increase the provision of number of flats from previously approved scheme of 4 nos. to about 8 nos. The proposal presents a good opportunity in response to the policy which will enable the provision of additional housing units within the capacity of existing strategic infrastructures to meet the acute demand for housing.

8.2.2 With reference to Para. 4.1.1 of the PS, the cumulative number of private housing supply target would be around 129,000 units in the coming 10 years (from 2022-23 to 2031-32). The Proposed Development is for a residential development to supply of 8 nos. houses. The approval of the Proposed Development would contribute to the private housing supply.

8.3 An Appropriate Zoning to Reflect the Residential Density and Current Land Use

8.3.1 With reference to HKPSG Ch.2, the Site and the surrounding area is currently classified as RR4 with a maximum PR 0.4 where the development intensity is restricted by infrastructure or landscape constraints. However with the completion of the Hiram’s Highway Improvement Stage 1, the said development intensity can be relaxed with the improve roadworks and provision of infrastructures and landscape improvements. Therefore, a RR3 with a maximum PR of 0.75 is a suitable residential density for the area as the area has been provided with adequate infrastructure and there are no major landscape or environmental constraints.

8.3.2 Part of Parcel B is indicated in an area shown as ‘Road’ on the Approved OZP, which is owned by the Applicant and is intended to be used for residential use. The area shown as ‘Road’ is an inappropriate designation and is unable to reflect the intended use. To this end, the Applicant have decided to apply for the following proposed amendments to: (1) facilitate the building intensity with a PR of 0.75 with a building height of 3-storey over one storey carport, as well as to (2) rezone the area shown as ‘Road’ to residential use to reflect the intend use for residential use on the designated land.

8.4 Compatible with the Surrounding Land Uses in terms of Development Intensity and Character of the Area

8.4.1 The Site is adjacent to a variety of zones, including “GB”, “R(D)”, “R(E)” and “Village Type

Development", which are in general of rural and tranquil characteristics. The proposed low-rise and low-density residential development will be compatible in terms of its development density and character with the adjacent low-rise housings, the village settlement and nearby residential developments, such as Marina Cove and Greenview Villas. With the continual phasing out of the industrial use and upgrading of existing temporary structures, it is anticipated that the area will be transformed into a predominately residential area surrounded by attractive amenity of mountain ranges and sea view. The Proposed Development and rezoning will help to improve and upgrade the area and improve the quality of the surrounding environment.

8.5 Compatible with the Surroundings in Visual and Urban Design Context

8.5.1 The scale and the development density of the Proposed Development have considered the surrounding in visual term / urban design context. The Proposed Development will improve the visual and amenity value of the adjoining area. The visual illustrations have demonstrated that the Proposed Development is visually compatible with the surroundings.

8.6 Better Utilisation of Land Resources

8.6.1 The Site is currently being occupied by various temporary structures for automobile repair purpose and Parcel C of the Site is being used as an open-air vehicle park. The proliferation of open storage and vehicle repairing activities is not desirable and may cause environmental degradation. The Site will further decline with no positive contribution to the surrounding environment if no measures or proper-designed development is to take place. The Proposed Development, however, would better utilise the precious land resources by replacing the existing temporary structures with permanent designed houses with quality landscape.

8.7 Enable Upgrading of the Adjoining Neighbourhood and Improve the Quality of the General Environment

8.7.1 The Proposed Development would not only upgrade the Site but also enable upgrading of the adjoining neighbourhood acting as a catalyst to phase out incompatible uses, hence speeding up the transformation of the area into a quality residential area per the planning intention of the subject "R(D)" and "R(E)" zones and better reflect the current road use on "R(E)" zone.

8.8 Facilitate Local Accessibility through Grant of Right of Way of Local Access Road

8.8.1 The local access road along the eastern and northern boundary of the Parcels A and B of the Site (i.e. Luk Mei Tsuen Road) falls within the private land owned by the Applicant. The road has been constructed by the Applicant and is freely accessible by the public. To avoid disturbance to users, the Applicant intends to grant Right of Way for portions of private land that are currently occupied by Luk Mei Tsuen Road. Whilst devoting the road for public use, the Applicant is willing to continue to manage and maintain the road as before. The accessibility of the Site and its surroundings, in particular dwellings located to the north of the Site would remain unaffected.

8.9 Improve Local Walkability and Safety through Provision of Dedicated Pedestrian Footpath

8.9.1 As mentioned in Para. 6.3.2, the Applicant intends to provide a 1.5m footpath around the Parcels A and B of the Site by setting back the north and east boundaries. In the past, due to lack of proper walking facilities in the locality, pedestrians have been forced to walk alongside the traffic which could cause safety issues. In view of improving local walkability and pedestrian safety, the Applicant intends to devote portions of private land for construction of a pedestrian footpath for public use at his own expense. The proposed footpath will be managed and maintained by the Applicant.

8.10 Adopt a Responsive Architecture and Landscape Layout Design

8.10.1 The Site is situated in rural environs with a mixture of residential, industrial and open storage uses. In response to the surrounding context, the Proposed Development will incorporate the following architectural and landscape design measures to enhance the neighbourhood quality while minimising the potential impacts: -

- The building height of the Proposed development is 12m to the roof, which is in compliance with the Proposed Building Height Restriction in R(C)3 zone as stipulated in the OZP. With the conforming building height, the Proposed Development will be in harmony with the local character of low-rise residential developments.
- The topographical condition of the Site has been considered. Parcels A and B of the site is convex in shape with southern portion and northern portion higher than the central portion. Following the natural lay of the land, the carport would be located in the central portion (lower part) of the site to maintain a lower overall building height and to allow the Proposed Development to merge with the natural profiling of the surroundings.
- Evergreen trees would be planted along the boundaries to provide vegetation screening and soften the proposed building masses, with the view of visual integration to the surrounding rural and tranquil characteristics.
- Incorporation of greenings in form of vertical greening along the site boundaries interfacing Ho Chung North Road to enhance the landscape and visual amenity of the public frontage.

8.11 Provides a Landscape Plan in compliance with APP-152 and HKPSG

8.11.1 The Landscape Proposal in support of the proposed development has been prepared. The aim of the landscape proposal is to respond to the site conditions, building form and function and to provide a quality landscape scheme. In summary, it has achieved a site coverage of greenery of not less than 10% (Primary Zone) and not less than 20% (Overall) in accordance with the APP-152 and with private open space of no less than 32 sq.m. in accordance with HKPSG.

8.11.2 The integrated landscape design will foster the blending of the building with the natural landscaping to provide a more naturalistic surrounding and scenery to the Proposed Development. The proposed plants and trees will be used as visual features to blend and partially screen the site and provide more greenery to the surrounding. In addition, vertical greening and other landscaping facilities will be provided at appropriate

locations to minimise the visual impact that may be caused by the Proposed Development and to enhance the visual/landscape experience of pedestrians.

8.12 No Adverse Traffic, Visual, Air Quality, Noise Impact and Infrastructural Issues

8.12.1 Technical assessments have been conducted to assess the potential traffic, visual, air quality impact, noise impact, drainage, sewerage and water supply of the Proposed Development. They concluded that **there will be no insurmountable problems for the implementation of the Proposed Development** at the Site.

8.13 Would Not Result in Undesirable Precedent Case

8.13.1 There are many similar and even larger residential developments along the Hiram’s Highway such as the Villa Royale (34 houses), Dynasty Lodge (10 blocks with 30 units), the Planned Houses (48 Houses and 15 Houses). Therefore the approval of the Proposed Development would not be out of context for the area.

8.13.2 Besides, no similar applications have been approved on the same OZP. Only a handful (5) cases as examples have been approved in other areas. Therefore, the proposed rezoning would not set an undesirable precedent case.

9 Conclusion

9.1.1 The Site covers an area of about 3,190 sq.m., which falls within areas zoned “R(D)”, “R(E)” and an area shown as ‘Road’ under the Approved OZP. The Applicant seeks to rezone the Site from the current zone to “R(C)3”.

9.1.2 The Proposed Development is in line with the general planning intention of the Ho Chung OZP and specific planning intention of “R(C)3” zone of the site and the surrounding planning context. In summary of this PS, the Proposed Amendments are justified on the grounds that the Proposed Development:

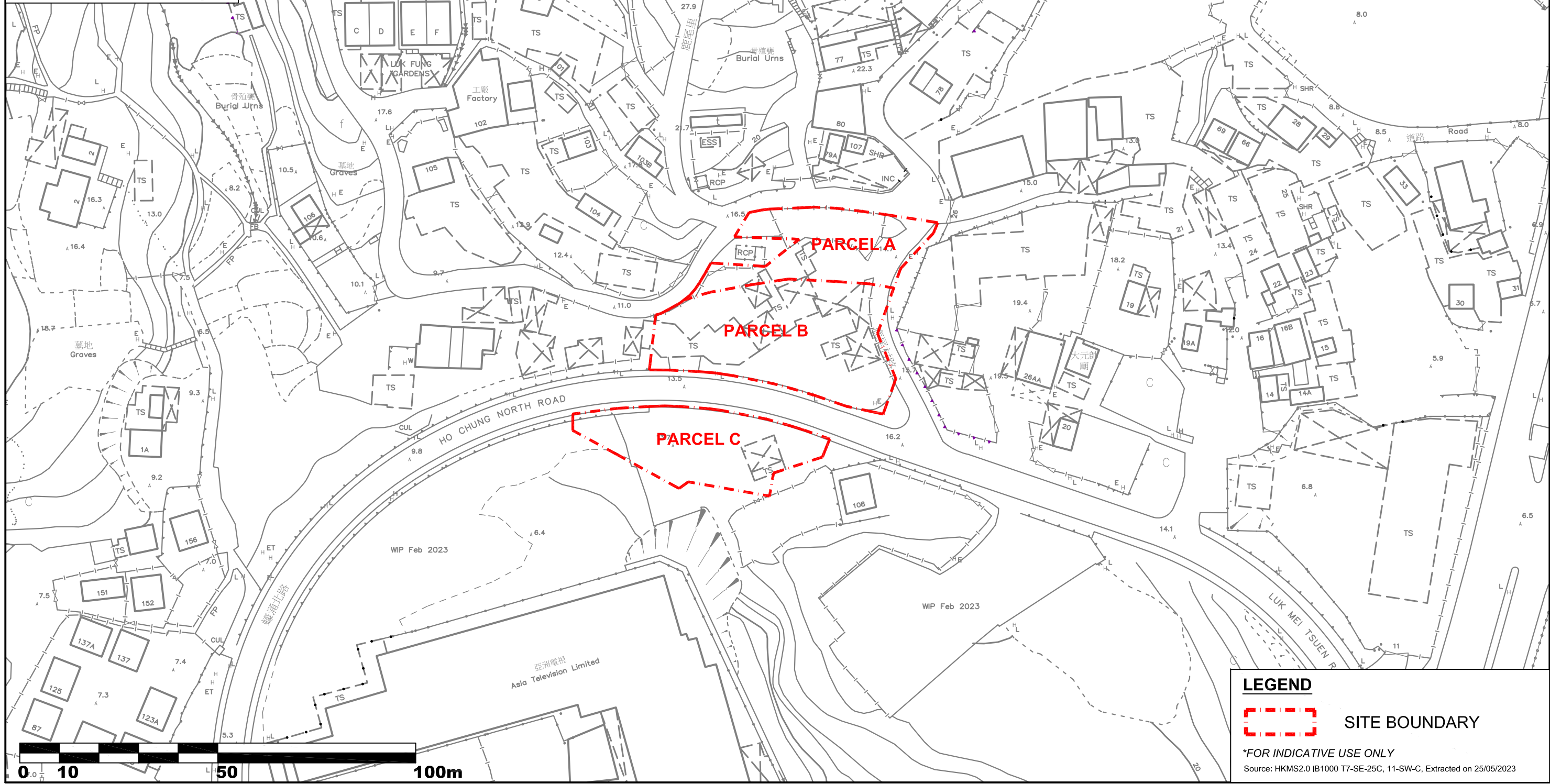
- is in line with the Chief Executive’s Latest Policy Address 2022;
- is contributing to the private housing supply;
- is an appropriate zoning to reflect the residential density and current land use;
- is compatible with the surrounding land uses in terms of development intensity and character of the area;
- is compatible with the surroundings in visual and urban design context;
- is a better utilisation of land resources;
- will enable upgrading of the adjoining neighbourhood and improve the quality of the general environment;
- will facilitate local accessibility through grant of right of way of local access road;
- will improve local walkability and safety through provision of dedicated pedestrian footpath;
- has adopted a responsive architecture and landscape layout design;
- provides a landscape plan in compliance with APP-152 and HKPSG;
- has no adverse traffic, visual, air quality, noise impact and infrastructural issues; and
- would not result in undesirable precedent case.

9.1.3 This PS demonstrates that the Proposed Amendments deserve favourable consideration by the TPB in light of the justifications provided. We trust that the TPB will see fit to adopt the Proposed Amendments.


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LEGEND

 SITE BOUNDARY

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Source: HKMS2.0 IB1000 T7-SE-25C, 11-SW-C, Extracted on 25/05/2023

File Name :
Source :

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244 DES VOEUX ROAD CENTRAL HONG KONG
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FAX: 2598 6576

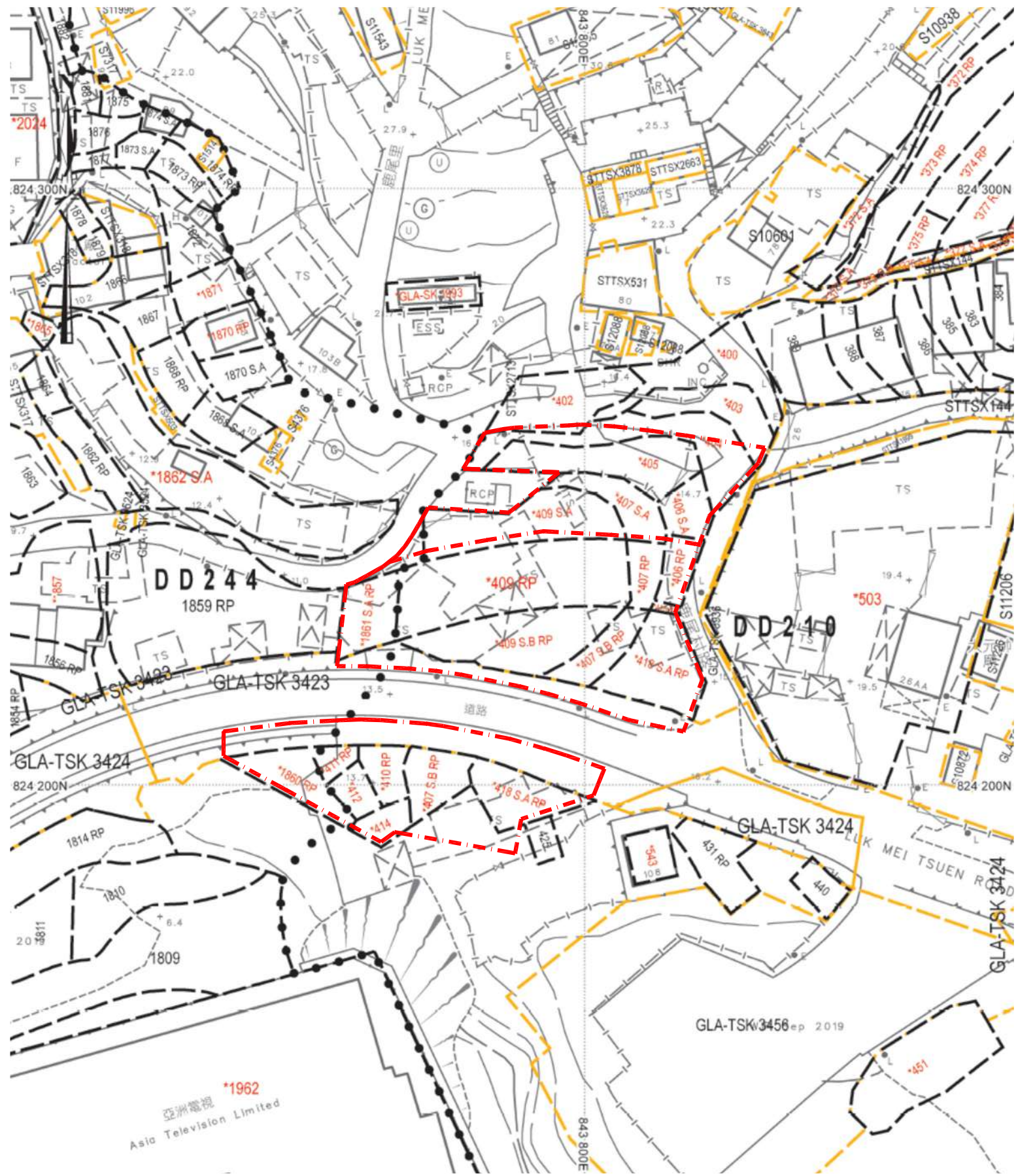
JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
LOCATION PLAN

Rev	Description	Date

Drawn	CN	Date	19/07/2023
Checked	RT	Approved	RT
Scale	1:1000 @ A3		

Drawing No.	Figure 1.1
Rev.	-




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LEGEND

 SITE BOUNDARY

Source: ags_S00000034075_0001 (14-Nov-2019), Extracted on 18/12/2019

File Name :
Source :

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				Checked	RT	Approved	RT	
Rev	Description	Date	Scale	N.T.S.	Rev.	-		



LEGEND

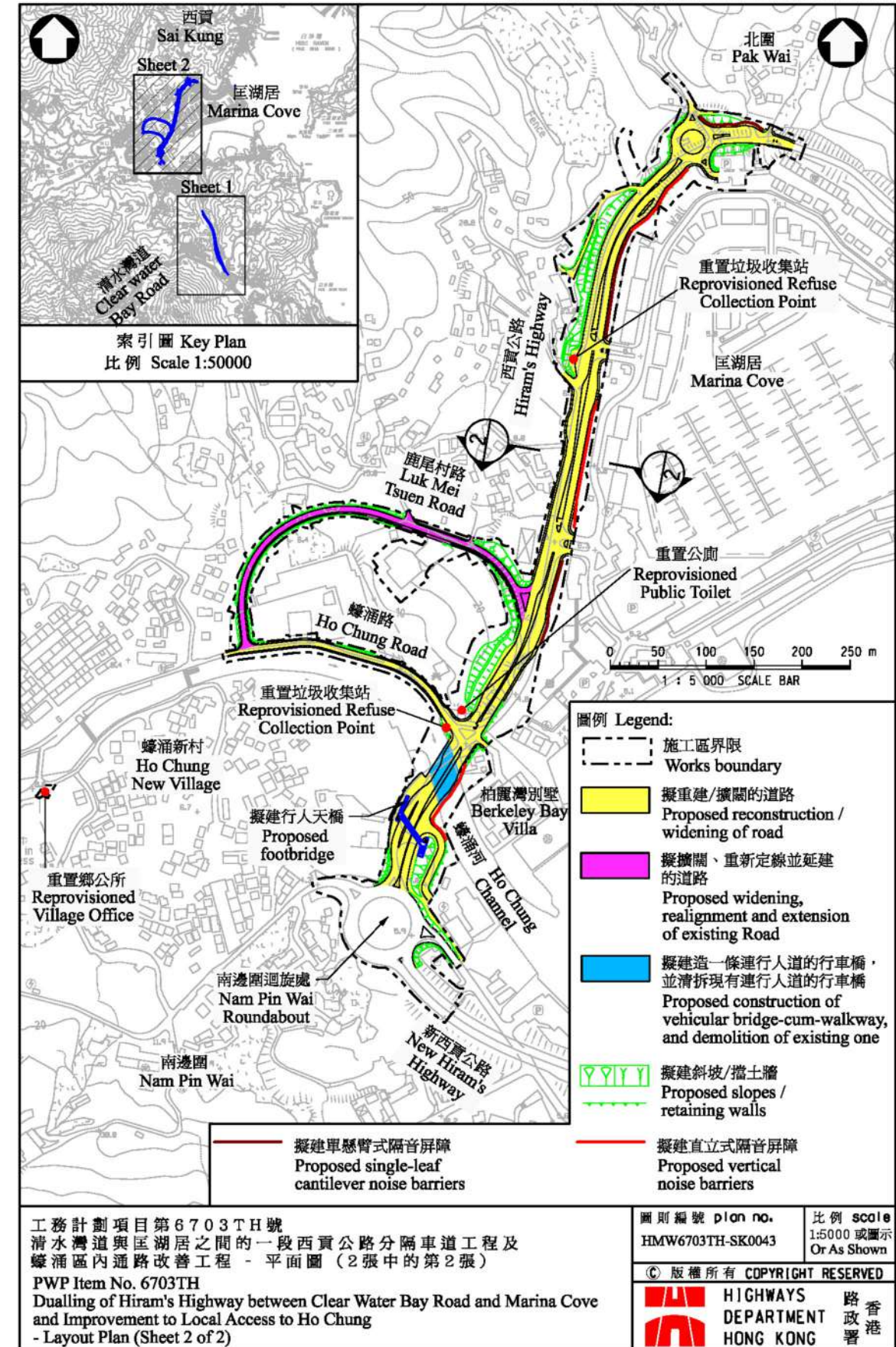
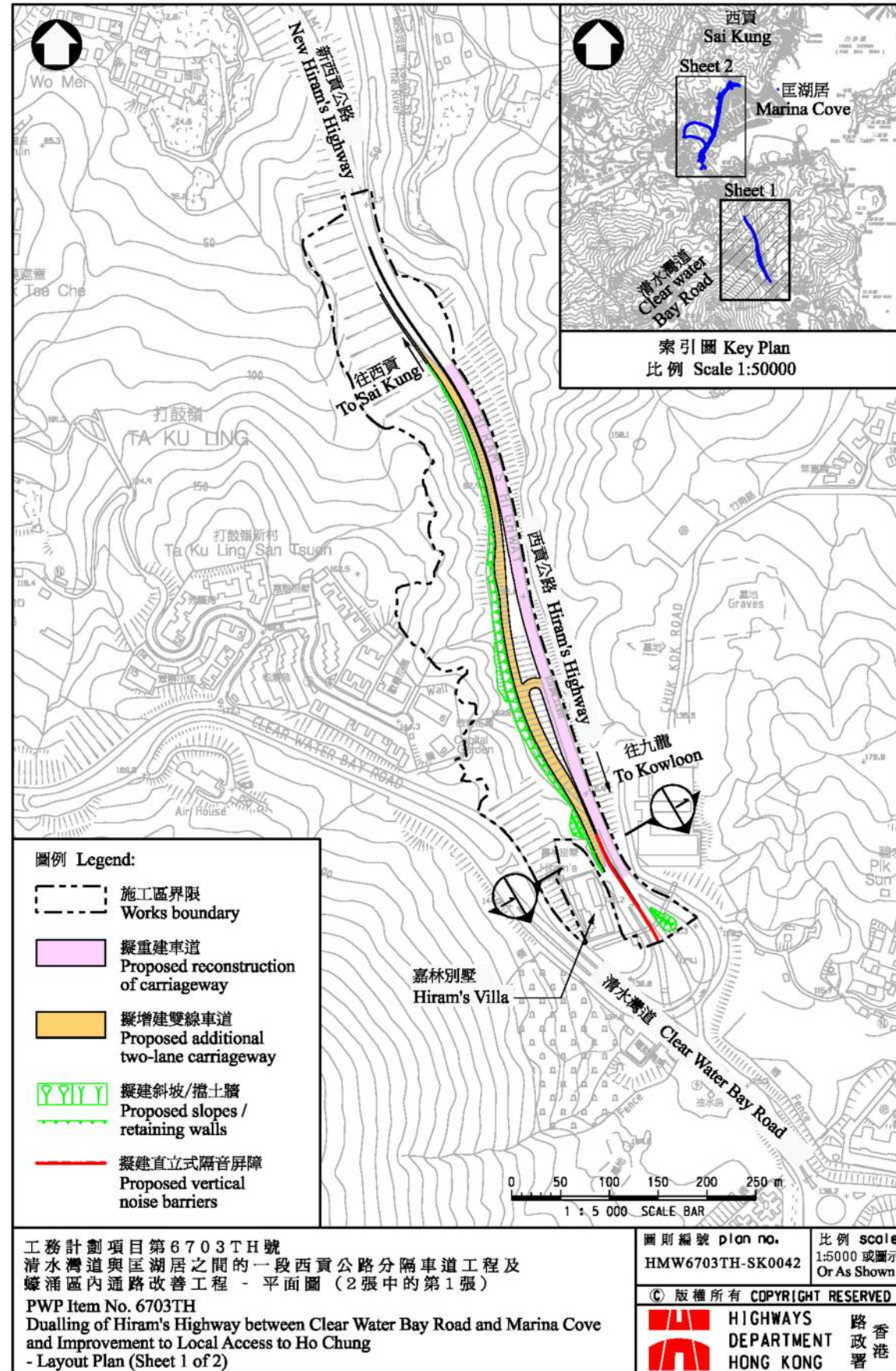
SITE BOUNDARY

PLANNED DEVELOPMENT

Source: HKMS 2.0 Aerial Photo E154298C 6000' (9 Mar 2022)

File Name :
Source :
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	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title THE SITE AND ITS SURROUNDINGS			Drawn CN Date 08/08/2023	Drawing No. FIGURE 2.1
							Checked RT Approved RT
						Scale N.T.S. Date	Rev.



Source: Item for Public Works Subcommittee of Finance Committee PWSC(2015-16)22



ADDRESS: 2/F & 3/F TUNG HUP COMMERCIAL BUILDING
244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 8333
FAX: 2598 6576

JOB TITLE:

Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title

LAYOUT PLAN OF THE HIRAM'S HIGHWAY IMPROVEMENT STAGE 1

Drawn	CN	Date	16/08/2023	Drawing No.	Figure 2.2
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Rev	Description	Date			

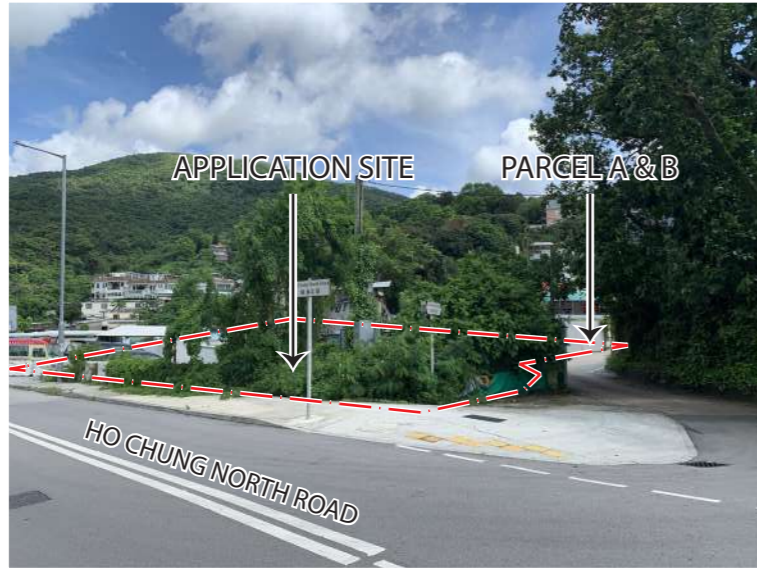


PHOTO A: NORTH WEST OF SITE



PHOTO C: SOUTHERN VIEW OF THE SITE FROM LUK MEI TSUEN ROAD



PHOTO B: SOUTH WEST OF SITE

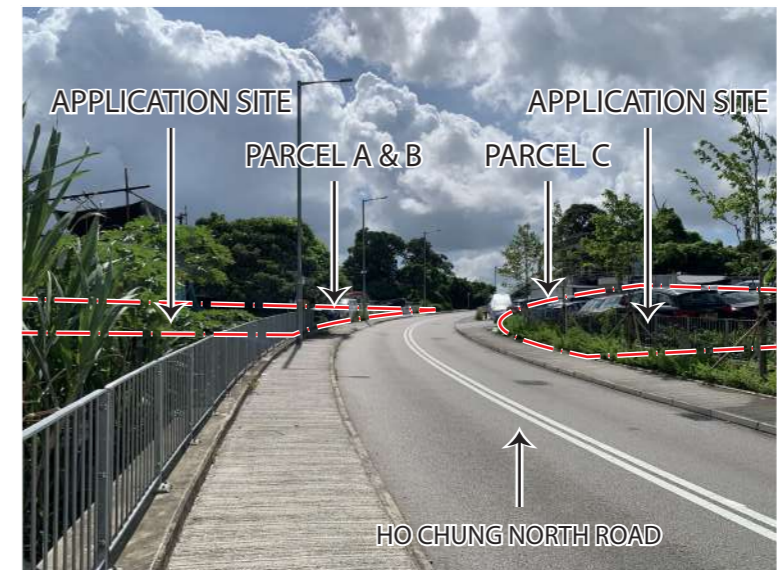
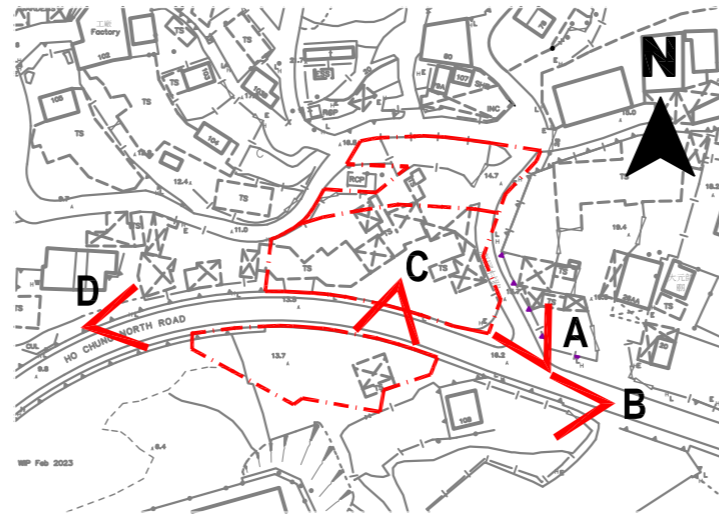


PHOTO D: EAST VIEW OF SITE ALONG HO CHUNG NORTH ROAD

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LEGEND



SITE BOUNDARY

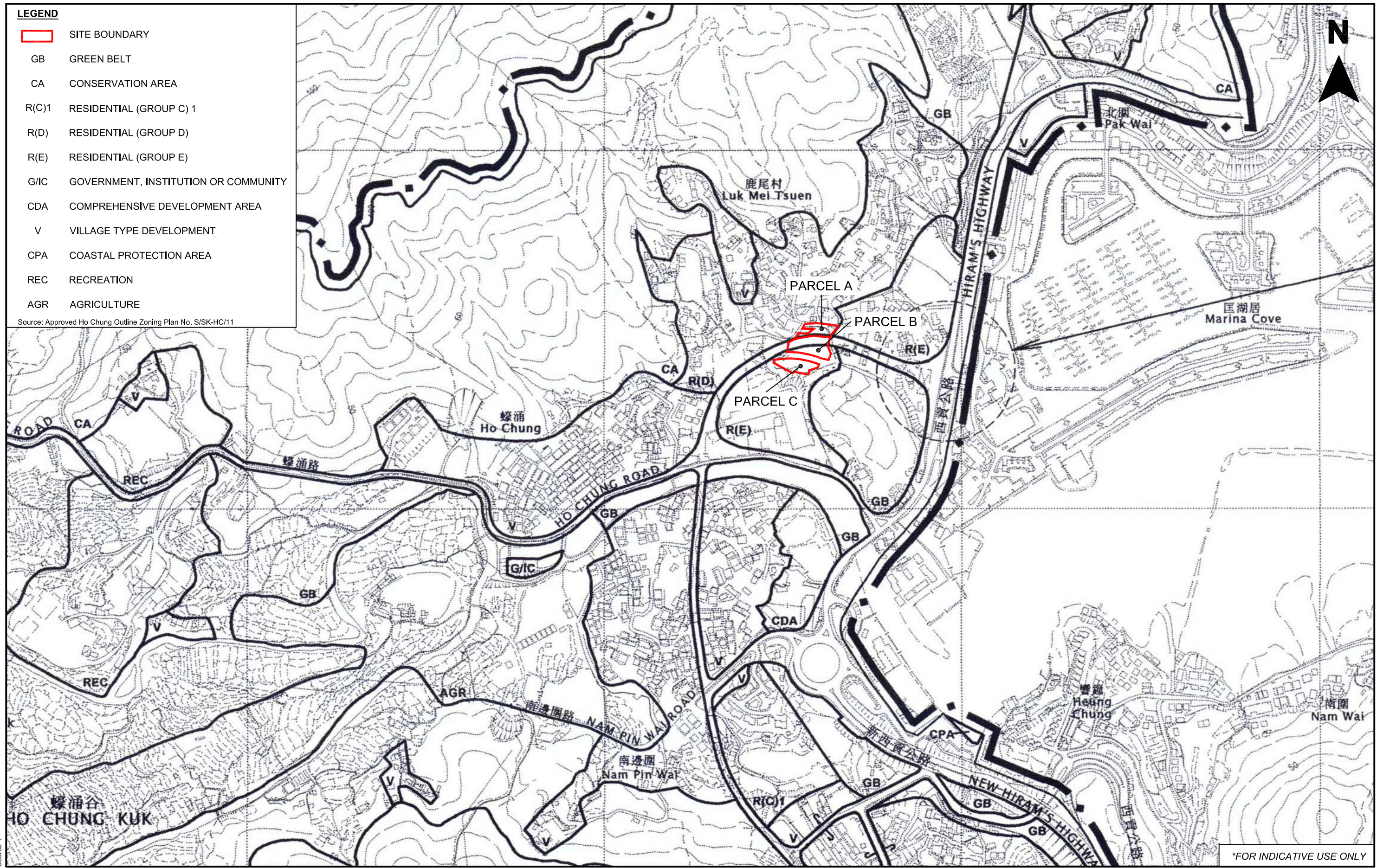
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	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as 'Road' to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title SITE PHOTOS	Drawn CN	Date 08/08/2023	Drawing No. Figure 2.3
				Checked RT	Approved RT	
Rev	Description	Date	Scale N.T.S.	Rev.	-	

- LEGEND**
- SITE BOUNDARY
 - GB GREEN BELT
 - CA CONSERVATION AREA
 - R(C)1 RESIDENTIAL (GROUP C) 1
 - R(D) RESIDENTIAL (GROUP D)
 - R(E) RESIDENTIAL (GROUP E)
 - G/I/C GOVERNMENT, INSTITUTION OR COMMUNITY
 - CDA COMPREHENSIVE DEVELOPMENT AREA
 - V VILLAGE TYPE DEVELOPMENT
 - CPA COASTAL PROTECTION AREA
 - REC RECREATION
 - AGR AGRICULTURE

Source: Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11




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	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title THE SITE AND THE APPROVED HO CHUNG OUTLINE ZONING PLAN NO. S/SK-HC/11	Drawn	Date	Drawing No.
				CN	08/08/2023	
				Checked	Approved	Figure 3.1
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Rev	Description	Date				

- (6) Except as otherwise specified by the Town Planning Board, when a use or material change of use is effected or a development or redevelopment is undertaken, as always permitted in terms of the Plan or in accordance with a permission granted by the Town Planning Board, all permissions granted by the Town Planning Board in respect of the site of the use or material change of use or development or redevelopment shall lapse.
- (7) Road junctions, alignment of roads, and boundaries between zones may be subject to minor adjustments as detailed planning proceeds.
- (8) The following uses or developments are always permitted on land falling within the boundaries of the Plan except (a) where the uses or developments are specified in Column 2 of the Notes of individual zones or (b) as provided in paragraph (9) in relation to areas zoned "Site of Special Scientific Interest", "Conservation Area" or "Coastal Protection Area":
 - (a) maintenance, repair or demolition of a building;
 - (b) provision, maintenance or repair of plant nursery, amenity planting, open space, rain shelter, refreshment kiosk, footpath, bus/public light bus stop or lay-by, cycle track, taxi rank, public utility pipeline, electricity mast, lamp pole, telephone booth, telecommunications radio base station, automatic teller machine and shrine;
 - (c) maintenance or repair of road, watercourses, nullahs, sewer and drain;
 - (d) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities and waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government;
 - (e) rebuilding of New Territories Exempted House;
 - (f) replacement of an existing domestic building i.e. a domestic building which was in existence on the date of the first publication in the Gazette of the notice of the interim development permission area plan, by a New Territories Exempted House; and
 - (g) provision, maintenance or repair of a grave of an indigenous New Territories villager or a locally based fisherman and his family members for which permission has been obtained from Government.
- (9) In areas zoned "Site of Special Scientific Interest", "Conservation Area" or "Coastal Protection Area",
 - (a) the following uses or developments are always permitted:
 - (i) maintenance or repair of plant nursery, amenity planting, sitting out area, rain shelter, refreshment kiosk, road, watercourse, nullah, public utility pipeline, electricity mast, lamp pole, telephone booth, shrine and grave;

- (ii) geotechnical works, local public works, road works, sewerage works, drainage works, environmental improvement works, marine related facilities, waterworks (excluding works on service reservoir) and such other public works co-ordinated or implemented by Government; and
- (iii) provision of amenity planting by Government; and
- (b) the following uses or developments require permission from the Town Planning Board:
 - provision of plant nursery, amenity planting (other than by Government), sitting out area, rain shelter, refreshment kiosk, footpath, public utility pipeline, electricity mast, lamp pole, telephone booth and shrine.
- (10) In any area shown as 'Road', all uses or developments except those specified in paragraphs (8)(a) to (8)(d) and (8)(g) above and those specified below require permission from the Town Planning Board:
 - road and on-street vehicle park.
- (11) (a) Except in areas zoned "Site of Special Scientific Interest", "Conservation Area" or "Coastal Protection Area", temporary use or development of any land or building not exceeding a period of two months is always permitted provided that no site formation (filling or excavation) is carried out and that the use or development is a use or development specified below:
 - structures for carnivals, fairs, film shooting on locations, festival celebrations, religious functions or sports events.
- (b) Except as otherwise provided in paragraph (11)(a), and subject to temporary uses for open storage and port back-up purposes which are prohibited in areas zoned "Site of Special Scientific Interest", "Conservation Area" or "Coastal Protection Area", temporary use or development of any land or building not exceeding a period of three years requires permission from the Town Planning Board. Notwithstanding that the use or development is not provided for in terms of the Plan, the Town Planning Board may grant permission, with or without conditions, for a maximum period of three years, or refuse to grant permission.
- (c) Temporary use or development of land or building exceeding three years requires permission from the Town Planning Board in accordance with the terms of the Plan.
- (12) Unless otherwise specified, all building, engineering and other operations incidental to and all uses directly related and ancillary to the permitted uses and developments within the same zone are always permitted and no separate permission is required.
- (13) In these Notes, unless the context otherwise requires or unless as expressly provided below, terms used in the Notes shall have the meanings as assigned under section 1A of the Town Planning Ordinance.

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title EXTRACT OF NOTES OF APPROVED HO CHUNG OUTLINE ZONING PLAN NO. S/SK-HC/11			Drawn CN	Date 15/08/2023	Drawing No. FIGURE 3.2
			Checked RT	Approved RT	Scale -	Rev.		
		Rev. Description Date						

RESIDENTIAL (GROUP D)

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Agricultural Use	Eating Place
Government Use (Police Reporting Centre, Post Office only)	Flat
House (Redevelopment; Addition, Alteration and/or Modification to existing house only)	Government Refuse Collection Point
On-Farm Domestic Structure	Government Use (not elsewhere specified) #
Rural Committee/Village Office	House (not elsewhere specified)
	Institutional Use (not elsewhere specified) #
	Library
	Market
	Place of Recreation, Sports or Culture
	Public Clinic
	Public Convenience
	Public Transport Terminus or Station
	Public Utility Installation #
	Public Vehicle Park (excluding container vehicle)
	Recyclable Collection Centre
	Religious Institution #
	Residential Institution #
	School #
	Shop and Services
	Social Welfare Facility #
	Utility Installation for Private Project

In addition, the following uses are always permitted on the ground floor of a New Territories Exempted House:

- Eating Place
- Library
- School
- Shop and Services

(Please see next page)


RESIDENTIAL (GROUP D) (Cont'd)

Planning Intention

This zone is intended primarily for improvement and upgrading of existing temporary structures within the rural areas through redevelopment of existing temporary structures into permanent buildings. It is also intended for low-rise, low-density residential developments subject to planning permission from the Town Planning Board.

Remarks

- (a) No addition, alteration and/or modification to or in-situ redevelopment of an existing temporary structure or an existing building (except to 'New Territories Exempted House' or to those annotated with #) shall result in a total development and/or redevelopment in excess of a maximum building area of 37.2m² and a maximum building height of 2 storeys (6m), or the building area and height of the building which was in existence on the date of the first publication in the Gazette of the notice of the interim development permission area plan, whichever is the greater.
- (b) No development including redevelopment for 'Flat' and 'House' (except 'New Territories Exempted House') uses, other than those to which paragraph (a) above shall apply, shall result in a development and/or redevelopment in excess of a maximum plot ratio of 0.2, a maximum site coverage of 20% and a maximum building height of 2 storeys (6m).
- (c) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio, site coverage and building height restrictions stated in paragraph (b) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.
- (d) In determining the maximum plot ratio and site coverage for the purposes of paragraph (b) 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) Any filling of ponds, including that to effect a change of use to any of those specified in Columns 1 and 2 above or the uses or developments always permitted under the covering Notes (except public works co-ordinated or implemented by Government, and maintenance, repair or rebuilding works), shall not be undertaken or continued on or after the date of the first publication in the Gazette of the notice of the interim development permission area plan without the permission from the Town Planning Board under section 16 of the Town Planning Ordinance.

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title EXTRACT OF SCHEDULE OF USES "R(D)"			Drawn CN	Date 15/08/2023	Drawing No. FIGURE 3.3
			Checked RT	Approved RT	Scale -	Rev.		
		Rev. Description Date						

The sub-area falls within the Ho Chung Site of Archaeological Interest. The Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department (LCSD) should be consulted well in advance on any development or redevelopment proposals affecting this site of archaeological interest as well as their immediate environs.

- (b) "R(C)2" – The residential development in this sub-area is subject to a maximum PR of 0.4, a maximum SC of 20% and a height not exceeding 9m with 2 storeys over one storey of carport.

This sub-area covers the area to the south-west of Hing Keng Shek which has mostly been developed into low-density residential houses. The site is only accessible via the sub-standard Hing Keng Shek Road.

9.2.3 The above sub-areas mainly reflect the existing character and development intensity. The development restrictions are mainly to conserve the existing character and intensity of the developments so as to blend in well with the surrounding natural environment and rural character as well as not to overload the limited infrastructural facilities, particularly the transport network in the Area.

9.2.4 Minor relaxation of the stated restrictions may be considered by the Board on application under section 16 of the Ordinance. This provision is to allow the Board to consider proposals for building layout and design which, while not strictly complying with the stated restrictions, meet the planning objectives. It is hoped to encourage imaginative designs which are adapted to the characteristics of particular sites, and overcome the need for stiling or allow for the conservation of environmentally important natural features or mature vegetation. Each proposal will be considered on its own merits.

9.2.5 Some scattered areas outside existing private residential lots within this zone may not be suitable for residential development. Their suitability for development or inclusion into adjoining lots for development would be assessed individually at the land administration stage based on their visual and amenity value, accessibility and geotechnical, environmental, infrastructural and traffic impacts.

9.3 Residential (Group D) ("R(D)") : Total Area 6.78 ha

9.3.1 The planning intention of this zone is primarily for improvement and upgrading of existing temporary structures within the rural areas through redevelopment of existing temporary structures into permanent buildings. It is also intended for low-rise, low-density residential developments subject to planning permission from the

Board. This is in line with the Government policy of designating 'residential upgrading areas' in the urban fringe in the late 1980's to encourage self-improvement or redevelopment of temporary domestic structures by properly designed permanent houses. Within this zone, new replacement houses are encouraged to be constructed in permanent materials. Each plot shall be provided with water supply and connections for sewage disposal. To avoid pollution, the site shall be connected to a Government reticulatory sewage treatment facilities. For safety and hygienic purposes, fire hydrants and refuse collection points shall be provided.

9.3.2 Replacement housing for temporary structures shall not result in a total redevelopment in excess of a maximum building area of 37.2m² and a maximum building height of 2 storeys (6m). Residential development (other than NTEH) shall not result in a total development in excess of a maximum PR of 0.2, a maximum SC of 20% and a maximum building height of 2 storeys (6m). To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of these restrictions may be considered by the Board through the planning permission system. Each proposal will be considered on its individual planning merits.


9.3.3 This zone covers the majority part of Luk Mei Tsuen area. It consists of a mixture of residential, industrial and storage uses, many of which are accommodated in temporary structures without adequate provision of infrastructure. The lack of proper control together with relatively easy accessibility have encouraged haphazard and uncoordinated development causing detrimental effect to the environment.

9.3.4 The "R(D)" designation could encourage redevelopment of buildings in a poor state and to provide them with necessary basic infrastructural provision. This zoning provides the opportunity and incentive for individual owners or developers to improve and upgrade the areas. Besides, it provides a proper planning control on redevelopment and ensures the provision of basic facilities to serve the developments.

9.4 Residential (Group E) ("R(E)") : Total Area 3.86 ha

9.4.1 The planning intention of this zone is primarily for phasing out of existing industrial uses through redevelopment for low-rise and low-density residential use on application to the Board. In submitting redevelopment proposals to the Board, the developers are required to provide adequate information in their submission to ensure that the new residential development will be environmentally acceptable, and suitable mitigation measures, if required, will be implemented to address any potential industrial/residential interface

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title			Drawn	CN	Date	15/08/2023	Drawing No.
			EXTRACT OF EXPLANATORY STATEMENT "R(D)"			Checked	RT	Approved	RT	FIGURE 3.4
			Rev	Description	Date	Scale	-	Rev.		

RESIDENTIAL (GROUP E)

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

Schedule I: for open-air development or for building other than industrial building

Ambulance Depot	Eating Place
Government Use (Police Reporting Centre, Post Office only)	Educational Institution
Rural Committee/Village Office	Flat
Utility Installation for Private Project	Government Refuse Collection Point
	Government Use (not elsewhere specified)
	House (other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes)
	Institutional Use (not elsewhere specified)
	Library
	Market
	Office
	Place of Entertainment
	Place of Recreation, Sports or Culture
	Private Club
	Public Clinic
	Public Convenience
	Public Transport Terminus or Station
	Public Utility Installation
	Public Vehicle Park (excluding container vehicle)
	Recyclable Collection Centre
	Religious Institution
	Residential Institution
	School
	Shop and Services
	Social Welfare Facility
	Training Centre

RESIDENTIAL (GROUP E) (Cont'd)

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

Schedule II: for existing industrial development


Eating Place (Canteen only)	Office
Government Refuse Collection Point	Petrol Filling Station
Government Use (not elsewhere specified)	Public Convenience
Public Utility Installation	Public Vehicle Park (excluding container vehicle)
Recyclable Collection Centre	Shop and Services (ground floor only)
Rural Workshop	Vehicle Repair Workshop
Utility Installation for Private Project	Wholesale Trade
Warehouse (excluding Dangerous Goods Godown)	

Planning Intention

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

Remarks

- (a) No new development (except 'New Territories Exempted Houses') shall exceed a maximum plot ratio of 0.4 and a maximum building height of 9m with 2 storeys over one storey of carport.
- (b) No addition, alteration and/or modification to or redevelopment of an existing building (except redevelopment to 'New Territories Exempted Houses') shall exceed the plot ratio and building height restrictions stated in paragraph (a) above, or the plot ratio and height of the building which was in existence on the date of the first publication in the Gazette of the notice of the interim development permission area plan, whichever is the greater, subject to redevelopment to the plot ratio in the latter restriction shall be permitted only if the existing building is a domestic building.
- (c) Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio and building height restrictions stated in paragraphs (a) and (b) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.


	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title EXTRACT OF SCHEDULE OF USES "R(E)"	Drawn	CN	Date	15/08/2023	Drawing No. FIGURE 3.5A
				Checked	RT	Approved	RT	
Rev	Description	Date	Scale	-	Rev.			

RESIDENTIAL (GROUP E) (Cont'd)

Remarks (Cont'd)

- (d) In determining the maximum plot ratio for the purposes of paragraphs (a) and (b) 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.

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title EXTRACT OF SCHEDULE OF USES "R(E)"	Drawn CN	Date 15/08/2023	Drawing No. FIGURE 3.5B
				Checked RT	Approved RT	
				Scale -	Rev.	
				Rev Description Date		

Board. This is in line with the Government policy of designating 'residential upgrading areas' in the urban fringe in the late 1980's to encourage self-improvement or redevelopment of temporary domestic structures by properly designed permanent houses. Within this zone, new replacement houses are encouraged to be constructed in permanent materials. Each plot shall be provided with water supply and connections for sewage disposal. To avoid pollution, the site shall be connected to a Government reticulatory sewage treatment facilities. For safety and hygienic purposes, fire hydrants and refuse collection points shall be provided.

- 9.3.2 Replacement housing for temporary structures shall not result in a total redevelopment in excess of a maximum building area of 37.2m² and a maximum building height of 2 storeys (6m). Residential development (other than NTEH) shall not result in a total development in excess of a maximum PR of 0.2, a maximum SC of 20% and a maximum building height of 2 storeys (6m). To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of these restrictions may be considered by the Board through the planning permission system. Each proposal will be considered on its individual planning merits.
- 9.3.3 This zone covers the majority part of Luk Mei Tsuen area. It consists of a mixture of residential, industrial and storage uses, many of which are accommodated in temporary structures without adequate provision of infrastructure. The lack of proper control together with relatively easy accessibility have encouraged haphazard and uncoordinated development causing detrimental effect to the environment.
- 9.3.4 The "R(D)" designation could encourage redevelopment of buildings in a poor state and to provide them with necessary basic infrastructural provision. This zoning provides the opportunity and incentive for individual owners or developers to improve and upgrade the areas. Besides, it provides a proper planning control on redevelopment and ensures the provision of basic facilities to serve the developments.

9.4 Residential (Group E) ("R(E)") : Total Area 3.86 ha

9.4.1 The planning intention of this zone is primarily for phasing out of existing industrial uses through redevelopment for low-rise and low-density residential use on application to the Board. In submitting redevelopment proposals to the Board, the developers are required to provide adequate information in their submission to ensure that the new residential development will be environmentally acceptable, and suitable mitigation measures, if required, will be implemented to address any potential industrial/residential interface

problem. Whilst existing industrial uses would be tolerated, new industrial development are not permitted in order to avoid the perpetuation of the industrial/residential interface problem. Any modification of use from non-industrial to industrial uses within existing industrial establishments will also require the permission of the Board.

9.4.2 Two sites are zoned "R(E)", namely a site near Luk Mei Tsuen and a site to the north of Ho Chung Road. Development and redevelopment within this zone is subject to a maximum PR of 0.4 and a maximum building height not exceeding 9m with two storeys over one storey of carport as stipulated in the Notes of the Plan. To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of the plot ratio and building height restrictions may be considered by the Board through the planning permission system. Each proposal will be considered on its individual planning merits.


9.4.3 The site near Luk Mei Tsuen currently consists of a mixture of residential, industrial and storage uses, many of which are accommodated in temporary structures without adequate infrastructural provision. The site to the north of Ho Chung Road is largely used as the ATV Production Centre. It is located close to Ho Chung Village. Majority of the site is mainly for the TV production whilst the remaining part is used for storage uses.

9.4.4 The accessibility of these sites will be further enhanced upon completion of the Hiram's Highway Improvement Stage 1 of Phase 4 including a new ring road connecting Ho Chung Road and Hiram's Highway. Residential use is preferred upon redevelopment as it is more compatible with the nearby Marina Cove development and the village settlements.





9.5 Village Type Development ("V") : Total Area 44.90 ha

9.5.1 The planning intention of this zone is to reflect existing recognised and other villages and to provide land considered suitable for village expansion and reprovisioning of village houses affected by Government projects. 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 the village development are always permitted on the ground floor of a NTEH. Other commercial, community and recreational uses may be permitted on application to the Board.



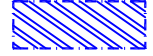


File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title EXTRACT OF EXPLANATORY STATEMENT "R(E)"			Drawn CN Checked RT Date 15/08/2023 Approved RT	Drawing No. FIGURE 3.6				
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Rev	Description	Date									



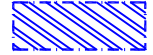
PARCEL A

-  APPLICATION SITE BOUNDARY
= 793.158 m²
-  LAND RE-GRANTED FROM EXISTING GOV'T LAND
= 15.553 m²
-  TOTAL AREA TO BE DEDICATED AS RIGHT OF WAY FOR VEHICULAR ACCESS
= 128.768 m²
-  TOTAL AREA TO BE DEDICATED AS RIGHT OF WAY FOR FOOTPATH
= 85.862 m²



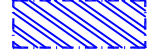


PARCEL B

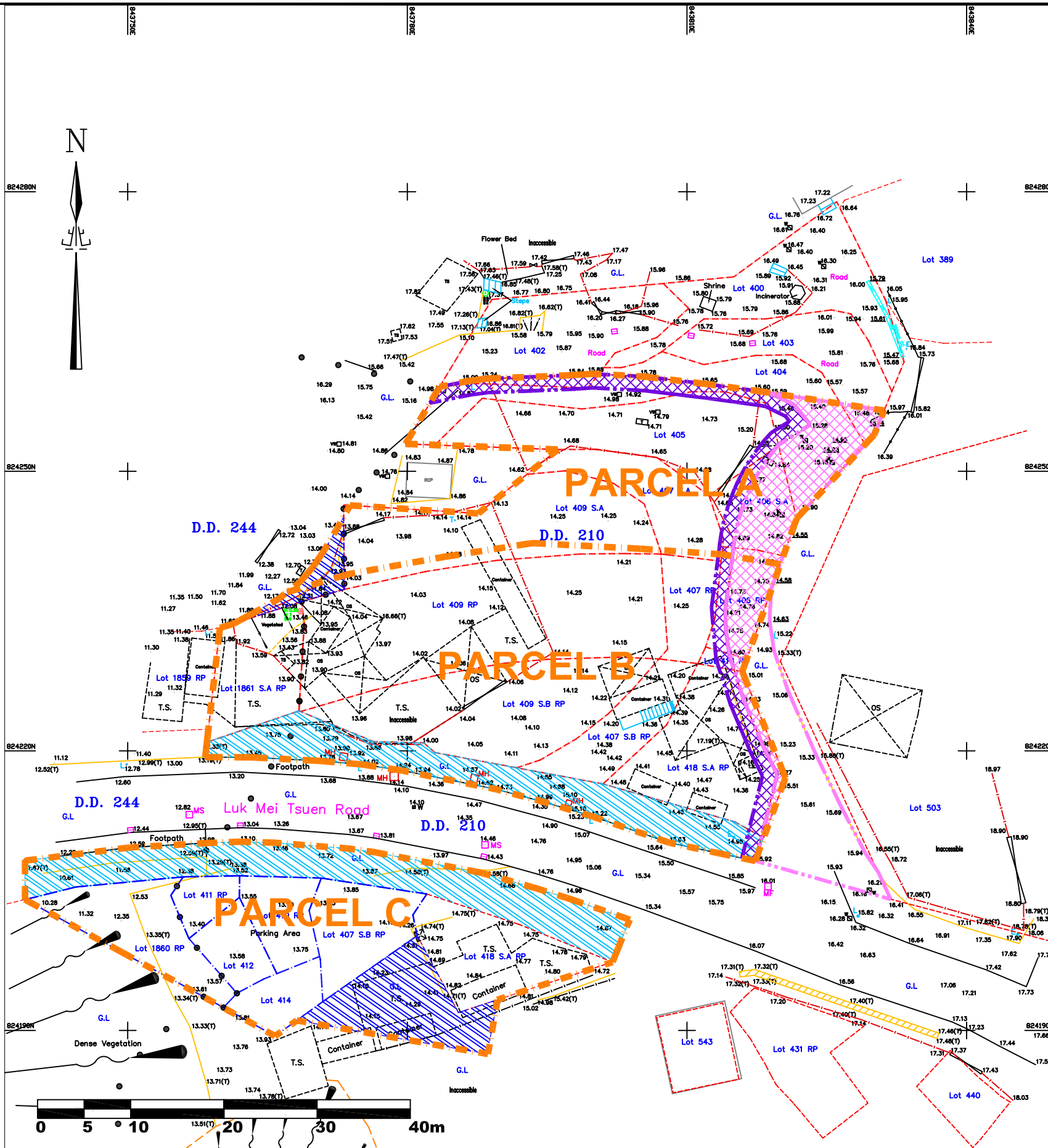
-  APPLICATION SITE BOUNDARY
= 1474.425 m²
-  GOV'T LAND TO BE RE-ACQUIRED
= 204.434 m²
-  LAND RE-GRANTED FROM EXISTING GOV'T LAND
= 12.869 m²
-  TOTAL AREA TO BE DEDICATED AS RIGHT OF WAY FOR VEHICULAR ACCESS
= 58.000 m²
-  TOTAL AREA TO BE DEDICATED AS RIGHT OF WAY FOR FOOTPATH
= 50.481 m²

PARCEL C

-  APPLICATION SITE BOUNDARY
= 922.579 m²
-  GOV'T LAND TO BE RE-ACQUIRED
= 248.573 m²
-  LAND RE-GRANTED FROM EXISTING GOV'T LAND
= 124.929 m²

OVERALL

-  APPLICATION SITE BOUNDARY
= 3190.162 m²
-  GOV'T LAND TO BE RE-ACQUIRED
= 453.008 m²
-  LAND RE-GRANTED FROM EXISTING GOV'T LAND
= 153.352 m²
-  TOTAL AREA TO BE DEDICATED AS RIGHT OF WAY FOR VEHICULAR ACCESS
= 186.768 m²
-  TOTAL AREA TO BE DEDICATED AS RIGHT OF WAY FOR FOOTPATH
= 136.342 m²



File Name :
Source :

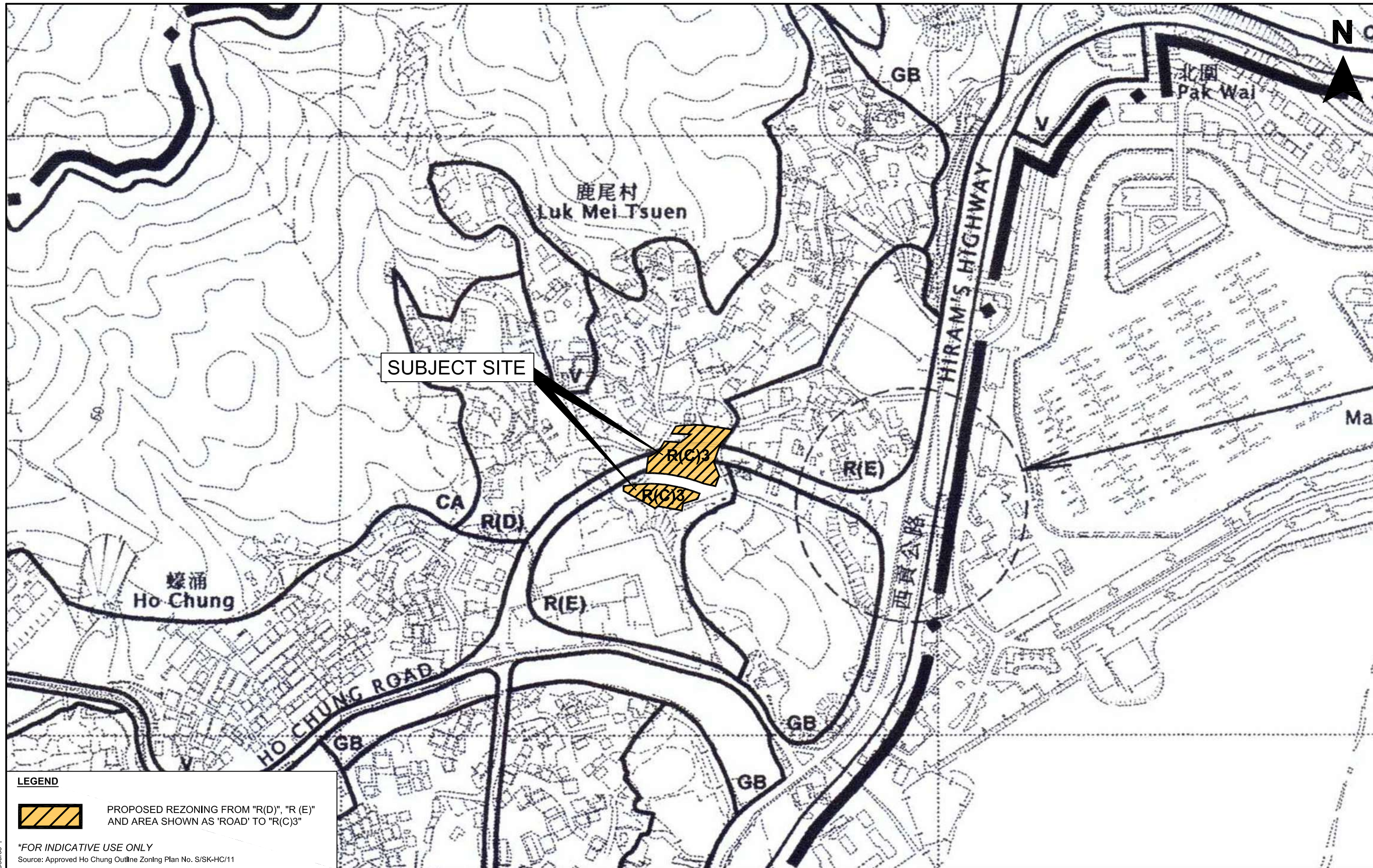


ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 8333
FAX: 2598 6576

JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
PROPOSED SURRENDER AND REGRAV OF LAND

1	Amended area on Parcel B	29/05/23	Drawn	CN	Date	08/08/2023	Drawing No.
2	Amended area on Parcel B	30/05/23	Checked	RT	Approved	RT	Figure 3.7
3	Amended Parcels	08/08/23	Scale	1:500 @ A3		Rev.	
Rev	Description	Date					3



LEGEND



PROPOSED REZONING FROM "R(D)", "R (E)" AND AREA SHOWN AS 'ROAD' TO "R(C)3"

**FOR INDICATIVE USE ONLY*

Source: Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title PROPOSED AMENDMENT TO THE APPROVED OZP "R(C)3"	Drawn	CN	Date	15/08/2023	Drawing No. Figure 5.1
				Checked	RT	Approved	RT	
				Scale	1:3000 @ A3		Rev.	-
Rev	Description		Date					

RESIDENTIAL (GROUP C)

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 Utility Installation for Private Project	Ambulance Depot Eating Place Educational Institution Government Refuse Collection Point Government Use (not elsewhere specified) Institutional Use (not elsewhere specified) Library 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 Residential Institution Rural Committee/Village Office School Shop and Services Social Welfare Facility Training Centre

Planning Intention

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 Town Planning Board.

RESIDENTIAL (GROUP C) (Cont'd)

Remarks

- (a) On land designated "Residential (Group C)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 0.75, a maximum site coverage of 37.5% and a maximum building height of 9m with 2 storeys over one storey of carport or of a maximum plot ratio of 0.75, a maximum site coverage of 25% and a maximum building height of 12m with 3 storeys over one storey of carport, or the plot ratio, site coverage and height of the building which was in existence on the date of the first publication in the Gazette of the notice of the interim development permission area plan, whichever is the greater.
- (b) On land designated "Residential (Group C)2", no new development, or addition, alteration and/or modification to or redevelopment of an existing building shall result in a total development and/or redevelopment in excess of a maximum plot ratio of 0.4, a maximum site coverage of 20% and a maximum building height of 9m with 2 storeys over one storey of carport, or the plot ratio, site coverage and height of the building which was in existence on the date of the first publication in the Gazette of the notice of the interim development permission area plan, whichever is the greater.
- (c) **On land designated "Residential (Group C)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 0.75, a maximum site coverage of 25% and a maximum building height of 12m with 3 storeys over one storey of carport, or the plot ratio, site coverage and height of the building which was in existence on the date of the first publication in the Gazette of the notice of the interim development permission area plan, whichever is the greater.**
- (d) ~~(e)~~ Based on the individual merits of a development or redevelopment proposal, minor relaxation of the plot ratio, site coverage and building height restrictions stated in paragraphs ~~(a) and (b)~~ (a), (b) and (c) above may be considered by the Town Planning Board on application under section 16 of the Town Planning Ordinance.
- (e) ~~(d)~~ In determining the maximum plot ratio and site coverage for the purposes of paragraphs ~~(a) and (b)~~ (a), (b) 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.

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	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title PROPOSED AMENDMENT TO THE SCHEDULE OF USES OF THE APPROVED OZP "R(C)3"	Drawn	CN	Date	15/08/2023	Drawing No. FIGURE 5.2
				Checked	RT	Approved	RT	
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				Rev	Description	Date		

- 9.1.3 Development and redevelopment within this “CDA” site is subject to a maximum plot ratio (PR) of 0.75, a maximum site coverage (SC) of 25% and a maximum building height not exceeding 12m with 3 storeys over one storey of carport as stipulated in the Notes of the Plan. To provide flexibility for innovative design adapted to the characteristics of particular sites, minor relaxation of these restrictions may be considered by the Board through the planning permission system. Each proposal will be considered on its individual planning merits. The implementation of the “CDA” zone largely depends on private initiatives for land assembly. However, in view of the sizeable area of the site, phased development could be carried out provided that the intention for comprehensive redevelopment of the whole site would not be prejudiced.
- 9.1.4 Pursuant to section 4A(1) of the Ordinance, any development/ redevelopment proposal within this zone is subject to the approval of the Board by way of a planning application under section 16 of the Ordinance. A Master Layout Plan (MLP) should be submitted together with the relevant assessment reports and a landscape master plan as well as other materials as specified in the Notes of the Plan for the approval of the Board under section 4A(2) of the Ordinance. Development/redevelopment will be in accordance with an approved MLP and it should be ensured that the nature and scale of new development will be in keeping with the surrounding natural landscape and land-uses and will not exert pressure on the limited road and other infrastructural provisions in the Area. A copy of the approved MLP shall be made available for public inspection in the Land Registry pursuant to section 4A(3) of the Ordinance.

9.2 Residential (Group C) (“R(C)”) : Total Area ~~3.30 ha~~ **3.62 ha**

- 9.2.1 The planning intention of this zone is primarily for low-rise, low-density residential developments where commercial uses serving the residential neighbourhood may be permitted on application to the Board, and to restrict the future developments within the prescribed development parameters.
- 9.2.2 This zone can be divided into two sub-areas:
- (a) “R(C)1” - The residential development in this sub-area is subject to a maximum PR of 0.75, either with a maximum SC of 37.5% and a height not exceeding 9m with 2 storeys over one storey of carport, or with a maximum SC of 25% and a height not exceeding 12m with 3 storeys over one storey of carport.
- This sub-area covers only one site which is located in the area sandwiched between Hiram’s Highway and Nam Pin Wai Village.

*For Indicative Use Only

The sub-area falls within the Ho Chung Site of Archaeological Interest. The Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department (LCSD) should be consulted well in advance on any development or redevelopment proposals affecting this site of archaeological interest as well as their immediate environs.


- (b) “R(C)2” – The residential development in this sub-area is subject to a maximum PR of 0.4, a maximum SC of 20% and a height not exceeding 9m with 2 storeys over one storey of carport.

This sub-area covers the area to the south-west of Hing Keng Shek which has mostly been developed into low-density residential houses. The site is only accessible via the sub-standard Hing Keng Shek Road.

- (c) “R(C)3” – **The residential development in this sub-area is subject to a maximum PR of 0.75, a maximum SC of 25% and a height not exceeding 12m with 3 storeys over one storey of carport.**

This sub-area covers the area on western portion on both side of the Ho Chung North Road near Luk Mei Tsuen Road.

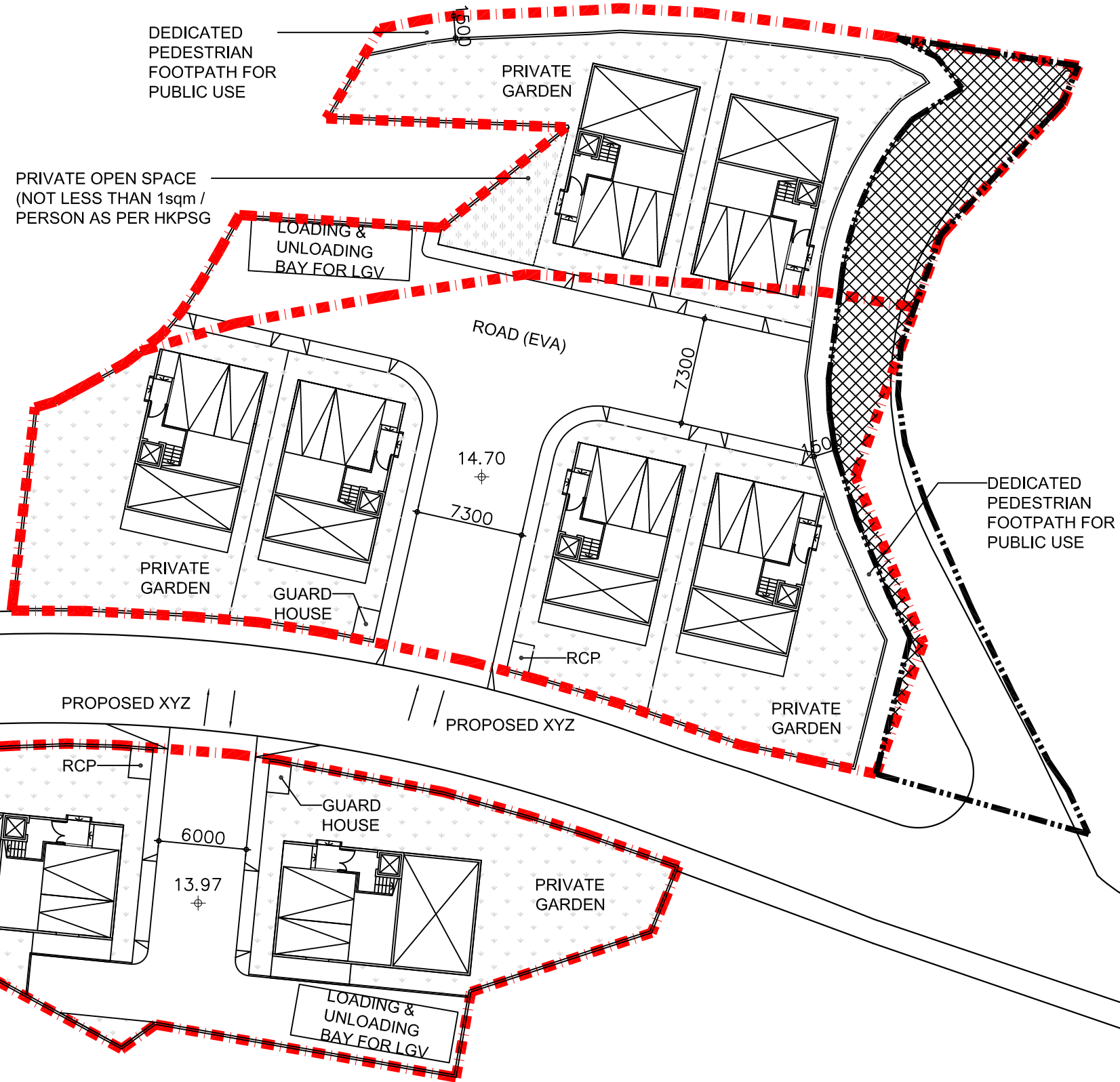
- 9.2.3 The above sub-areas mainly reflect the existing character and development intensity. The development restrictions are mainly to conserve the existing character and intensity of the developments so as to blend in well with the surrounding natural environment and rural character as well as not to overload the limited infrastructural facilities, particularly the transport network in the Area.
- 9.2.4 Minor relaxation of the stated restrictions may be considered by the Board on application under section 16 of the Ordinance. This provision is to allow the Board to consider proposals for building layout and design which, while not strictly complying with the stated restrictions, meet the planning objectives. It is hoped to encourage imaginative designs which are adapted to the characteristics of particular sites, and overcome the need for stilting or allow for the conservation of environmentally important natural features or mature vegetation. Each proposal will be considered on its own merits.
- 9.2.5 Some scattered areas outside existing private residential lots within this zone may not be suitable for residential development. Their suitability for development or inclusion into adjoining lots for development would be assessed individually at the land administration stage based on their visual and amenity value, accessibility and geotechnical, environmental, infrastructural and traffic impacts.

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title PROPOSED AMENDMENT TO THE EXPLANATORY STATEMENT OF THE APPROVED OZP "R(C)3"		Drawn CN Date 15/08/2023	Drawing No. FIGURE 5.3
			Checked RT Approved RT	Scale -	Rev. -	

Appendix A

Architectural Layout Plans

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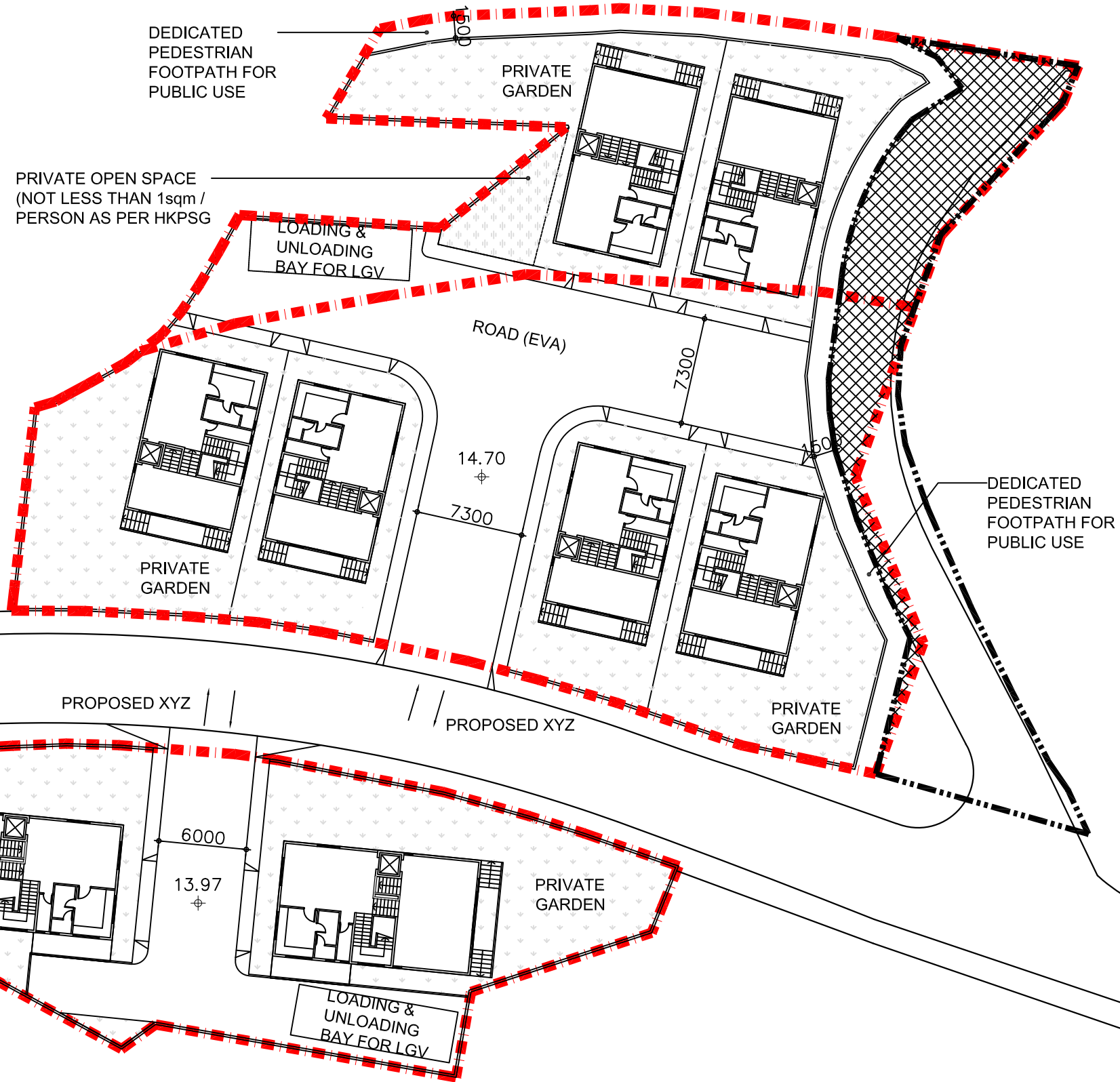
ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
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JOB TITLE:
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Drawing Title
CARPARK FLOOR LAYOUT PLAN

1	Road Layout Update	18/12/23	Drawn	CN	Date	18/12/2023
			Checked	RT	Approved	RT
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Drawing No.
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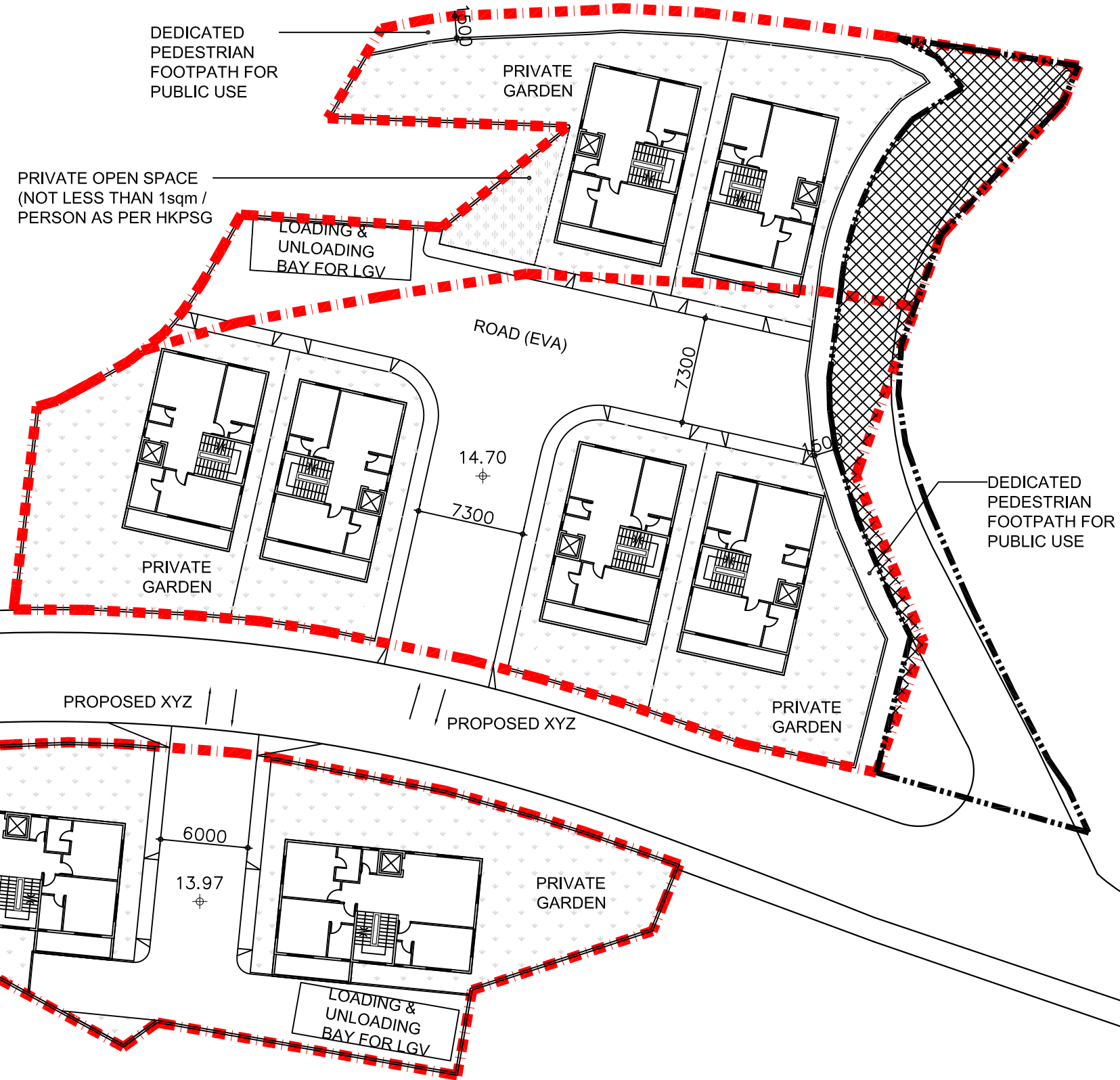
ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 8333
FAX: 2598 6576

JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
1F LAYOUT PLAN

1	Road Layout Update	18/12/23	Drawn	CN	Date	18/12/2023
			Checked	RT	Approved	RT
			Scale	1:350 @ A3		
Rev	Description	Date				

Drawing No.	Fig. 2
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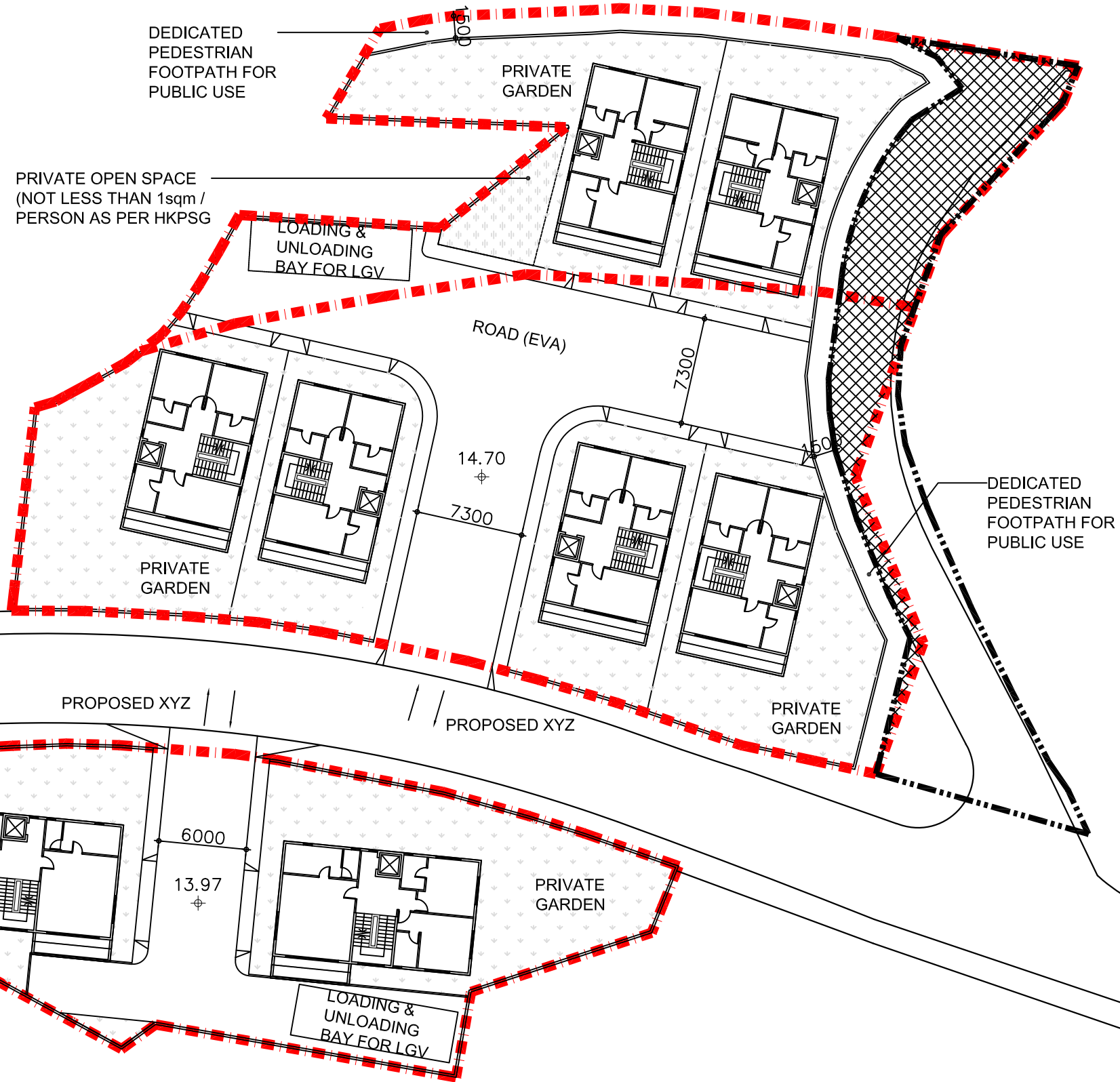
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Drawing Title
2F LAYOUT PLAN

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Drawing No.
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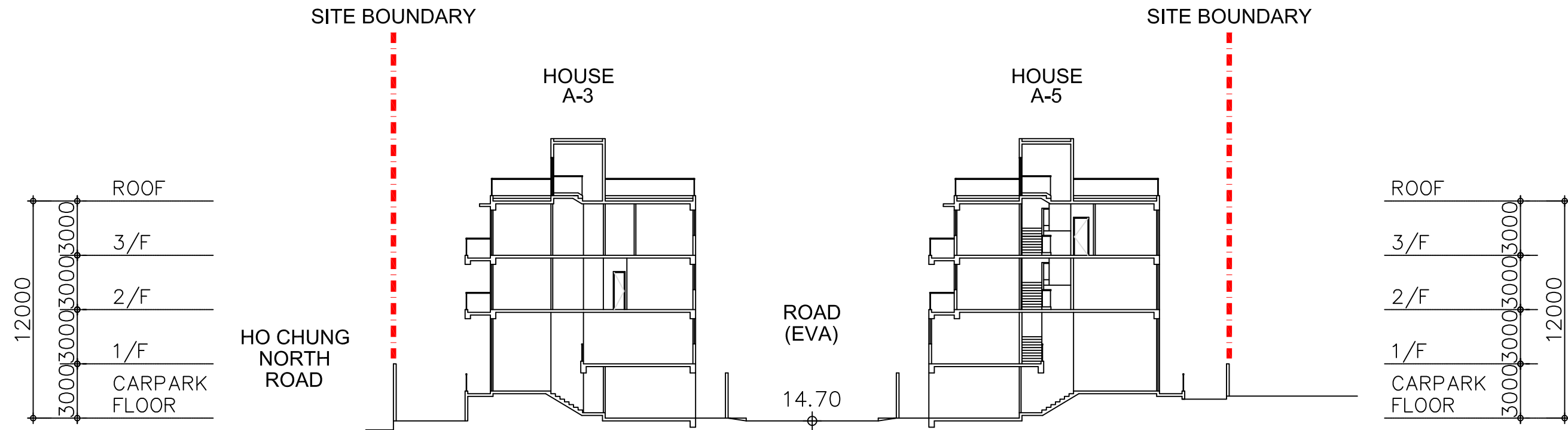
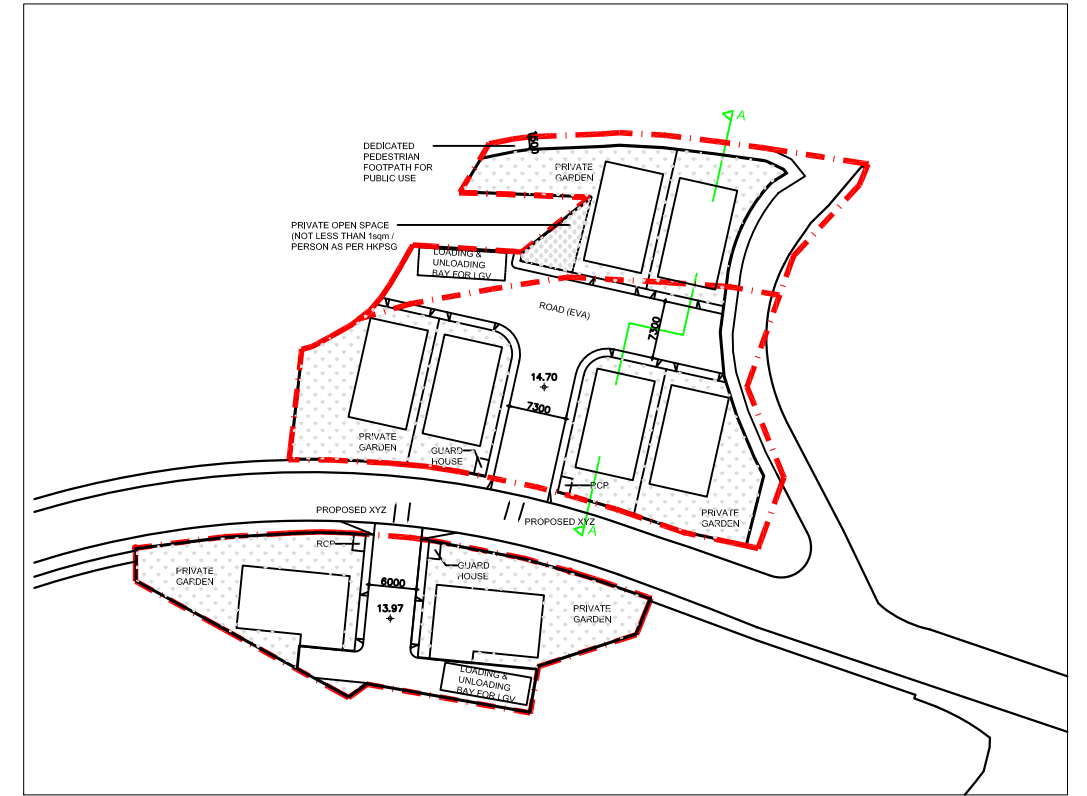
ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
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JOB TITLE:
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Drawing Title
3F LAYOUT PLAN

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			Checked	RT	Approved	RT
			Scale	1:350 @ A3		
Rev	Description	Date				

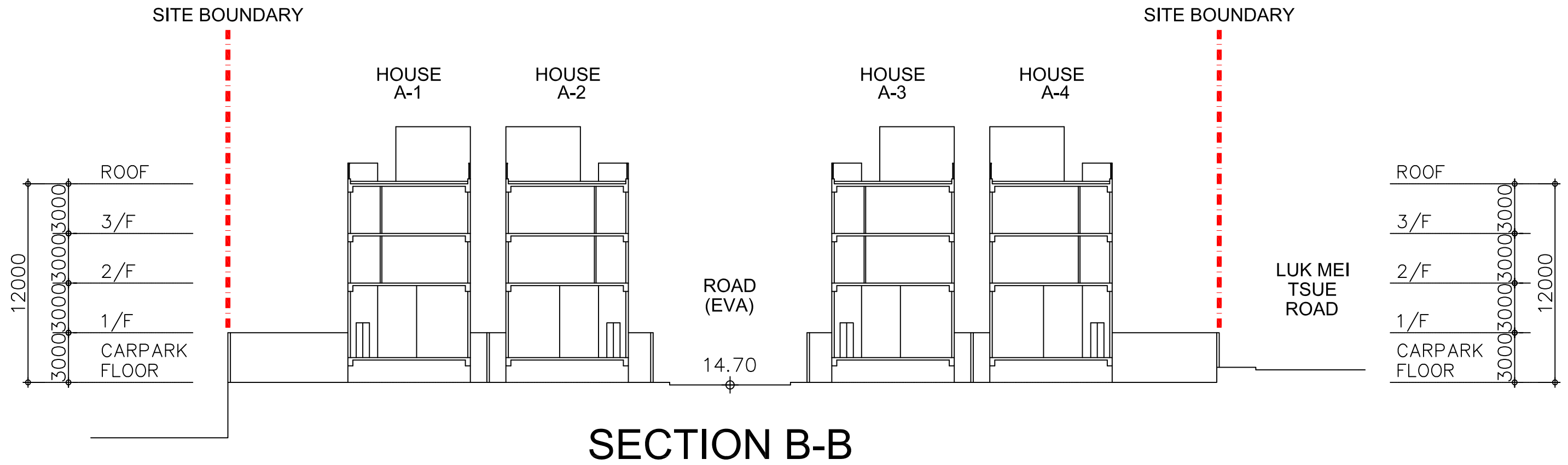
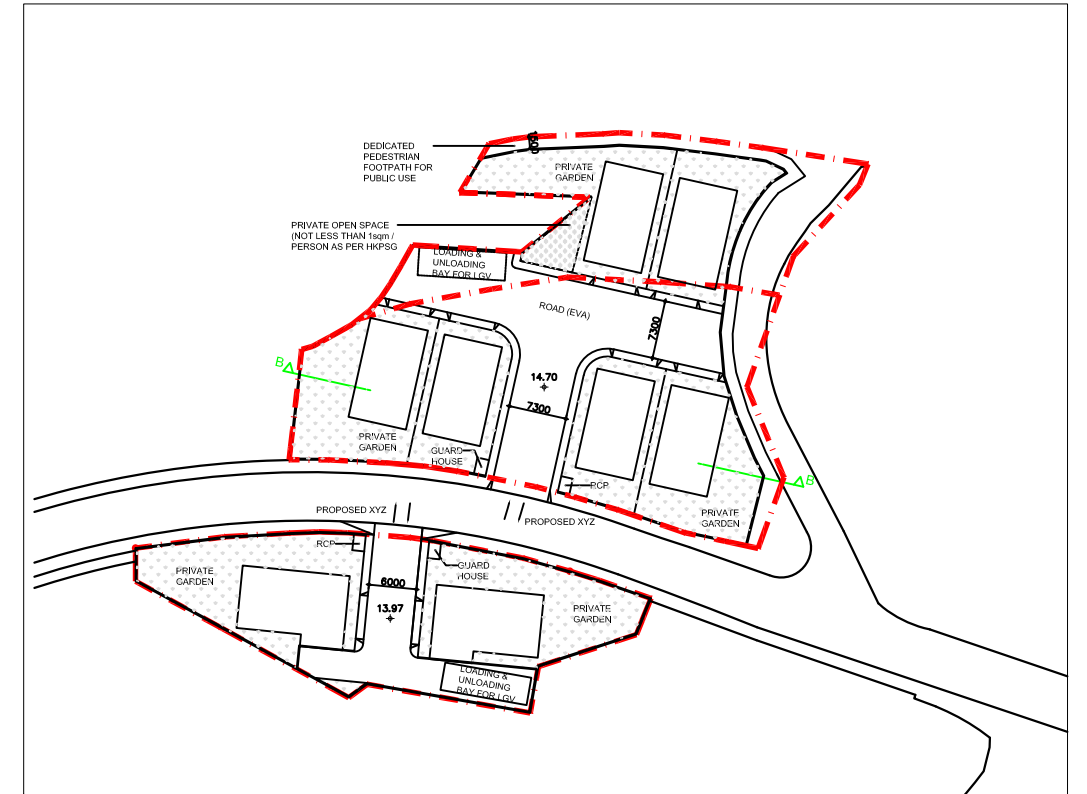
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SECTION A-A

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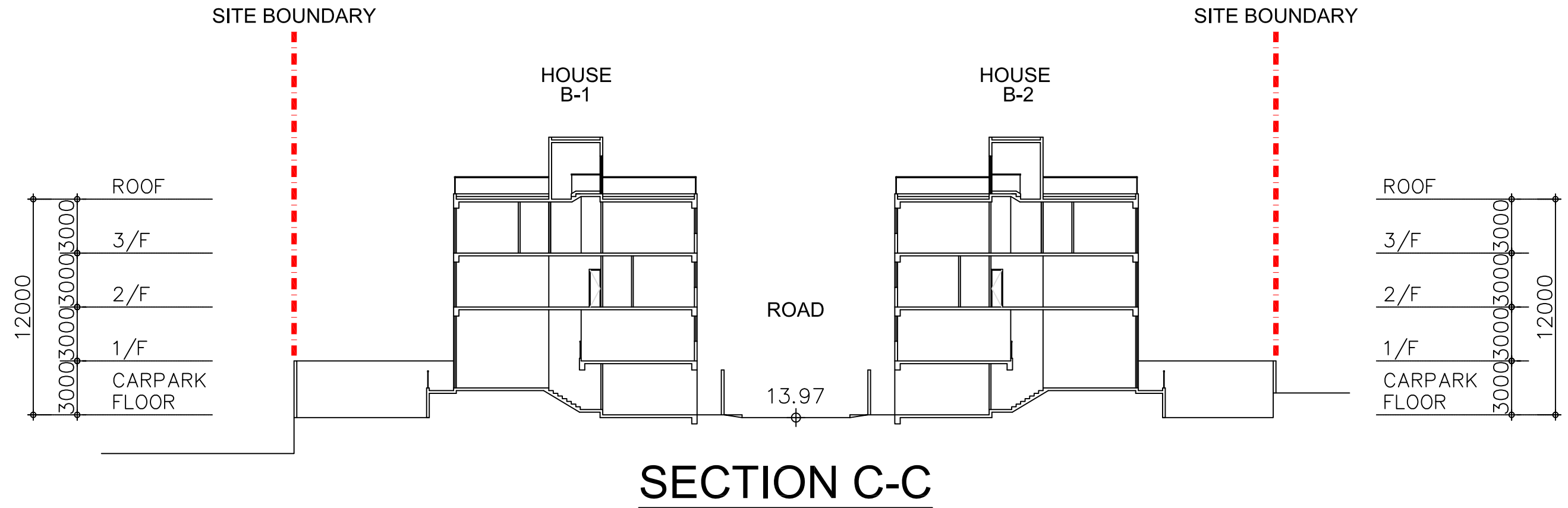
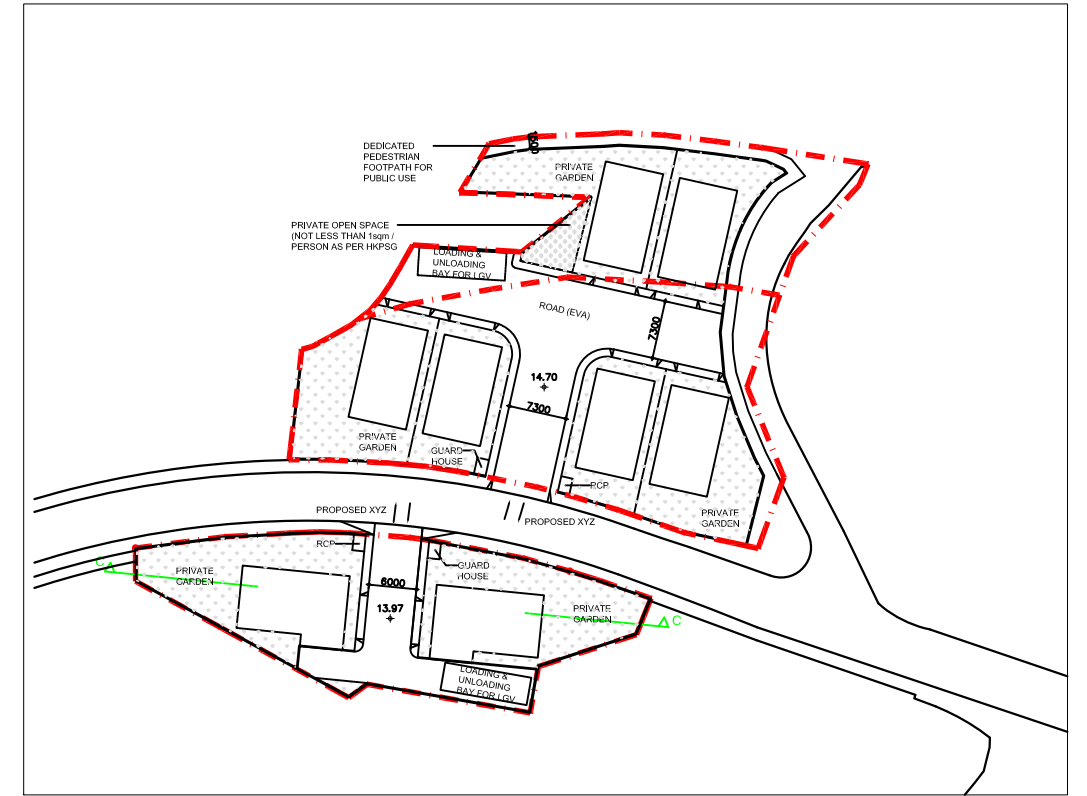
	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title SECTION A-A	1	Key Plan Update	18/12/23	Drawn	CN	Date	18/12/2023	Drawing No. Fig. 5
							Checked	RT	Approved	RT	
				Rev	Description	Date	Scale	1:250 @ A3		Rev.	1



SECTION B-B

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	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title SECTION B-B	1	Key Plan Update	18/12/23	Drawn	CN	Date	18/12/2023	Drawing No. Fig. 6
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				Rev	Description	Date	Scale	1:250 @ A3		Rev.	1



SECTION C-C

File Name :
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	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title SECTION C-C	1	Key Plan Update	18/12/23	Drawn	CN	Date	18/12/2023	Drawing No.
							Checked	RT	Approved	RT	Fig. 7
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Appendix B

Landscape Proposal

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Landscape Proposal

For

Amendment of Plan to

Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)”

(“R(E)”) and an area shown as ‘Road’

to “Residential (Group C)3) (“R(C)3”)

on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11

at Various Lots in Demarcation District 210 and Demarcation District 244

and Adjoining Government land

Ho Chung, Sai Kung, New Territories, Hong Kong

Prepared by: Prudential Surveyors International Limited

Version: B C

Date: November December 2023

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1. Introduction

1.1.1 This Landscape Proposal (**the Proposal**) is prepared as part of the Section 12A Application for the amendment of plan to rezone to “Residential (Group C)3” (“R(C)3”) to the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 (the Approved OZP) at various lots in Demarcation District 210 (D.D.210) and Demarcation District 244 (D.D.244) and adjoining government land, at Ho Chung, Sai Kung, New Territories.

1.1.1. The Proposal details the principles behind the proposed Conceptual Landscape Plan of the proposed development. It describes design program and treatment of the outdoor spaces of the buildings. A more comprehensive design package will be compiled during the detailed design stage of the project.

1.1.2. The Proposal includes:

- the Conceptual Landscape Plans;
- proposed Green Noise Barrier;
- planting Scheme; and
- greening Calculation Plans.

The Proposal takes into consideration the topographical condition of the Site.

2. Site Description

2.1. The Site and its Surroundings

2.1.1. The proposed development is situated in Demarcation District 210 (D.D.210) and Demarcation District 244 (D.D.244) and the adjoining government land, at Ho Chung, Sai Kung, New Territories (**the Site**). The Site, with an area of about 3,190 sq.m, is located to the west of the Marine Cove and Hiram’s Highway. It is accessible via Luk Mei Tsuen Road/Ho Chung North Road. The Site is divided into three parts for identification purposes. The majority of the Site is situated to the north of Ho Chung North Road (**Parcel A and B**) and the remaining portion is situated to the south of Ho Chung North Road (**Parcel C**).

2.1.2. The majority of the Parcel A and B of the Site appears to be occupied by open storage, vehicle repair workshop and other workshop activities in similar nature; while the northeastern part of the Parcel A and B are occupied by the existing Luk Mei Tsuen Road (side road) and an association namely “西貢區惠州同鄉孟蘭勝會”. Parcel C of the Site is mainly occupied by an open car park with some temporary structures. Only a few low-rise vegetation can be found in the northeast corner of the Site.

2.1.3. The surrounding landscape characters of the Parcel A, B and C of the Site are different. The Parcel A and B are mainly surrounded by storage building and open car park with limited plantation, while the Parcel C is mainly surrounded by undeveloped green space.

2.2. Broad Brush Tree Survey

2.2.1. A tree survey was conducted on 15 December 2023. The number of existing trees are surveyed with the following breakdown: -

Broad Brush Tree Survey Breakdown	
Total 6 nos. are surveyed	4 nos. of existing <i>Michelia × alba</i> (MIAL) proposed to be retained
	2 nos. of existing dead trees proposed to be felled
The height ranges from 3.8m to 8m, spread from 1.8m to 4m, and DBH from 255mm to 637mm. Their overall condition are ranges from Poor to Good.	
Broad Brush Tree Survey Schedule is provided in Figure 2.1 .	

Table 2.1 Summary of Broad Brush Tree Survey

2.2.2. Due to the conflict with the proposed development and necessary construction works and activities, among a total of 6 nos. of existing trees within site, 4 nos. will be proposed to be retained and 2 nos. of existing dead trees will be proposed to be felled. The proposed treatment on existing trees can be found in **Figure 2.2**.

3. Proposed Development

- 3.1.1. The Proposed Development is to develop a low-rise and low-density residential development with 8 no. of 3 storeys over one storey of carport and private garden with each house. Internal access road/EVA and the common landscape area would also be created. [refer to **Figure 3.1**] The Proposed Development could facilitate improving and upgrading the surrounding areas and phase out existing industrial uses with high-quality residential development.
- 3.1.2. The proposed development includes 8 nos. of residential houses with building heights of about 12m. The landscape design concept will adopt a modern style. It will use organic forms and shapes as the main elements in order to soften the hard lines of the built forms. Each house has its private garden with a combination of soft and hard landscapes, creating different gathering, recreational and fitness spaces to enrich daily life of the future residents. Plants with different heights and densities are mainly provided along the boundaries of the Site, strengthening privacy and providing shaded for residents. Proposed trees and greenery would be intermixed with the overall landscape design. [refer to **Figure 3.2**].
- 3.1.3. The topographical condition of the Site has been considered in the overall design. Since, Parcel A and B of the site is convex in shape with southern portion and northern portion higher than the central portion. Following the natural lay of the land, the carport would be located in the central portion (lower part) of the site to maintain a lower overall building height and to allow the Proposed Development to merge with the natural profiling of the surroundings.
- 3.1.4. To enhance the local walkability and accessibility, it is proposed to strategically setback the proposed residential development by 1.5 m along the east and north boundaries of the Parcel A and B to create a footpath for public use.

4. Landscape Design Concepts

4.1. Landscape Design

4.1.1. The aim of the landscape proposals is to not only respond to site conditions, building form and function but to also create private gardens for the future residents. The main factors to be taken into consideration are:

- response to the site context, both in terms of landscape character and visual amenity;
- maximise the opportunities of greening;
- create soft greenery barriers around the Site to enhance privacy and reduce noise pollution from surroundings; and
- careful consideration of future maintenance requirements.

4.1.2. The detail design of the landscape layout should consider the following relevant guidelines/legislations:

- Hong Kong Planning Standards and Guidelines (HKPSG);
- Technical Guidelines on Landscape Treatment and Bio-engineering for Man-made Slopes and Retaining Walls (GEO Publications No. 1/2011);
- Design Manual: Barrier Free Access 2008 (Building Department);
- DEVB TCW No. 6/2015- Maintenance of Vegetation and Hard Landscape Features.
- PNPP No. 1/2019 - Processing and Compliance Checking of Landscape Submissions Related to Planning Applications
- JPN No. 3 - Landscape and Site Coverage of Greenery

4.1.3. The principles mentioned below, describe the guidelines applied in formulating the landscape design.

Response to the Surrounding Context and the Overall Character

4.1.4. The landscape design takes the impacts of the Ho Chung North Road and surrounding industrial uses into full consideration. Through providing boundary walls with vertical greenings along the site boundaries, green noise barriers along Ho Chung North Road would be created to minimise the potential air and noise impact of the road and surroundings industrial uses on the proposed development. Also, the landscape design aims to help integrate the proposed development with its surrounding, while enhancing the landscape and visual amenity at the public frontage. The design of the green noise barrier and its landscape treatment are proposed in **Figure 4.1**. At the same time, tall evergreen trees would be planted along the boundaries to ensure privacies of the residents.

4.1.5. With reference to the observation during the site visit on 5th July 2023, there were no mature trees located on the site and upon checking on the Register of Old Valuable Tree records on 27th July 2023 there are no Old and Valuable Trees on the Site.

4.1.6. With reference to the observation during the site visit on 15th December 2023, there were 6 trees located on the site (including 2 dead trees) and upon checking on the Register of Old Valuable Tree records on 27th July 2023 there are no Old and Valuable Trees on the Site. A Broad Brush Tree Survey Schedule and the Tree Treatment Plan on existing trees are provided in **Figure 2.1 to 2.2**.

4.1.7. It is proposed that trees be incorporated into the overall landscape design, while also enhancing the landscape amenity and users' experience. Reference photos to landscape features and vegetation are provided in **Figure 4.2**.

Minimal Excavation and Filling of Land Works for the Proposed Development

4.1.8. To minimise the disturbance to the land, existing trees and plantations outside the site boundary, the proposed finished levels of the development will vary within the Site which shall comply with the existing ground profiles. This will significantly reduce the amount of excavation and filling of land works that would be required.

Creation of Private Gardens for Recreational and Amenity Purposes

4.1.9. The private gardens serve as the continuation of living space for the residents. A combination of soft and hard landscape elements is proposed for not only aesthetic but also functional purpose, providing open space for residents to enjoy and use for different amenity activities. Moreover, these planting provisions will help softening the hard lines of the built forms.

Planting Design Approach

4.1.10. Overall planting design will be consisted of a mix of practicable, ornamental trees, evergreen hedges, and flowering shrubs. Most trees with different heights are proposed along the boundaries of the Site to enhance the privacy of the Site while other soft landscape measures will be provided to ensure the hard lines of the built form being visually softened and screen off unpleasant structures such as the guard houses and the private refuse collection points (PRCP).

4.1.11. For the proposed plant species to survive, adequate soil depth must be provided accordingly. In general, minimum 1200mm clear soil depth, excluding the drainage layer will be provided for heavy standard tree planting while shrubs and groundcover shall have minimum 450 mm depth.

Provides a Landscape Plan in compliance with APP-152 and HKPSG

4.1.12. The Landscape Proposal in support of the proposed development is prepared. The aim of the landscape proposal is to respond to the site conditions, building form and function and to provide a quality landscape scheme. In summary, the proposed development has achieved a site coverage of greenery of over 20% in accordance with the APP-152 and with private open space of no less than 32 sq.m in accordance with HKPSG.

4.1.13. The private open space is located next to the loading/unloading bay for light goods vehicles (LGV). A pocket garden is proposed in the private open space to offer an enclosed resting area for the future residents. The proposed water feature, outdoor furniture and plantings will be used as visual features to blend and partially screen the private open space. These features will also aid to provide sufficient privacy to the residents living adjacent to it.

4.2. Irrigation

- 4.2.1. The proposed irrigation system will be using lockable manual water points with a maximum coverage of 30 M radius. Irrigation design shall be subject to final approval from the Water Services Department.

4.3. Soil Depth and Drainage for Planting

- 4.3.1. The requirement of soil depth is directly related to the planting design and its associated loading requirement upon structure. In general, the soil depth provided, with all drainage layer, water-proofing and protective screening exclusive is listed below:

Planting Type	Soil Depth (Minimum)
Tree/Palm tree	1200mm
Shrub	600mm
Groundcover/climber	450mm
Turf	300mm

Table 4.1: Soil Depth of Planting Types

- 4.3.2. All Planting areas on slab shall be provided with sub-soil drainage system with drainage cell layer.

4.4. Future Maintenance

Hard Landscape Elements

- 4.4.1. Maintenance for hard landscape elements shall be carried out by lot owner of the development with maintenance guidelines as follows:

I-Routine Maintenance (Daily - Weekly):

- a. Rubbish and litter removal
- b. Sweeping and cleaning
- c. Damage inspection and repair for site furniture and light bulb replacement

II-Annual/Long term Maintenance:

- a. Repainting
- b. Resurfacing of worn pavements
- c. Replacing worn parts site furniture, lighting fixture and other facilities
- d. Replacement of worn landscape furniture

Soft Landscape Element

- 4.4.2. For the proposed development, the soft landscape contractor will be responsible for the maintenance of the planting during the maintenance period specified in the construction contract. This is usually for the first year after the completion of the construction. This will ensure that the plants are in a healthy condition upon full handover to the management team of the owner.

5. Planting Proposal

5.1.1. In order to provide quality landscape for the proposed development, soft landscape works will be the major landscape element of the landscaping proposals and will satisfy the following criteria:

- To provide effective screening effect from possible noise and air pollution from the nearby road network and industrial uses;
- To soften the architectural hardlines of the proposed development as well as reducing the visual impact;
- To maximise the greenery coverage; and
- Low maintenance requirement.

5.1.2 The proposed planting species list is shown as follows and reference landscape photos are shown in Figure 4.2.

Botanical Name	Chinese Name	Size (mm)	Quantity	Spacing (cm)
		Height x Spread x DBH		
COMPENSATORY TREES				
<i>Plumeria obtusa</i> (PLOB)	鈍葉雞蛋花	2500 x 2000 x 100	19 16	As indicated on Plan
<i>Ficus benjamina</i> var . <i>princess</i> (FIBE)	花葉垂榕	2000×3000×300	11 9	As indicated on Plan
<i>Ravenala madagascariensis</i> Sonn (RAMA)	旅人蕉	5000×5000×150	5 4	As indicated on Plan
SHRUBS AND GROUND COVERS				
<i>Loropetalum chinense</i> var. <i>rubrum</i>	紅花檵木	1500×1500	To be confirm (TBC)	120-150
<i>Alpinia zerumbet</i> 'Variegata'	花葉艷山姜	1000×500	TBC	60-90
<i>Duranta erecta</i>	假連翹/ 金露花	1500×1500	TBC	250
<i>Codiaeum variegatum</i> (L.) A. Juss.	變葉木	1500×1000	TBC	300
<i>Camellia japonica</i> L	山茶	1000×700	TBC	200
<i>Murraya paniculata</i>	九里香	600 x 500	TBC	350
<i>Bougainvillea spectabilis</i>	勒杜鵑	900 x 900	TBC	350
CLIMBING PLANTS				
<i>Parthenocissus himalayana</i>	爬牆虎	1000X300	TBC	500
LAWN				
<i>Eremochloa ophiuroides</i>	假儉草	-	-	-

Table 5.1: Proposed Planting Schedule

5.1.2 With a total of 29 nos. of proposed compensatory trees, the implementation of compensatory tree planting of a ratio 1:1 in terms of quantity can be achieved.

6 Greening Calculation

6.1.1 The proposed scheme will provide greenery area of approximate ~~854 sq.m~~ 760 sq.m, giving a total greenery ratio of over 20% (refer to **Figure 3.2**).

Figures

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Broad Brush Tree Survey Schedule


Application No. Y/SK-HC/6
Date of Tree Survey : 15.12.2023

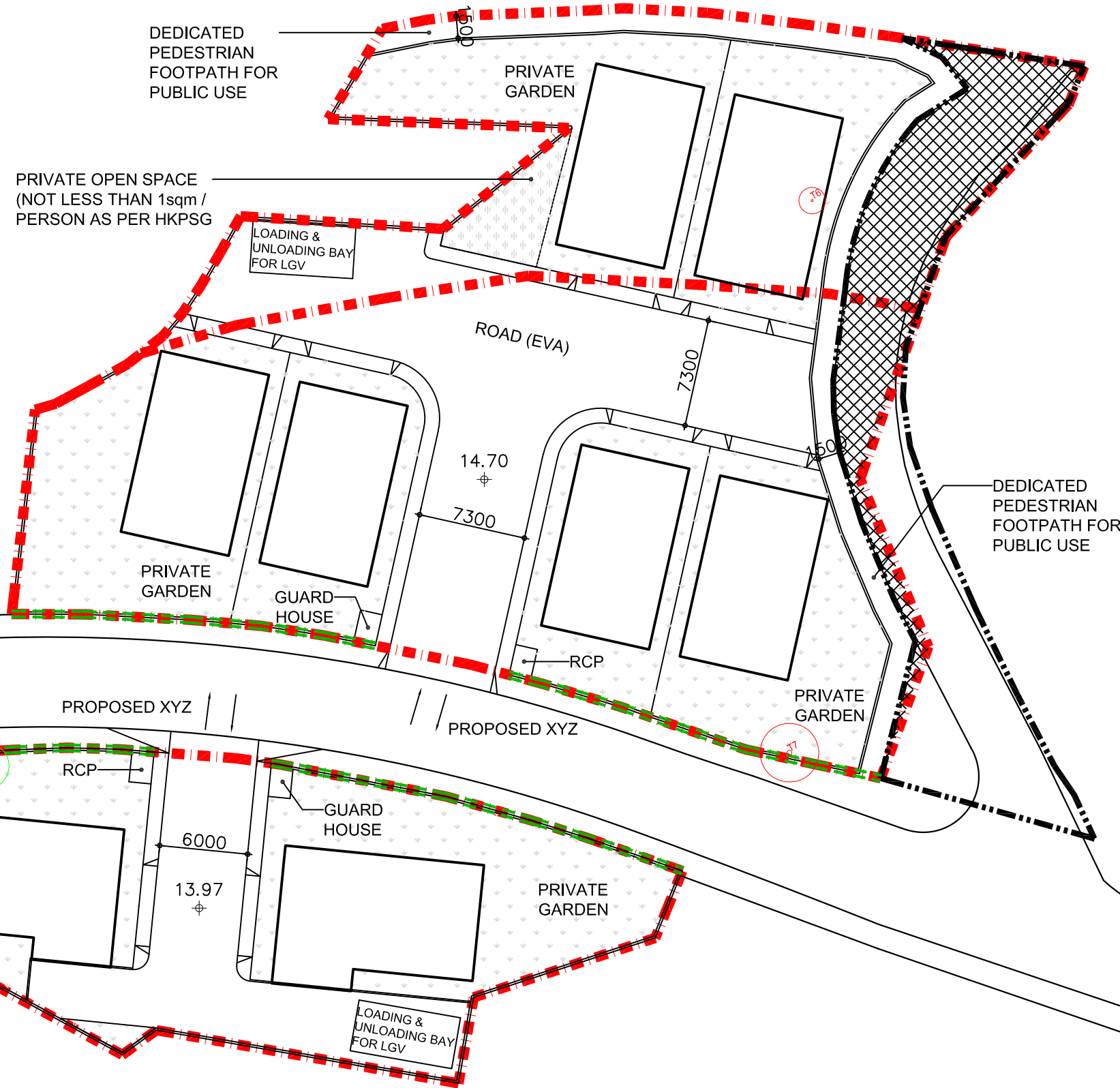
Tree No.	Photo No.	Species		Tree Size			Form	Health	Amenity Value	Proposed Treatment (Retain/Transplant/Fell)	Remarks (Old and Valuable Tree (OVT), potentially registrable OVT, rare species, protected species, ecological and historical significance,
		Scientific Name	Chinese Name	Height (m)	DBH (mm)	Crown Spread (m)	Good / Average / Poor	High / Medium / Low			
T1	T1_1_Overview to T1_4_Base	<i>Michelia x alba</i>	白蘭	6.1	306	3.1	Good	Good	Medium	Retain	Nil
T2	T2_1_Overview to T2_4_Base	<i>Michelia x alba</i>	白蘭	6.1	255	2.3	Good	Good	Medium	Retain	Nil
T3	T3_1_Overview to T3_3_Trunk	<i>Michelia x alba</i>	白蘭	5.9	407	3.5	Good	Good	Medium	Retain	Nil
T4	T4_1_Overview to T4_4_Base	<i>Michelia x alba</i>	白蘭	6.5	280	3.2	Good	Good	Medium	Retain	Nil
T6	T6_1_Overview to T6_2_Overview	<i>Dead Tree</i>	死樹	3.8	300	1.8	Poor	Poor	Low	Fell	Nil
T7	T7_1_Overview to T7_4_Broken Branch	<i>Dead Tree</i>	死樹	8	637	4	Poor	Poor	Low	Fell	Nil

Summary Table





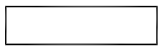
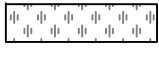


	Number of Tree(s)
Tree to be Retained	4
Tree to be Transplanted	0
Tree to be Felled	2
Total Number of Existing Tree(s)	6

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title BROAD BRUSH TREE SURVEY SCHEDULE	Drawn	CN	Date	18/12/2023	Drawing No. Fig. 2.1
				Checked	RT	Approved	RT	
				Scale	1:350 @ A3		Rev.	-
				Rev	Description	Date		

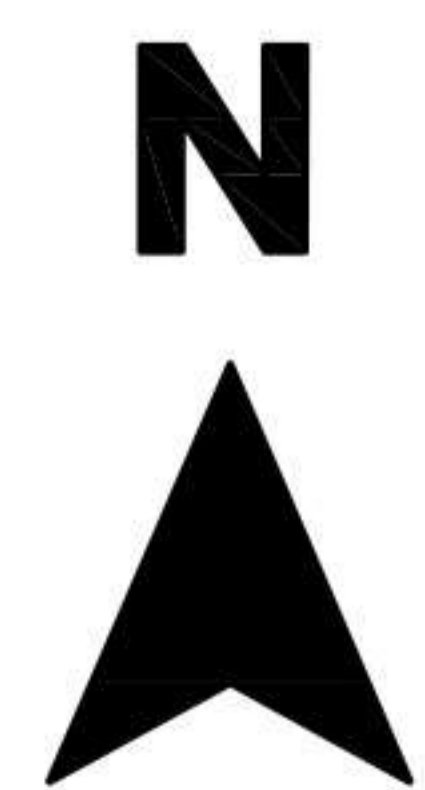


LEGEND

-  SITE BOUNDARY
-  AREA TO BE DEDICATED AS RIGHT OF WAY
-  GREEN NOISE BARRIER
-  PRIVATE GARDEN
-  BUILDING FOOTPRINT
-  PRIVATE OPEN SPACE
-  TREE PROPOSED TO BE RETAINED
-  TREE PROPOSED TO BE FELLED

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title TREE TREATMENT PLAN	Drawn CN	Date 18/12/2023	Drawing No. Fig. 2.2
				Checked RT	Approved RT	
Scale 1:350 @ A3		Rev. Description Date		Rev.		



LEGEND

- SITE BOUNDARY
- AREA TO BE DEDICATED AS RIGHT OF WAY
- GREEN NOISE BARRIER
- LAWN
- DECKING
- PAVING PATTERN 1
- PAVING PATTERN 2
- PAVING PATTERN 3
- PAVING PATTERN 4
- WATER FEATURE
- FEATURE WALL
- PROPOSED SHRUB
- PROPOSED TREE
- TREE PROPOSED TO BE RETAINED

File Name :
Source :

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244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 8333
FAX: 2598 6576

JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
CONCEPTUAL LANDSCAPE PLAN

1	Layout Updated	19/12/23
Rev	Description	Date

Drawn	CN	Date	19/12/2023
Checked	RT	Approved	RT
Scale	1:350 @ A3		

Drawing No.	FIGURE 3.1
Rev.	1



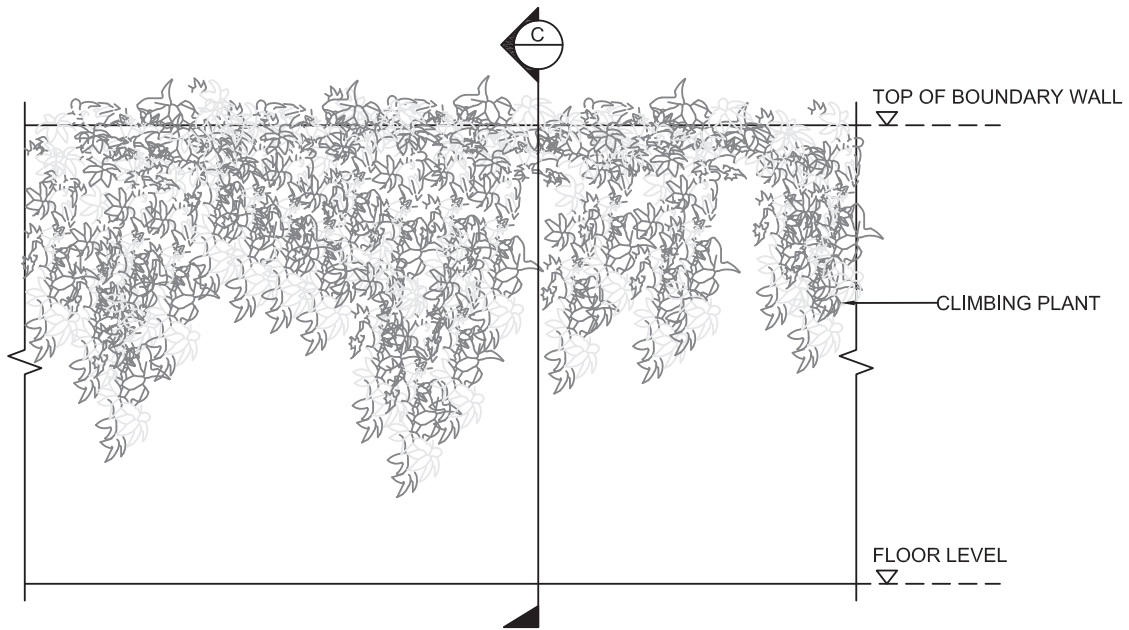
LEGEND

- SITE BOUNDARY
- AREA TO BE DEDICATED AS RIGHT OF WAY
- PROPOSED COMPENSATORY TREE
- TREE PROPOSED TO BE RETAINED
- PROPOSED SITE COVERAGE OF GREENERY (APPROX. 760.33 SQ.M)
- PROPOSED PAVED AREA (PATIO)
- PROPOSED PLANTER KERB

Green Coverage		
Name	Area (sq. m)	
G1		57.76
G2		67.57
G3		29.84
G4		10.99
G5		11.39
G6		29.74
G7		57.52
G8		44.05
G9		42.69
G10		39.79
G11		14.78
G12		15.02
G13		15.02
G14		17.97
G15		4.98
G16		7.77
G17		75.26
G18		75.04
G19		3.62
G20		68.21
G21		71.32
Total		760.33

File Name :
Source :

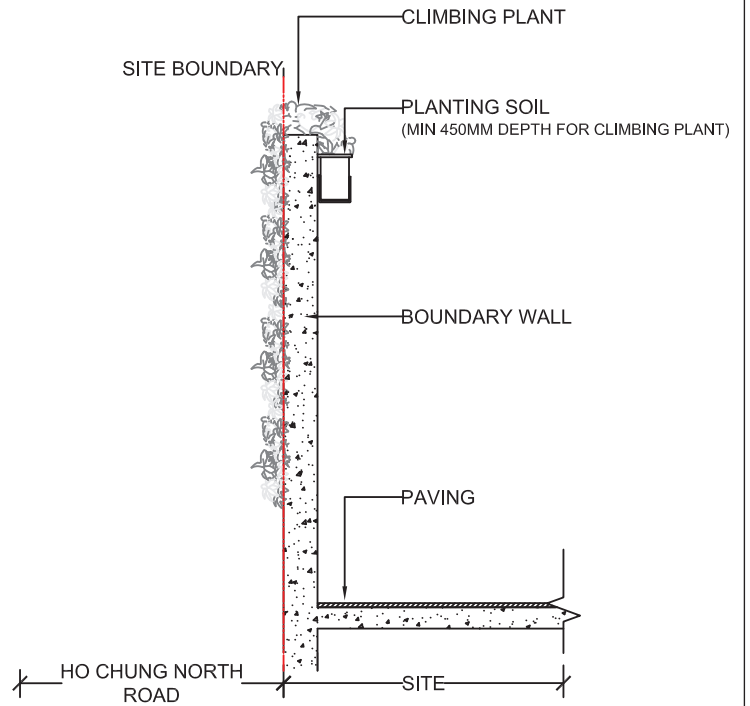
	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title PROPOSED TREE PLANTING & GREENING CALCULATION PLAN	1	Layout Update	18/12/23	Drawn	CN	Date	18/12/2023	Drawing No.
							Checked	RT	Approved	RT	Figure 3.2
				Rev	Description	Date	Scale	1:350 @ A3		Rev.	1



A TYPICAL ELEVATION OF GREEN NOISE BARRIER
NOT TO SCALE



B REFERENCE IMAGE OF GREEN NOISE BARRIER
SOURCE : <https://3dbaza.com/virginia-creeper-4-112506>



C SECTION OF GREEN NOISE BARRIER
NOT TO SCALE

File Name :
Source :

	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)"), "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C3)" ("R(C3)") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title		Drawn	Date	Drawing No. FIGURE 4.1
		PROPOSED GREEN NOISE BARRIER		CN	25/07/23	
				Checked	Approved	
				RT	RT	
		Rev	Description	Date	Scale	Rev.

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REFERENCE IMAGES

WATER FEATURE



FEATURE WALL



PLANTING IMAGES

TREES



Plumeria obtusa 雞蛋花



Ficus benjamina 花葉垂榕



Ravenala madagascariensis Sonn
旅人蕉

SHRUBS & GROUNDCOVER



Loropetalum chinense var. rubrum
紅花繼木



Alpinia zerumbet 花葉艷山姜



Duranta erecta 金露花



Codiaeum variegatum 變葉木



Camellia japonica 山茶



Murraya paniculata 九里香



Bougainvillea spectabilis 簕杜鵑

CLIMBING PLANTS



Parthenocissus himalayana
爬牆虎

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title REFERENCE LANDSCAPE PHOTOS			Drawn CN	Date 28/07/23	Drawing No. FIGURE 4.2
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Appendix 1

Traffic Impact Assessment

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Traffic Impact Assessment

For

Amendment of Plan to

Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)”

(“R(E)”) and an area shown as ‘Road’

to “Residential (Group C)3) (“R(C)3”)

on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11

at Various Lots in Demarcation District 210 and Demarcation District 244

and Adjoining Government Land

Ho Chung, Sai Kung, New Territories, Hong Kong

Prepared by: Prudential Surveyors (Hong Kong) Limited

Version: C

Date: December 2023

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1. Introduction

- 1.1.1 This Traffic Impact Assessment (TIA) is prepared as part of the Section 12A Application for the amendment of plan to rezone to “Residential (Group C)3” (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 (the Approved OZP) at various lots in Demarcation District 210 (D.D.210) and Demarcation District 244 (D.D.244) and adjoining government land, at Ho Chung, Sai Kung, New Territories (the Site) with a Site area about 3,190 sq.m. [Figure 1.1]
- 1.1.2 The TIA is required as part of the Section 12A planning application for the Proposed Development for rezone the Subject Site from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) zoned with a maximum site coverage of 25% and a maximum building height of 12m with 3 storeys over one storey of carport PR of 0.75 on the Approved OZP.
- 1.1.3 The owner of the Site has the intention to construct six individual houses with six ancillary car parking spaces of 2.5m X 5m, six accessible visitor parking space of 3.5m X 5m and one light goods vehicles (LGV) loading/unloading bay 3.5m X 7m in Parcel A & B of the Site; two individual houses with two ancillary car parking spaces of 2.5m X 5m, two accessible visitor parking space of 3.5m X 5m and one LGV loading/unloading bay 3.5m X 7m in Parcel C of the Site.
- 1.1.4 This traffic impact assessment (TIA) study is to support the proposed development. This report describes the traffic impact assessment undertaken.

1.2 Study Objectives

- 1.2.1 The objectives of this study can be summarised as follows:
- undertake traffic impact assessment to assess the traffic impact to be induced by the proposed development on the nearby road network in the vicinity of the Subject Site;
 - design and conduct traffic surveys during peak hours in the vicinity of the Subject Site to supplement available information and traffic data;
 - estimate the extra volumes of traffic that will be generated by the proposed development during the peak period (arrivals and departures);
 - estimate the likely changes of circulation patterns and traffic flow in the future road network adjacent to the Subject Site;
 - review the capacity of the critical links of the road networks adjacent to the Subject Site;
 - provide traffic advice on the internal vehicular movements; and
 - advise on the provision of internal parking and loading and unloading spaces based on relevant standards and requirements for residential development.

2. Proposed Development

2.1.1 The proposed development is to erect six individual houses in Parcel A & B of the Site and two individual houses in Parcel C of the Site. The proposed gross floor area (GFA) of the houses are summarised in Table 2.1.

Propose House	Gross Floor Area (GFA) (sqm) (about)
House 1	283
House 2	283
House 3	283
House 4	283
House 5	283
House 6	283
House 7	346
House 8	346
Total	2,390
Average Size	299

Table 2.1 Proposed GFA of Houses

2.1.2 The proposed development would adopt a household size of 4 per house. In this connection, a total population of 32 would be used.

3. Existing Traffic Situation

3.1 Existing Road Network

3.1.1 The Site is located at Ho Chung North Road (former Luk Mei Tsuen Road), which is a Feeder Road with single-two carriageway connecting to Hiram’s Highway to the east.

3.1.2 The connecting section of Hiram’s Highway was a Rural Road improved in 2021 year, from single-two carriageway to dual-two carriageway.

3.1.3 The critical road links and junctions in this study are, from north to south:

- J1 - Hiram’s Highway / Marina Cove North Access
- J2 - Hiram’s Highway / Marina Cove South Access
- L1 - Hiram’s Highway between Ho Chung North Road (former Luk Mei Tsuen Road) and Ho Chung Road
- J3 - Hiram’s Highway / Ho Chung Road
- L2 - Hiram’s Highway between Ho Chung Road and Nam Pin Wai Road
- J4 - Hiram’s Highway / New Hiram’s Highway / Nam Pin Wai Road (Roundabout)
- J5 - Hiram’s Highway / Hing Keng Shek Road / Access Road to Pak Wai Village (Roundabout)

3.1.4 The Area of Influence (AoI) and Study Area are shown in Figure 1.1.

3.2 Public Transport

3.2.1 Public transport services include franchised bus, green minibus (GMB) and public light bus (PLB) in the vicinity are depicted in Figure 3.1 and summarised in Table 3.1.

Franchised Bus		
Route	Destination	Frequency (min)
92	Sai Kung – Diamond Hill Station	12-20
92R	Sai Kung – Star Ferry	20 (Sunday and Holidays only)
96R	Wong Shek Pier – Diamond Hill Station	18-25 (Sunday and Holidays only)
292P	Sai Kung – Kwun Tong	7:30 (Only one departure Monday to Friday)
792M	Sai Kung – Tseung Kwan O Station	15-20
Green Minibus (GMB) Services		
1	Sai Kung – Kowloon Bay	8-20
1A	Sai Kung – San Po Kong	4
1S	Sai Kung – San Po Kong	10-15
2	Sai Kung – Ho Chung	15-30
12	Sai Kung – Po Lam	10-15
101M	Sai Kung – Hang Hau Station	3-5
Public Light Bus (PLB) Services		
--	Sai Kung –Kwun Tong	5-12
--	Sai Kung –Mong Kok	Depart when fully loaded
--	Sai Kung – Causeway Bay	10-15

Table 3.1 Service Provision of Public Transport

3.3 Future Road Network

3.3.1 To support the continued development and population growth in Sai Kung Area, Hiram’s Highway Improvement is divided into two stages. Stage 1 between Clear Water Bay Road and Marina Cove has been completed in 2021. The works include improvement works that would relieve the traffic congestion on the road section near Marina Cove, enhance the safety of the road section and improve the local access to Ho Chung and Luk Mei Tsuen.

3.3.2 Stage 2 is to improve the section of Hiram’s Highway, Po Tung Road and Tai Mong Tsai Road from Marina Cove to the south of Sha Ha. The proposed improvement works will relieve traffic congestion and enhance the safety of the road section at Sai Kung area. The project is currently under review and the commencement date is under review. The location of the improvements for Stage 2 are presented in Figure 3.2.

3.4 Traffic Count Surveys

3.4.1 In order to appraise the actual traffic demand for the proposed development, classified turning movement count surveys are carried out during peak hours, 07:00 to 10:00 and 17:00 to 20:00 on both Friday, 3 November 2023 and Sunday, 5 November 2023 at the key junctions of the study area as presented in Figure 3.3.

3.4.2 The traffic count survey data were recorded in a 15 minutes interval, and to be converted into pcu per hour. The highest hourly traffic volume is adopted as the peak hour traffic flow.

3.4.3 The morning and afternoon peak hours during weekday of the road network have been identified as 08:00 to 09:00 and 17:15 to 18:15 respectively. Meanwhile the peak hour of the weekend was observed to be 16:30 to 17:30. The observed traffic flows in the study area is presented in Figure 3.4.

3.5 Existing Capacity Assessment

Junction Capacity

3.5.1 Based on the observed traffic flows, the performance of the key junctions in the vicinity of the subject site during the morning and evening peak hours were assessed. The results area summarised and presented in Table 3.2 and the detailed calculation sheets are attached in Appendix A.

3.5.2 The Design Flow / Capacity (DFC) ratio is measured in evaluating the performance of a roundabout or priority junction. With reference to Ch4, Vol2, TPDM, a DFC ratio of 0.85 can be considered reasonable.

3.5.3 The performance of a traffic signalised junction is indicated by its reserved capacity (RC). A positive RC indicates that the junction is operating with spare capacity. A negative RC indicates that the junction is overloaded; resulting in traffic queues and longer delay.

Jun No.	Junction Location	Type/ Capacity Index	AM Peak Hour	PM Peak Hour	Weekend Peak Hour
J1	Luk Cheung Road /Hiram’s Highway / Marina Cove North Access	Priority / DFC	0.06	0.04	0.04
J2	Luk Mei Tsuen Road /Hiram’s Highway/ Marina Cove South Access	Signal / RC	156%	168%	159%
J3	Ho Chung Road /Hiram’s Highway	Signal / RC	106%	144%	109%
J4	Nam Pin Wai Road / New Hiram’s Highway / Hiram’s Highway	Roundabout / DFC	0.60	0.52	0.55
J5	Hing Keng Shek Road / Hiram’s Highway	Roundabout / DFC	0.51	0.55	0.49

Notes: RC=reserved capacity; DFC=Design Flow/ Capacity Ratio

Table 3.2 Existing Junction Performance

3.5.4 It can be observed in Table 3.2 that all of the key junctions perform satisfactorily during peak hours with adequate reserved capacities.

Link Capacity

3.5.5 Considering the routing of development traffic and construction traffic, link capacity of Sai Kung bound of L1 and L2, and Kowloon bound of L2 are assessed.

3.5.6 The result of road link capacity assessment is summarised in Table 3.3. With reference to para 10.6.4.5, Vol6, TPDM, the desirable limit of volume to capacity (V/C) ratio is less than 0.85 for links.

Link No.	Section of Hiram’s Highway	Link Capacity (veh/hr)	Reference Flow		Reference V/C Ratio	
			Daily Peak	Weekend	Daily Peak	Weekend
L1 (Sai Kung Bound)	Between Ho Chung Road and Luk Mei Tsuen Road	2600	1080	940	0.42	0.36
L2 (Sai Kung Bound)	Between Ho Chung Road and Nam Pin Wai Road	2600	1008	1188	0.39	0.46
L2 (Kowloon Bound)	Between Ho Chung Road and Nam Pin Wai Road	2600	1184	1064	0.46	0.41

Notes: Based on TPDM Volume 2 Chapter 2.4 – Design Flow Characteristics, it is assumed 2600 veh/hour for dual two-lane carriageway for one direction of flow.

Table 3.3 Existing Link Performance

3.5.7 It can be seen from Table 3.3 that all of the key links are within design capacities.

4. Future Traffic Situation

4.1 2028 Design Year Road Network

4.1.1 The anticipated year of completion for the proposed development is 2025. The design year is either 3 years after the completion year or 5 years after the application year, which ever longer. Therefore, Year 2028 is adopted as the design year of this study.

4.2 Traffic Generation

4.2.1 The proposed development is intended for eight single-family houses with an average size of 299 sq.m. It is proposed that there will only be 16 parking spaces.

4.2.2 The estimated average traffic generation and traffic attraction rate at peak hours are based on the trip rate based on the Transport Planning and Design Manual published by the Transport Department and are summarised in Table 4.1.

Description	AM Peak		PM Peak	
	Generation	Attraction	Generation	Attraction
Trip Rate (pcu/unit/hr)	0.3252	0.2609	0.2835	0.4074
Private Housing: Low-Density / R(C) (pcu/hr) (8 units)	2.6	2.1	2.3	3.3

Note 1: As the Site is used as a single-family house, the commutes would take place once in the morning and once in the afternoon to/from work/school.

Note 2: The pcu of a private car is taken as 1.

Note 3: Morning peak is defined as 8:00 a.m. to 9:00 a.m. whereas afternoon peak is defined as 6:00 p.m. to 7:00 p.m.

Table 4.1 AM/PM Peak Generation and Attraction

4.2.3 As shown in Table 4.1, the proposed development would generate 3(2) pcus and attract 2(3) pcus in the morning (evening) peak hours, which is considered negligible.

4.2.4 The development traffic was re-distributed and assigned onto the existing road network. Figure 4.1 show that resulting assignment of the proposed development traffic.

4.3 Regional Traffic Growth

4.3.1 For the estimation of traffic flows in the design year of 2028, it is proposed to adjust the existing traffic flows to take into account of the natural traffic growth which is related to the increase in car usage.

Annual Traffic Census (ATC)

4.3.2 Reference has been made with uses of 2017 to 2022 (Latest) Annual Traffic Census Reports. The traffic data recorded at counting stations adjacent to the site are shown in Table 4.2.

Station No./Road Name	2017	2018	2019	2020	2021	2022	Growth per Annum
6055/ Hiram’s Highway	24,050	24,450	24,280	23,360	24,460	23,480	-0.48%
5017/ Clear Water Bay Road	26,910	28,450	28,980	28,900	29,100	27,720	0.59%
5466 / Clear Water Bay Road	18,650	18,950	20,240	19,110	20,020	19,140	0.52%
6056/ Sai Sha Road	10,990	11,880	11,800	11,350	11,880	11,520	0.95%
Total Growth per Annum							0.31%

Source: Annual Traffic Census, Transport Department

Table 4.2: Traffic Data from Annual Traffic Census Reports

- 4.3.3 It is noted from Table 4.2 that +0.31% annual growth is observed from the traffic flow record over the past five years.

Territory Population and Employment Data Matrices (TPEDM)

- 4.3.4 According to the latest 2019-based TPEDM from year 2019 to year 2031 in Southeast New Territories (Other Area) published on the PlanD website. The population growth from the base year 2019 to 2031 is -1.18% as shown in Table 4.3.

Planning Data District	Year 2019	Year 2026	Year 2031	Growth Rate p.a. (%)
Southeast New Territories (Other Area)	68,900	65,800	59,750	-1.18%

Table 4.3 Projected Population by TPEDM, 2019-2031

- 4.3.5 After comparing the historical data and the future planning data, for conservative purpose, an annual growth rate of +1.00% was adopted.

4.4 Reference and Design Flows

- 4.4.1 The anticipated year of completion and estimated year of population intake of the proposed development is 2025. The design year for assessment is 3 years after the completion year, i.e. Year 2028, is adopted as the design year of this study.

- 4.4.2 The growth factor derived in Section 4.3 will be applied to of 2023 observed peak hours traffic flows

- 4.4.3 The traffic generated by 2 planned developments in the study area will also be considered:

Application	GFA (m2)	Average Flat Size (m2)	No. of Houses	AM Generation	AM Attraction	PM Generation	PM Attraction
Rate (pcu/hr/flat)				0.2772	0.1769	0.1635	0.2394
A/SK-HC/271	2421.6	161.4	15	4.2	2.7	2.5	3.6
A/SK-HC/340	9386	195.5	48	13.3	8.5	7.8	11.5

- 4.4.4 The reference and design flows for design year 2028 are calculated from the following formulae:

$$2028 \text{ Reference Flows} = 2023 \text{ Observed Flows} \times (1+1.00\%)^5 + \text{Traffic Flows Generated by Adjacent Planned Developments}$$

$$2028 \text{ Design Flows} = 2028 \text{ Reference Flows} + \text{Proposed Development Traffic}$$

4.4.5 Based on the observed traffic flows and pattern of existing and future road network, the 2028 peak hour Reference Flows at the critical junctions are presented in Figure 4.2. Meanwhile, the design Flows are presented in Figure 4.3.

4.5 Capacity Assessment Construction Stage and After Project Completion

Construction Stage Junction Capacity

4.5.1 Based on similar projects, it is assumed that the development would generate 3(3) and attract 3(3) no. of construction vehicles (i.e. generate 6(6) and attract 6(6) pcus), in the morning (afternoon) peak hours during weekdays. The project is anticipated to be completed 2025. The reference peak hours traffic flows and design peak hours traffic flows are shown in Figures 4.4 and 4.5 respectively. The results are summarised and presented in Table 4.4 and shown in Figure 4.6.

Jun No.	Junction Location	Type/ Capacity Index	2025					
			Reference			Design		
			AM	PM	Week end	AM	PM	Week end
J1	Luk Cheung Road /Hiram’s Highway / Marina Cove North Access	Priority / DFC	No Construction Traffic					
J2	Luk Mei Tsuen Road /Hiram’s Highway/ Marina Cove South Access	Signal / RC	Construction Traffic Free Flow from Hiram’s Highway Northbound Left Turning to Luk Mei Tsuen Road					
J3	Ho Chung Road /Hiram’s Highway	Signal / RC	102%	139%	N/A	100%	137%	N/A
J4	Nam Pin Wai Road / New Hiram’s Highway / Hiram’s Highway	Roundabout / DFC	0.61	0.53	N/A	0.61	0.53	N/A
J5	Hing Keng Shek Road / Hiram’s Highway	Roundabout / DFC	0.52	0.56	N/A	0.52	0.56	N/A

Notes: RC=reserved capacity; DFC=Design Flow/ Capacity Ratio

Table 4.4 2025 Construction Stage Junction Capacity

4.5.2 According to Table 4.4, the capacity of all the keys junctions would be performing satisfactorily during the peak periods for both the Reference and Design Scenarios.

Construction Stage Link Capability

4.5.3 The link capacity assessment results with reference to the net development are summarised in Table 4.5.

Link No.	Section of Hiram’s Highway	Link Capacity (veh/hr)	Reference Flow		Reference V/C Ratio		Design Flow		Design V/C Ratio	
			Daily Peak	Week end	Daily Peak	Week end	Daily Peak	Week end	Daily Peak	Week end
L1 (Sai Kung Bound)	Between Ho Chung Road and Luk Mei Tsuen Road	2600	1102	N/A	0.42	N/A	1108	N/A	0.43	N/A
L2 (Sai Kung Bound)	Between Ho Chung Road and Nam Pin Wai Road	2600	1208	N/A	0.41	N/A	1214	N/A	0.47	N/A
L2 (Kowloon Bound)	Between Ho Chung Road and Nam Pin Wai Road	2600	1313	N/A	0.50	N/A	1319	N/A	0.51	N/A

Notes: Based on TPDM Volume 2 Chapter 2.4 – Design Flow Characteristics, it is assumed 2600 veh/hour for dual two-lane carriageway for one direction of flow.

Table 4.5 2025 Construction Stage Link Capacity

4.5.4 It can be seen from Table 4.5 that all of the key links perform satisfactorily during the peak hours with adequate reserve capacities.

Future Junction Capacity

4.5.5 The widening of Hiram’s Highway was completed in 2021, the new signalised junction at Ho Chung Road has been assessed. Capacity assessments were carried out for the major junctions in the local network for both the Reference and Design scenarios. The results

are summarised and presented in Table 4.6 with detailed calculations sheets attached in Appendix A.

Jun No.	Junction Location	Type/ Capacity Index	2028					
			Reference			Design		
			AM	PM	Week end	AM	PM	Week end
J1	Luk Cheung Road /Hiram’s Highway / Marina Cove North Access	Priority / DFC	0.07	0.04	0.04	0.07	0.04	0.04
J2	Luk Mei Tsuen Road /Hiram’s Highway/ Marina Cove South Access	Signal / RC	141%	153%	144%	141%	153%	144%
J3	Ho Chung Road /Hiram’s Highway	Signal / RC	94%	130%	97%	93%	130%	96%
J4	Nam Pin Wai Road / New Hiram’s Highway / Hiram’s Highway	Roundabout / DFC	0.64	0.55	0.58	0.64	0.55	0.59
J5	Hing Keng Shek Road / Hiram’s Highway	Roundabout / DFC	0.54	0.59	0.51	0.54	0.59	0.51

Notes: RC=reserved capacity; DFC=Design Flow/ Capacity Ratio

Table 4.6 2028 Junction Capacity Assessments

4.5.6 According to Table 4.6, the capacity of all the key junctions would be preforming satisfactory during the peak periods for bother the Reference and Design Scenarios.

Future Link Capacity

4.5.7 The road link capacity assessment results with reference to the development traffic are summarised in Table 4.7.

Link No.	Section of Hiram’s Highway	Link Capacity (veh/hr)	Reference Flow		Reference V/C Ratio		Design Flow		Design V/C Ratio	
			Daily Peak	Week end	Daily Peak	Week end	Daily Peak	Week end	Daily Peak	Week end
L1 (Sai Kung Bound)	Between Ho Chung Road and Luk Mei Tsuen Road	2600	1147	999	0.44	0.38	1150	1003	0.44	0.39
L2 (Sai Kung Bound)	Between Ho Chung Road and Nam Pin Wai Road	2600	1256	1129	0.41	0.48	1259	1132	0.48	0.44
L2 (Kowloon Bound)	Between Ho Chung Road and Nam Pin Wai Road	2600	1370	1273	0.53	0.49	1373	1275	0.53	0.49

Notes: Based on TPDM Volume 2 Chapter 2.4 – Design Flow Characteristics, it is assumed 2600 veh/hour for dual two-lane carriageway for one direction of flow.

Table 4.7 2028 Link Capacity

4.5.8 Table 4.7 demonstrates that all of the key links perform satisfactorily during peak hours with adequate reserve capacities after completion of the improvement works.

5. Transport Provision

5.1 Parking and Loading/Unloading Provision

5.1.1 With reference to the proposed plan, 12 car parking spaces (6 ancillary carparking spaces and 6 accessible/visitor parking space) and one LGV loading/unloading bay are proposed to serve the needs occupants in Parcel A & B; 4 car parking spaces (2 ancillary carparking spaces and 2 accessible/visitor parking space) and one LGV loading/unloading bay are proposed to serve the needs occupants in Parcel C. This is summarised in Table 5.1.

Type of Parking Space/Bay	Provision
<i>Parcel A & B for 6 Houses</i>	
Private Car (2.5m X 5m)	6
Accessible Visitor (3. 5X 5m)	6
Loading/Unloading Bay (3.5 X 7m)	1
<i>Parcel C for 2 Houses</i>	
Private Car (2.5m X 5m)	2
Accessible Visitor (3. 5X 5m)	2
Loading/Unloading Bay (3.5 X 7m)	1

Table 5.1 Provision of Internal Transport

5.2 Hong Kong Planning Standards and Guidelines (HKPSG)

5.2.1 The car parking requirements and loading/unloading provisions for the proposed development in accordance with the HKPSG are listed in Table 5.2.

Development	Facility	HKPSG Standard	Required	Provision
Residential (8 units with avg. size of 299 sqm)	Car Parking	Global Parking Standard (GPS) = 1 Car space per 4-7 flats R1 = 7.0 for avg. flat size over 160 sqm R2 = 1 (outside a 500m radius of rail station) R3 = 1.3 of domestic plot ratio 0.00-1.00	11-19	16
	Loading/Unloading Bay	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.	2	2

Table 5.2 HKPSG Requirement and Provision

5.3 Ingress/Egress Points and Internal Manoeuvring

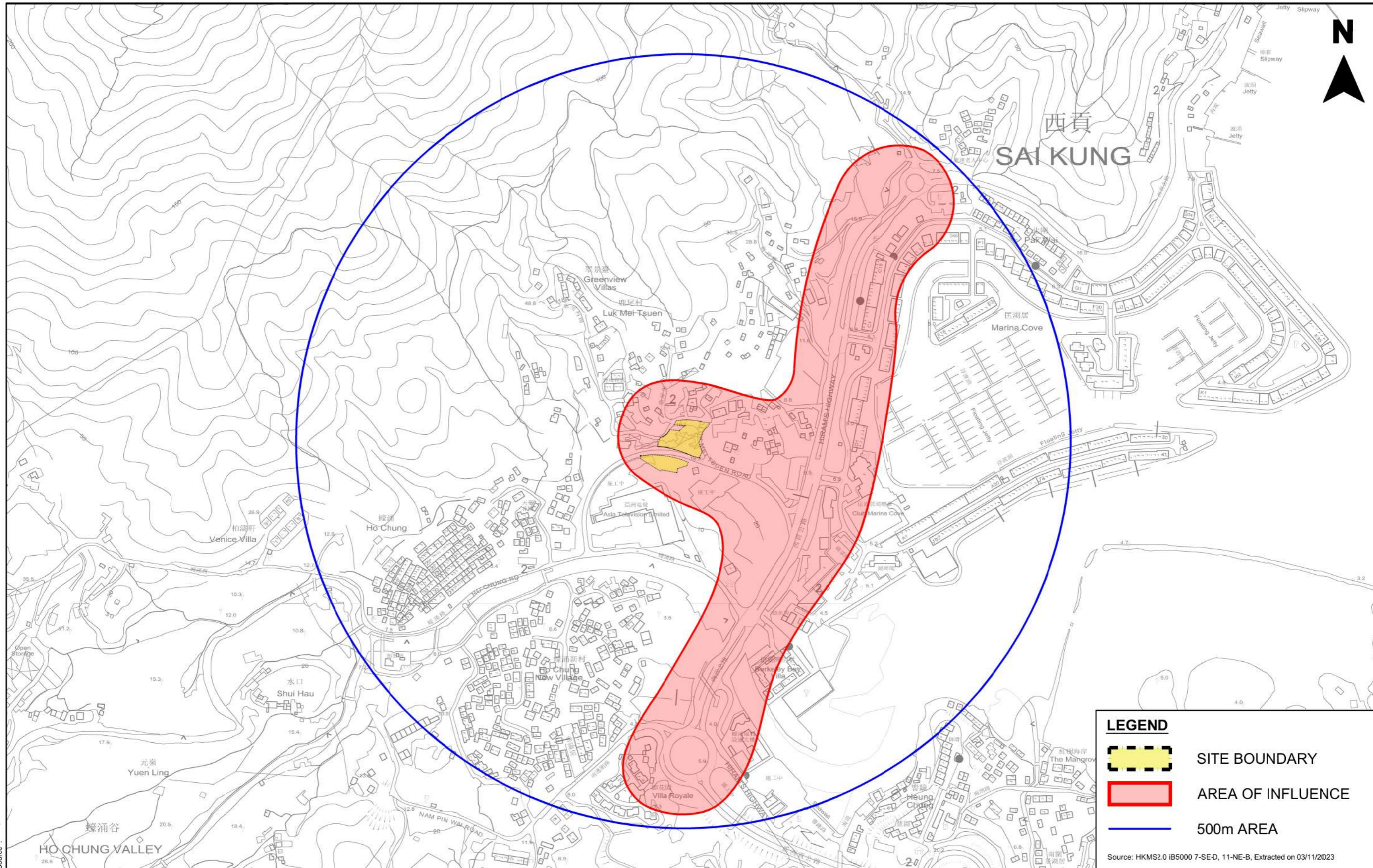
- 5.3.1 The proposed ingress and egress point to all Parcels of the Site will be from Ho Chung North Road. In all Parcels of the Site, adequate maneuvering space is proposed for the maneuvering within the Site for the vehicles such that no vehicle queuing outside the Site would occur as a result of the proposed developments. In addition, there will be no reverse onto/from Ho Chung North Road to the Site. [Figure 5.1]

6. Conclusions

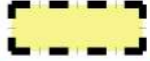


- 6.1.1 The traffic generation from the proposed development (including the construction period) is minimal in nature and will have minimal traffic impact to the surrounding network.
- 6.1.2 The proposed development would provide a total of 16 carparking spaces and 1 loading/unloading bay which fulfills the requirements of HKPSG.
- 6.1.3 The proposed development will provide adequate maneuvering space within all Parcels of the Site. Therefore, no queuing or reversing motion will occur at the street level.
- 6.1.4 As a result, it is concluded that the proposed development would not generate any significant adverse impact to the traffic of the surrounding vicinity of the Site.

Figures

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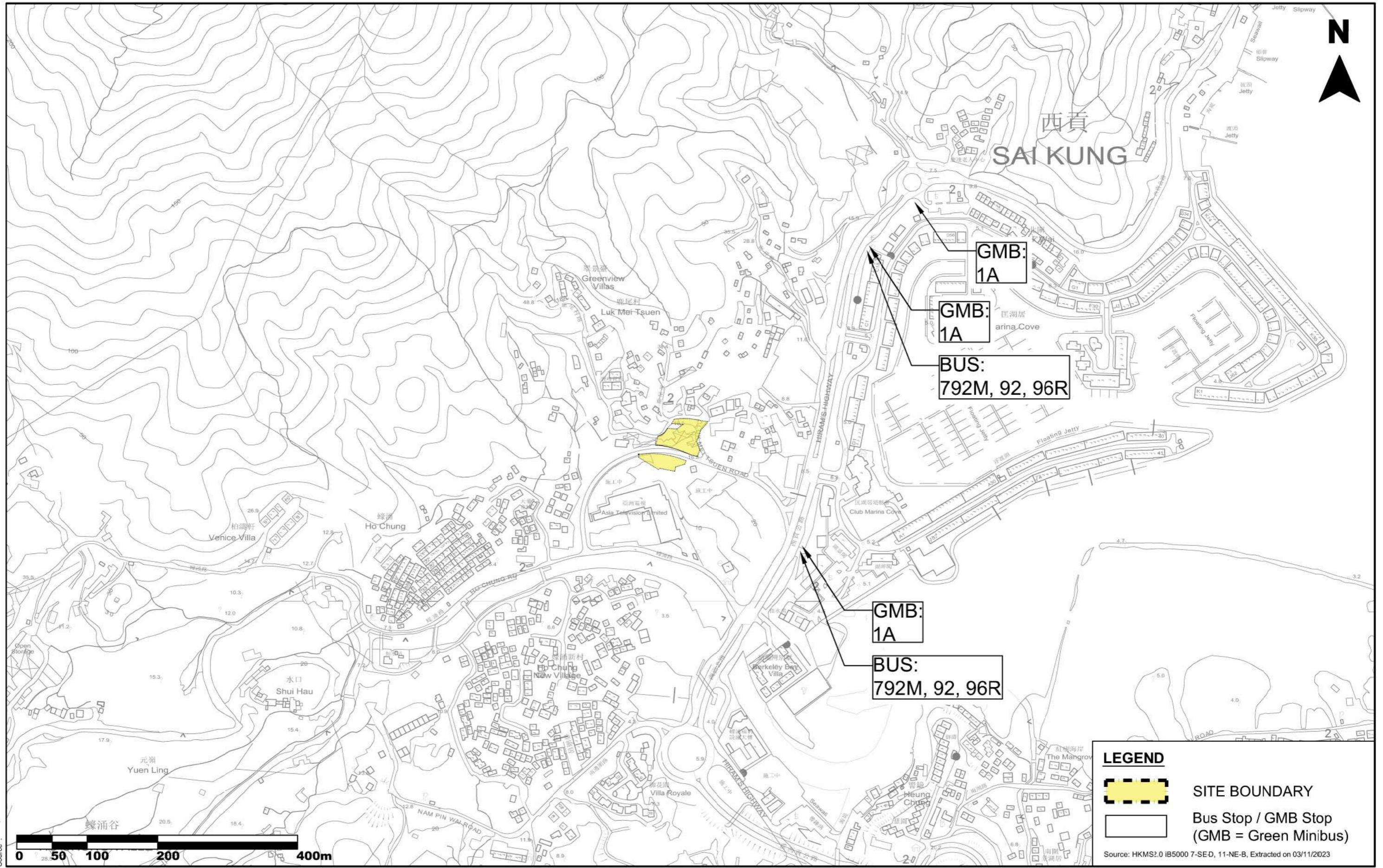
LEGEND

-  SITE BOUNDARY
-  AREA OF INFLUENCE
-  500m AREA

Source: HKMS2.0 IB5000 7-SED, 11-NE-B, Extracted on 03/11/2023

File Name :
Source :

 PRUDENTIAL SURVEYING · LAND ADVISORY · VALUATION	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as 'Road' to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title STUDY AREA AND AREA OF INFLUENCE		Drawn HY	Date 03/11/2023	Drawing No. Fig. 1.1
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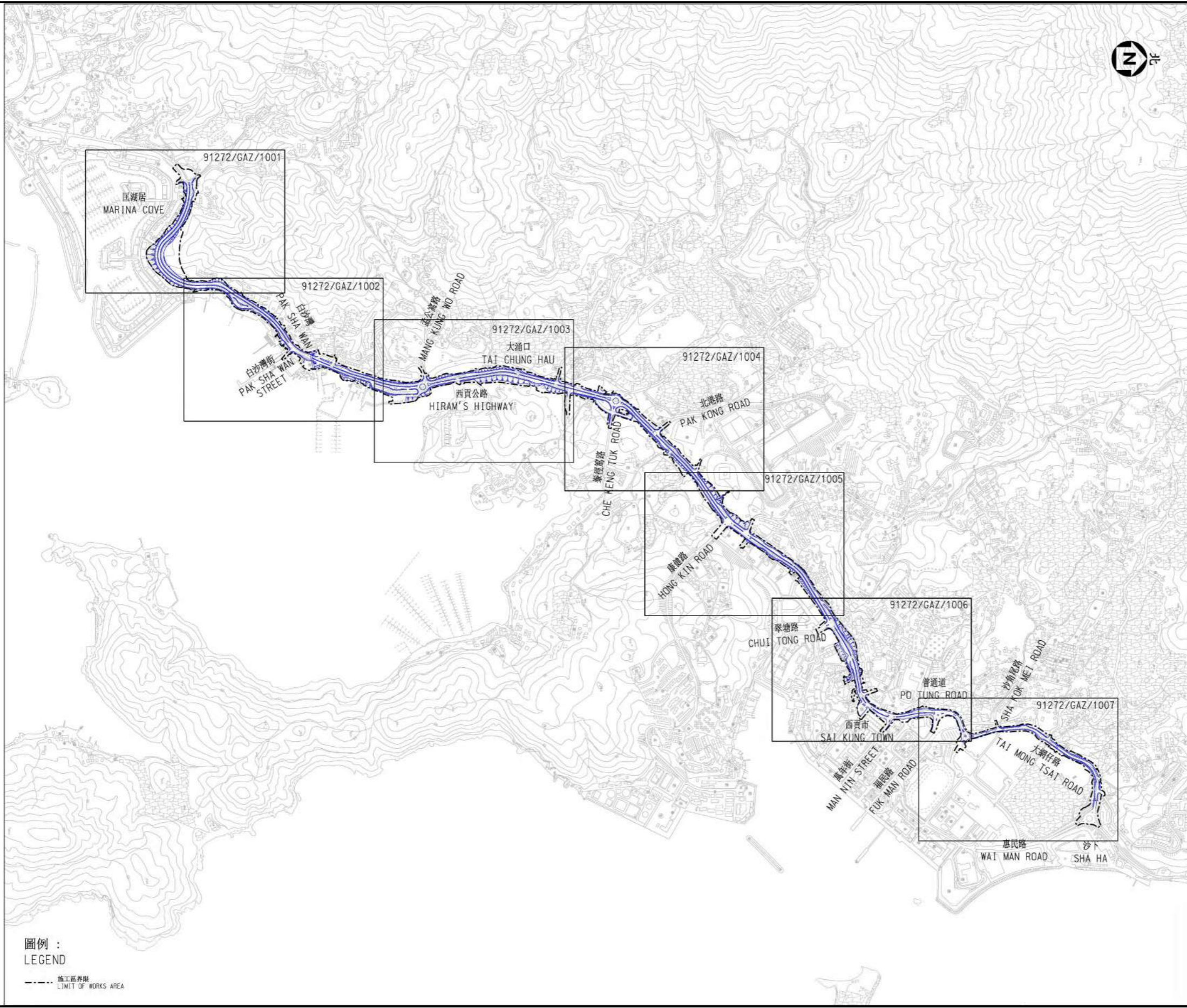
-  SITE BOUNDARY
-  Bus Stop / GMB Stop (GMB = Green Minibus)

Source: HKMS2.0 IB5000 7-SE-D, 11-NE-B, Extracted on 03/11/2023

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Rev	Description	Date	Scale	1:5000 @ A3	Rev.	-			

File Name :
Source :



- 註釋 NOTES :**
- 除在其他方面指定外, 所有量度以米為單位。
ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
 - 所有水平均為約數, 以米為單位, 並在香港主水平基準上。
ALL LEVELS ARE APPROXIMATE VALUES AND IN METRES ABOVE HONG KONG PRINCIPAL DATUM.
 - 如有需要, 施工區界線內部分現有行車道、行人路、中央分隔帶/安全島及美化帶等設施或路段將暫時封閉。
SECTIONS OF THE EXISTING CARRIAGEWAYS, FOOTPATHS, CENTRAL MEDIANS/REFUGE ISLANDS AND AMENITY AREAS WITHIN THE LIMIT OF WORKS AREA MAY BE TEMPORARILY CLOSED IN PHASES AS AND WHEN REQUIRED.

圖例 :
LEGEND

--- 施工區界線
LIMIT OF WORKS AREA

工程名稱 PROJECT TITLE
工務計劃項目第6806TH號
匡湖居至西貢市之間的西貢公路分隔車道工程
PWP ITEM NO. 6806TH
DUALLING OF HIRAM'S HIGHWAY
FROM MARINA COVE TO SAI KUNG TOWN

圖則名稱 PLAN TITLE
根據《道路(工程、使用及補償)條例》
(第370章)而在憲報公布之圖則
PLAN FOR GAZETTING UNDER ROADS
(WORKS, USE AND COMPENSATION)
ORDINANCE (CHAPTER 370)

圖則編號 PLAN NO. 1:000
91272/GAZ/1000

比例 SCALE 1:6000 @ A1

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主要工程管理處
Major Works
Project Management Office

路政署
HIGHWAYS
DEPARTMENT

CAD File: 91272_GAZ_1000.dgn



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244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 8333
FAX: 2598 6576

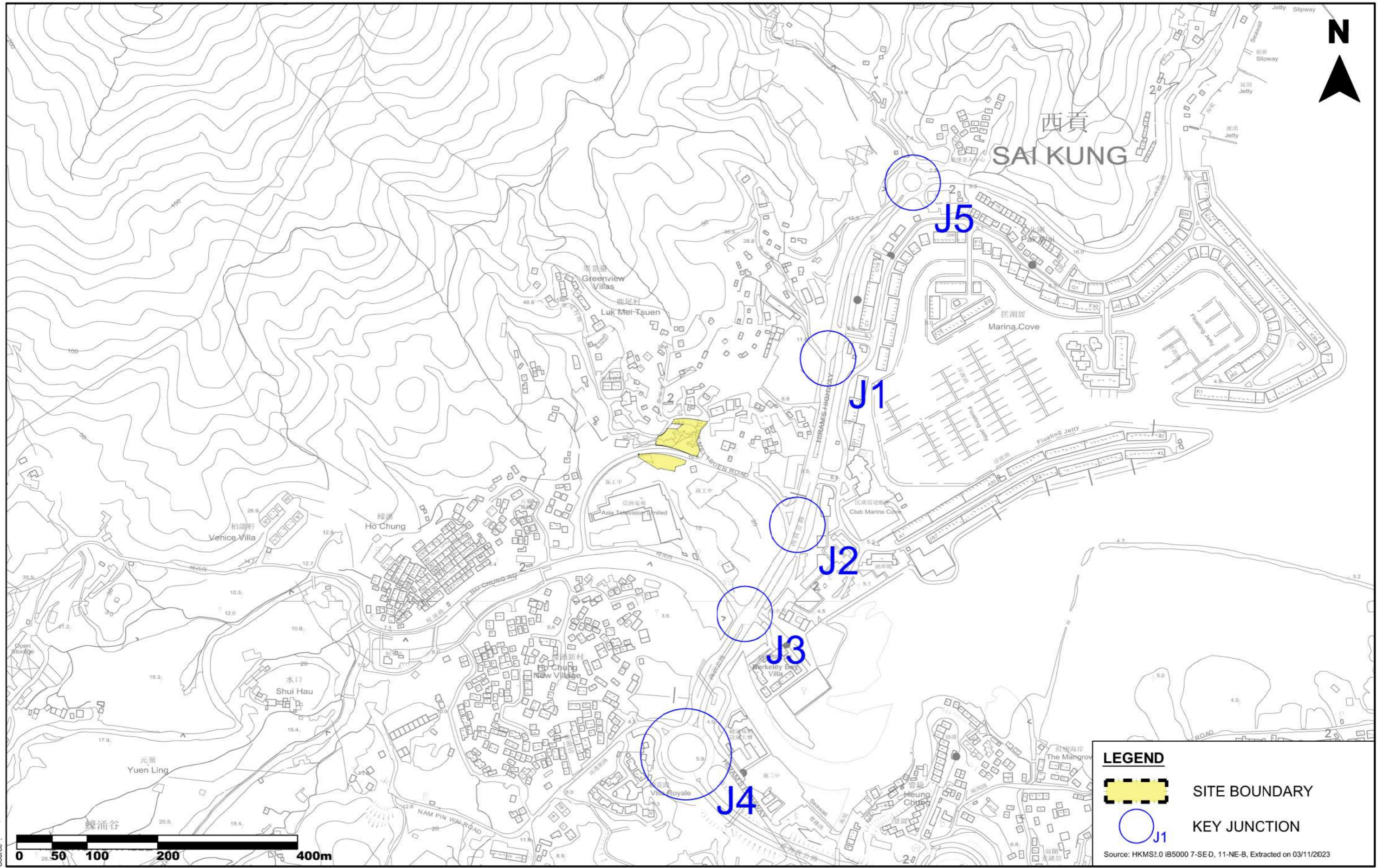
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Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)"), "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
Location of Stage 2 of the Hiram's Highway Improvement Project

Rev	Description	Date

Drawn	HY	Date	03/11/2023
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Drawing No.	Fig. 3.2
Rev.	-




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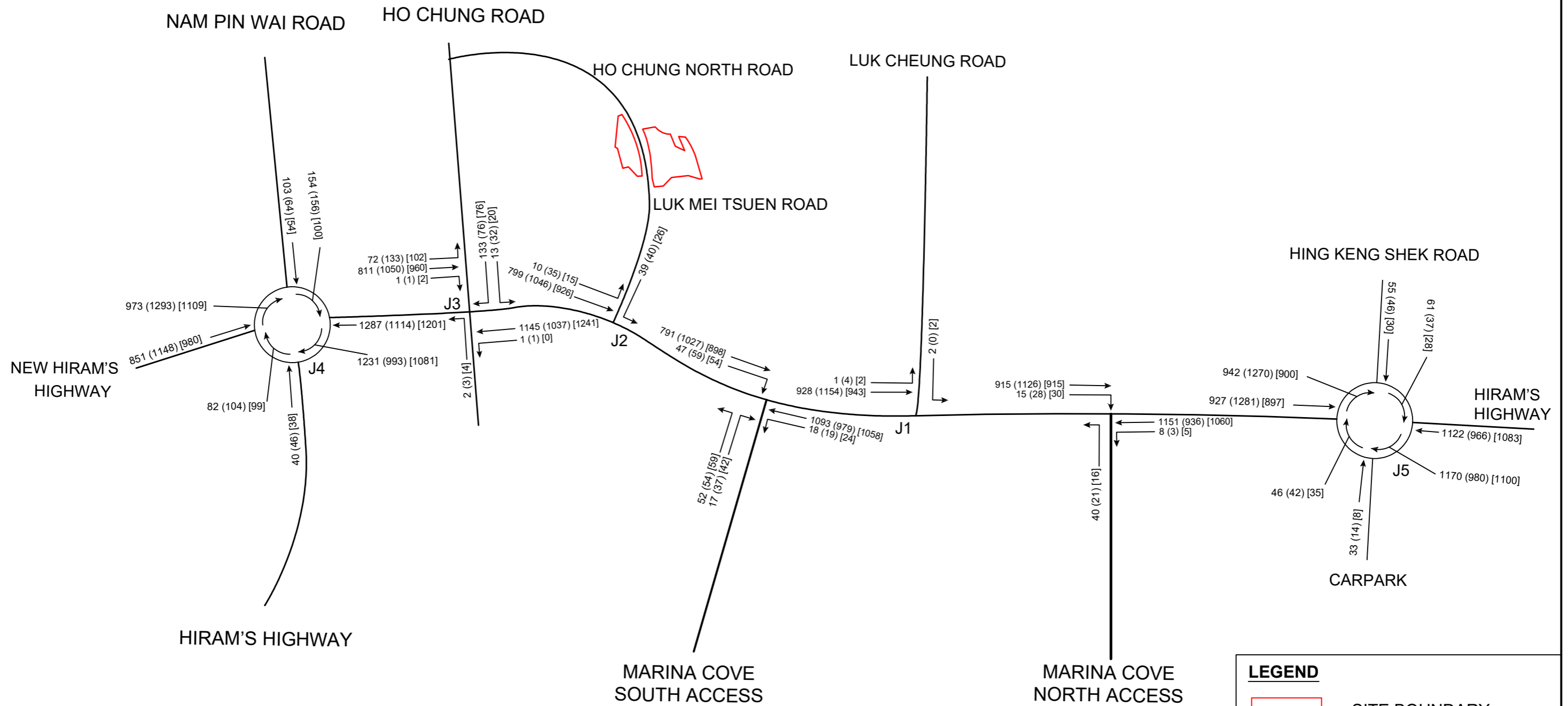
 SITE BOUNDARY

 KEY JUNCTION

Source: HKMS2.0 IB5000 7-SED, 11-NE-B, Extracted on 03/11/2023

File Name :
Source :

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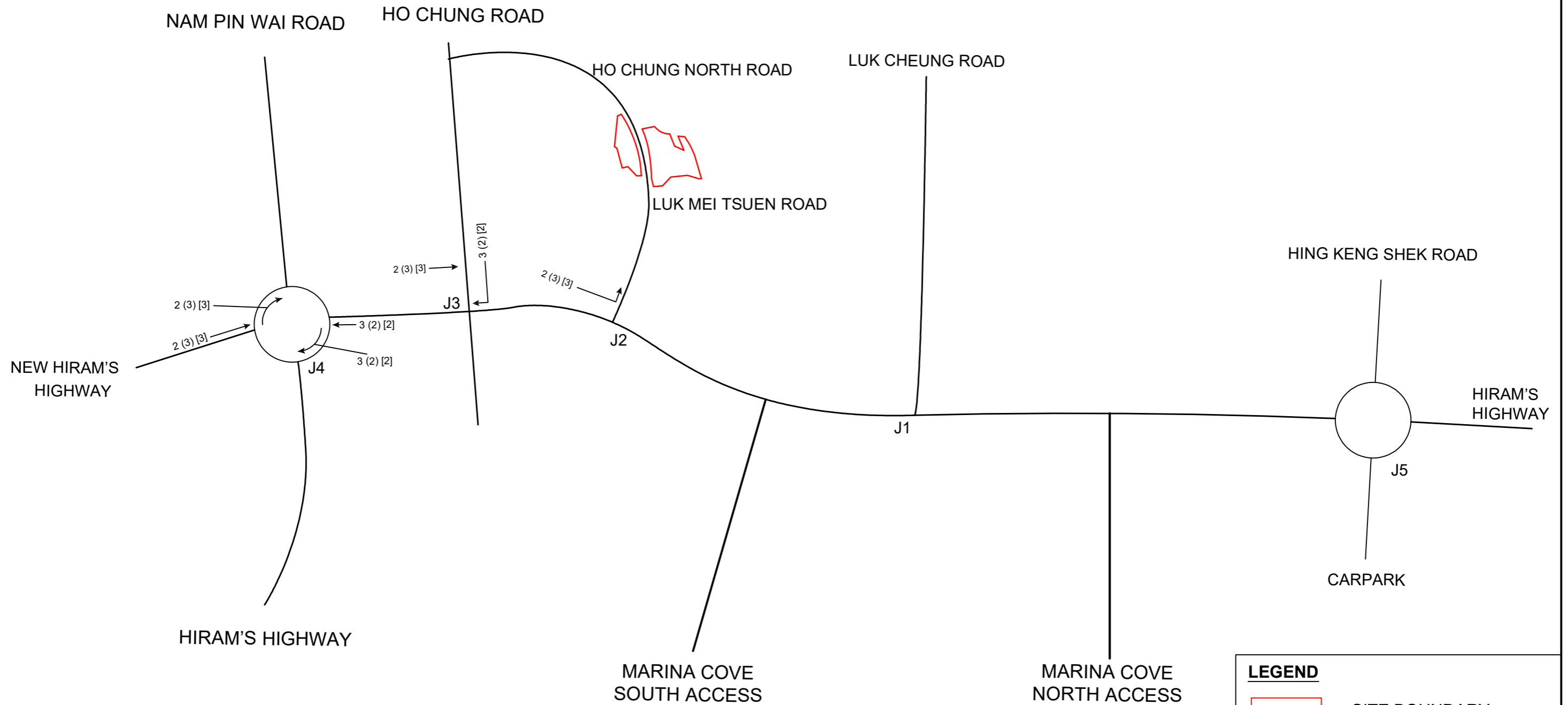


LEGEND

- SITE BOUNDARY
- J1 KEY JUNCTIONS
- XX (XX) [XX] WEEKDAY AM (WEEKDAY PM) [WEEKEND PM] PEAK HOUR TRAFFIC FLOW IN PCU/HR

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title 2023 OBSERVED PEAK HOURS TRAFFIC FLOWS	Drawn HY	Date 03/11/2023	Drawing No. Fig. 3.4
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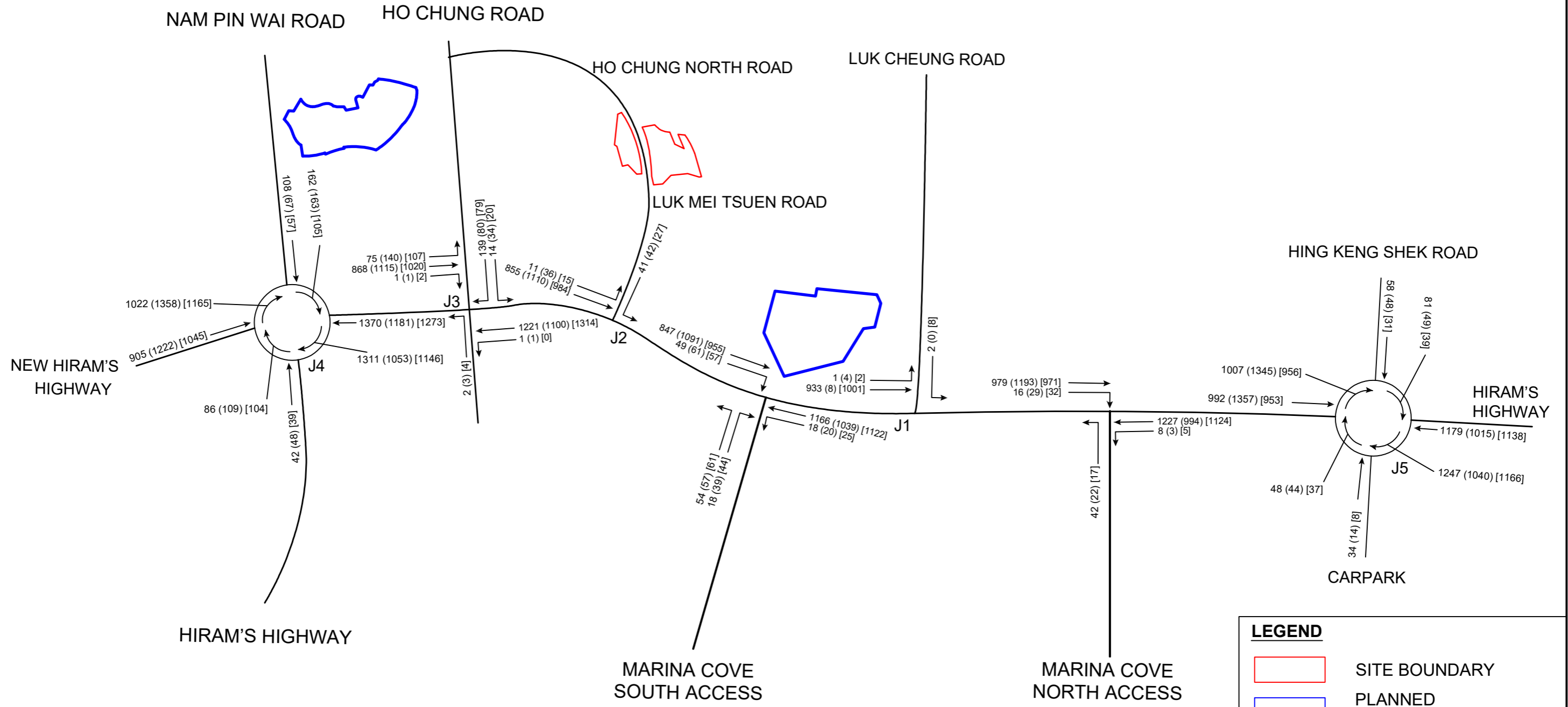


LEGEND

- SITE BOUNDARY
- J1** KEY JUNCTIONS
- XX (XX) [XX] WEEKDAY AM (WEEKDAY PM)
[WEEKEND PM] PEAK HOUR
TRAFFIC FLOW IN PCU/HR

File Name : .
Source : .

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title 2028 NET PEAK HOURS DEVELOPMENT TRAFFIC FLOWS		Drawn: HY Date: 03/11/2023 Checked: RT Approved: FW	Drawing No. Fig. 4.1
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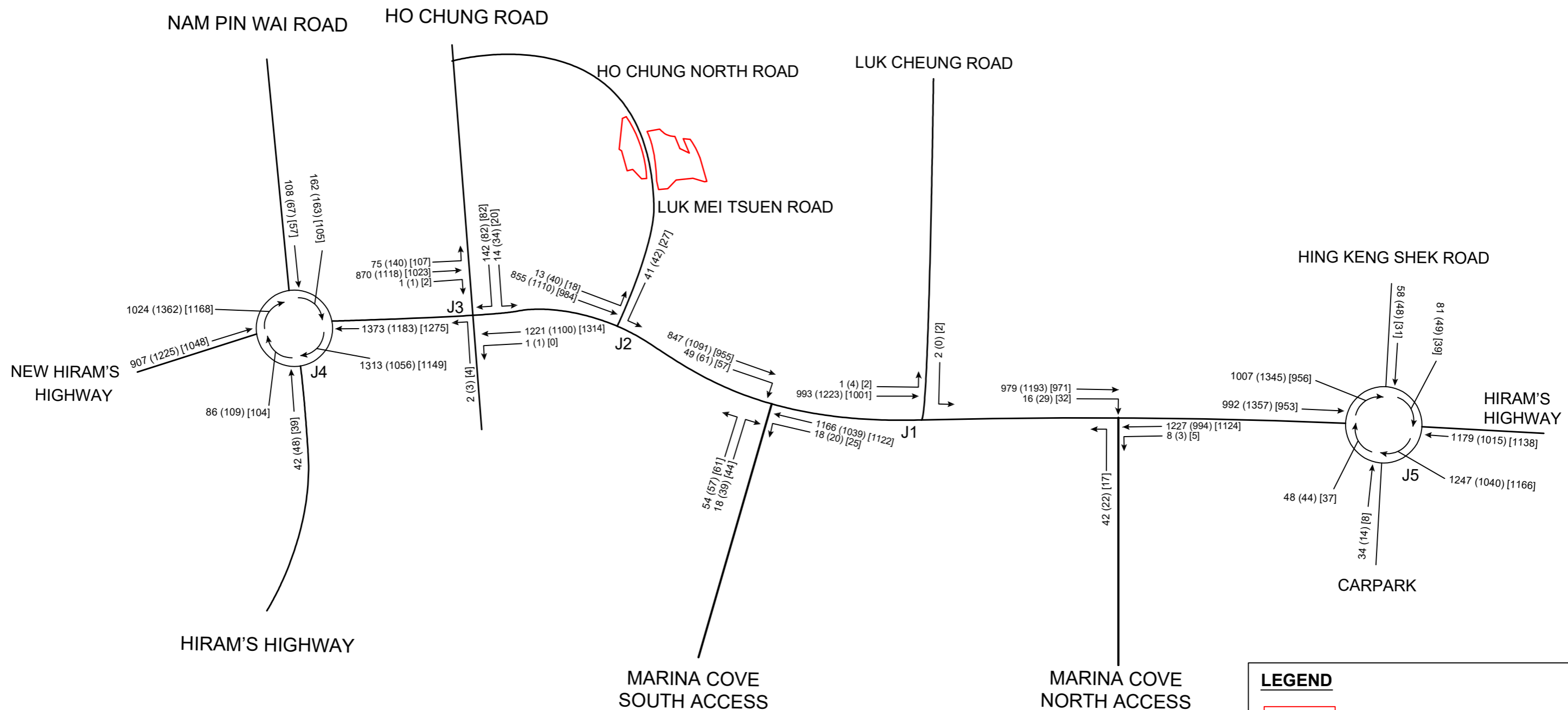


LEGEND

- SITE BOUNDARY
- PLANNED DEVELOPMENTS
- J1** KEY JUNCTIONS
- XX (XX) [XX] WEEKDAY AM (WEEKDAY PM)
[WEEKEND PM] PEAK HOUR TRAFFIC FLOW IN PCU/HR

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 8576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title 2028 REFERENCE PEAK HOURS TRAFFIC FLOWS		Drawn: HY Checked: RT Date: 03/11/2023 Approved: FW	Drawing No. Fig. 4.2					
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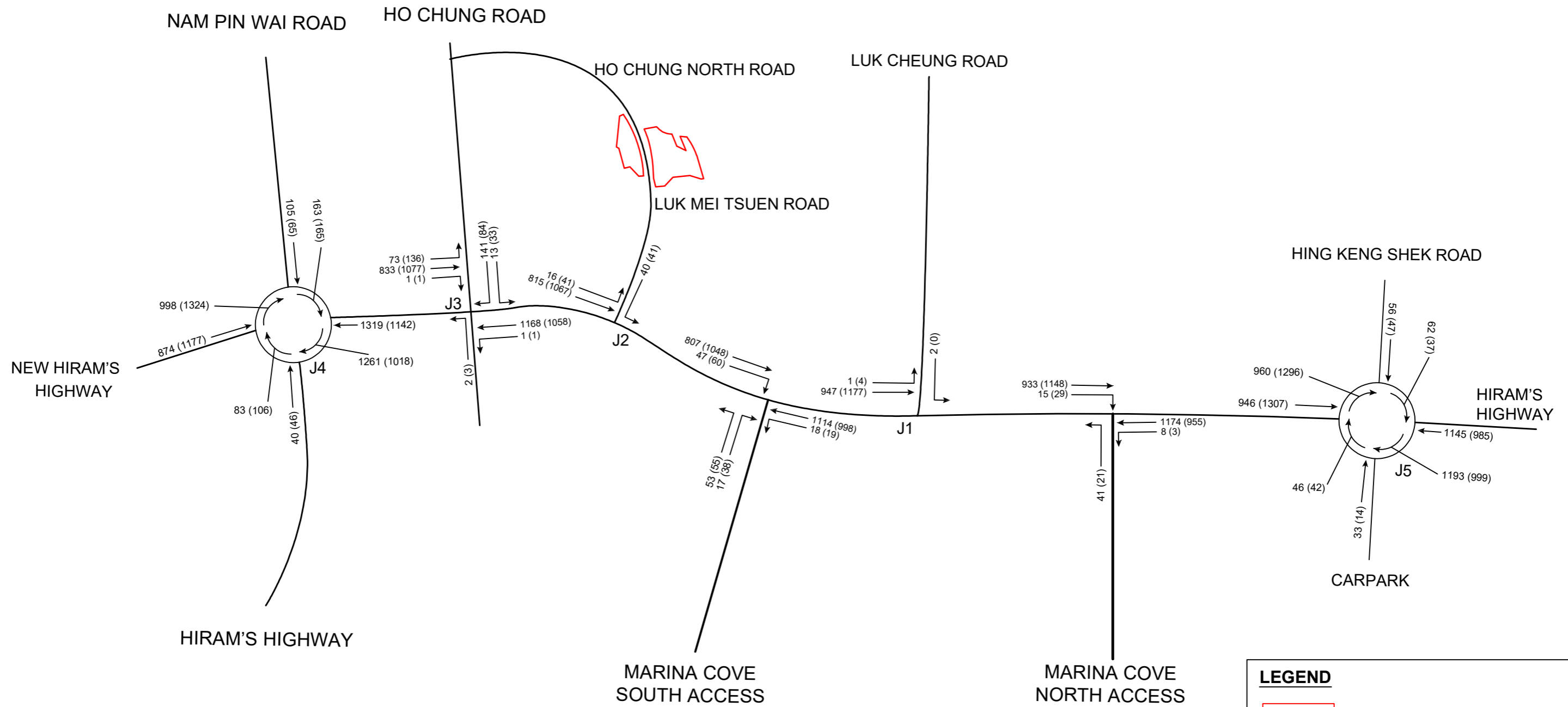



LEGEND

- SITE BOUNDARY
- J1** KEY JUNCTIONS
- XX (XX) [XX] WEEKDAY AM (WEEKDAY PM)
[WEEKEND PM] PEAK HOUR
TRAFFIC FLOW IN PCU/HR

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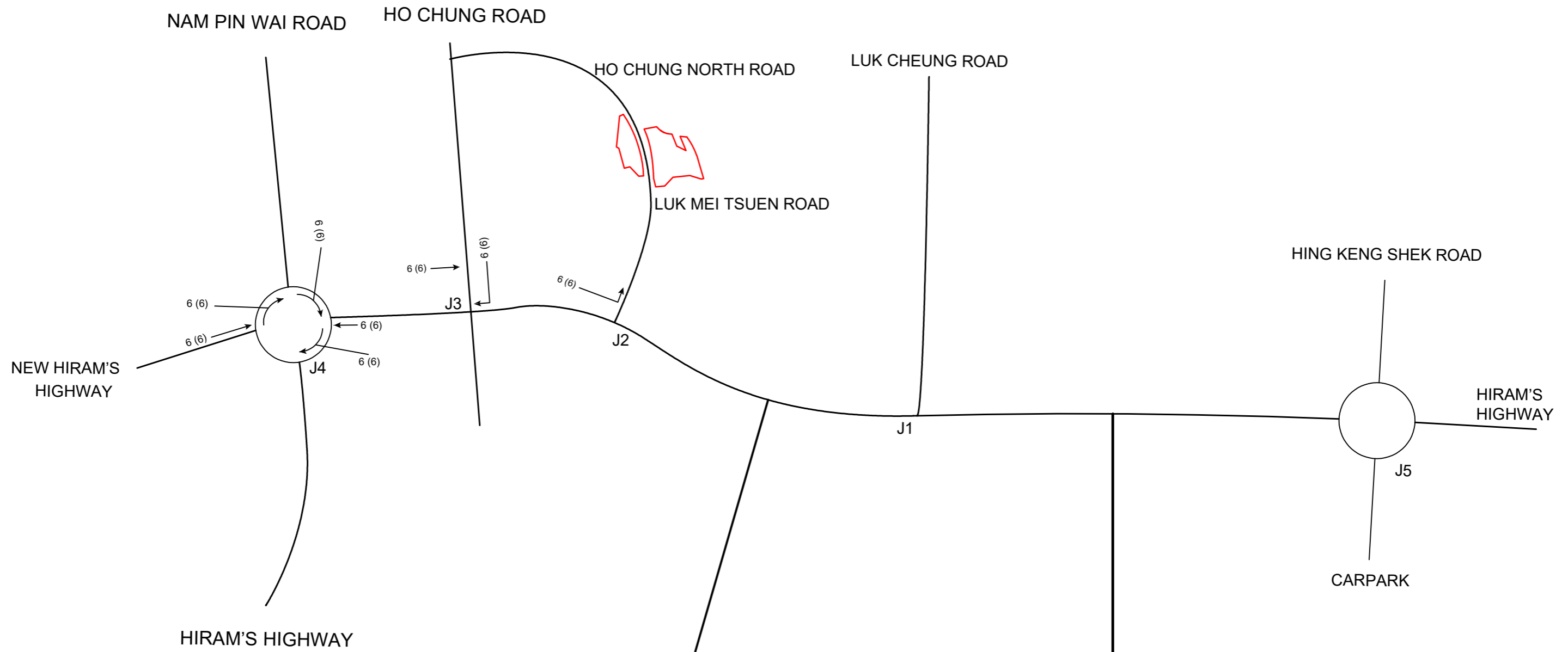
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	Rev: Description Date	Scale: N.T.S.	Rev: -			



LEGEND	
	SITE BOUNDARY
J1	KEY JUNCTIONS
XX (XX)	WEEKDAY AM (WEEKDAY PM) PEAK HOUR TRAFFIC FLOW IN PCU/HR

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 8576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title 2025 DESIGN PEAK HOURS TRAFFIC FLOWS	Drawn HY	Date 03/11/2023	Drawing No. Fig. 4.5
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Rev	Description	Date	Scale N.T.S.	Rev.	-	

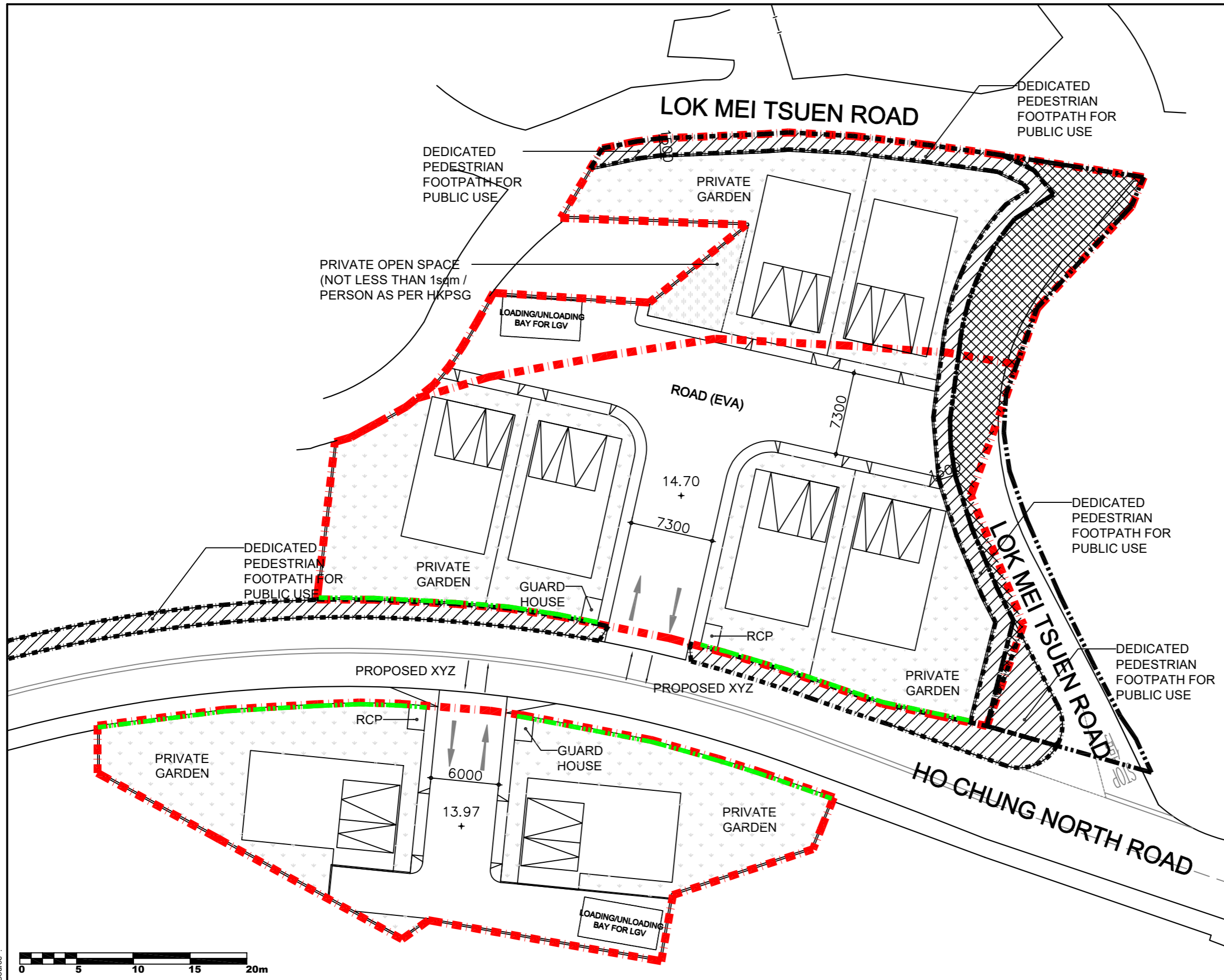


LEGEND




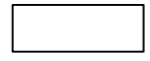
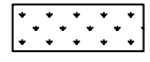
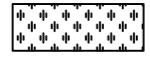

- SITE BOUNDARY
- J1** KEY JUNCTIONS
- XX (XX) WEEKDAY AM (WEEKDAY PM)
PEAK HOUR TRAFFIC FLOW IN
PCU/HR

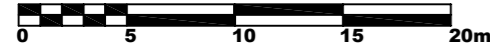
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	Checked RT	Approved FW	Scale N.T.S.	Rev Description Date	Rev Description Date	Rev Description Date




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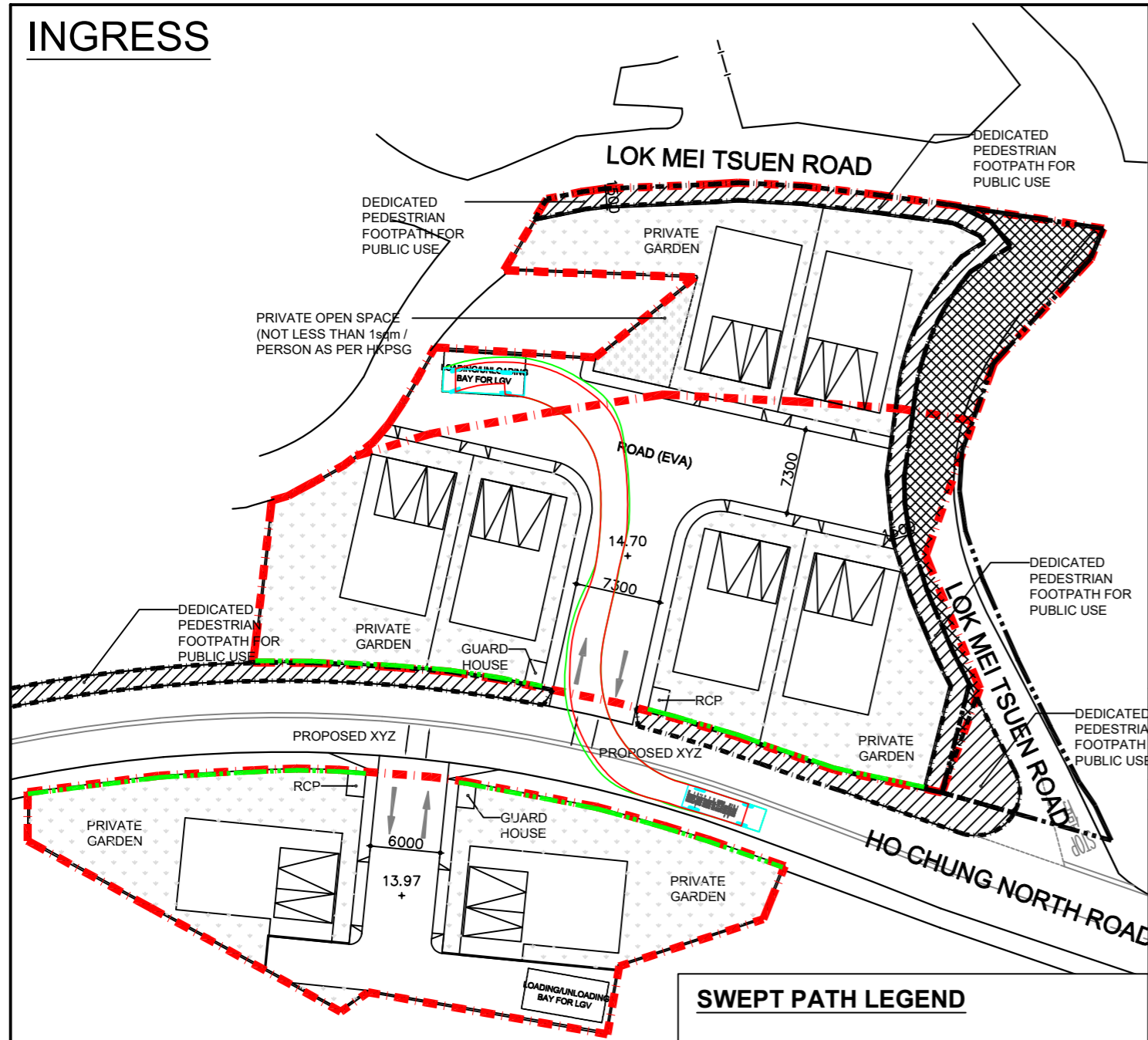
-  SITE BOUNDARY
-  AREA TO BE DEDICATED AS RIGHT OF WAY
-  DEDICATED PEDESTRIAN FOOTPATH FOR PUBLIC USE
-  BUILDING FOOTPRINT
-  PRIVATE GARDEN
-  PRIVATE OPEN SPACE
-  GREEN NOISE BARRIER



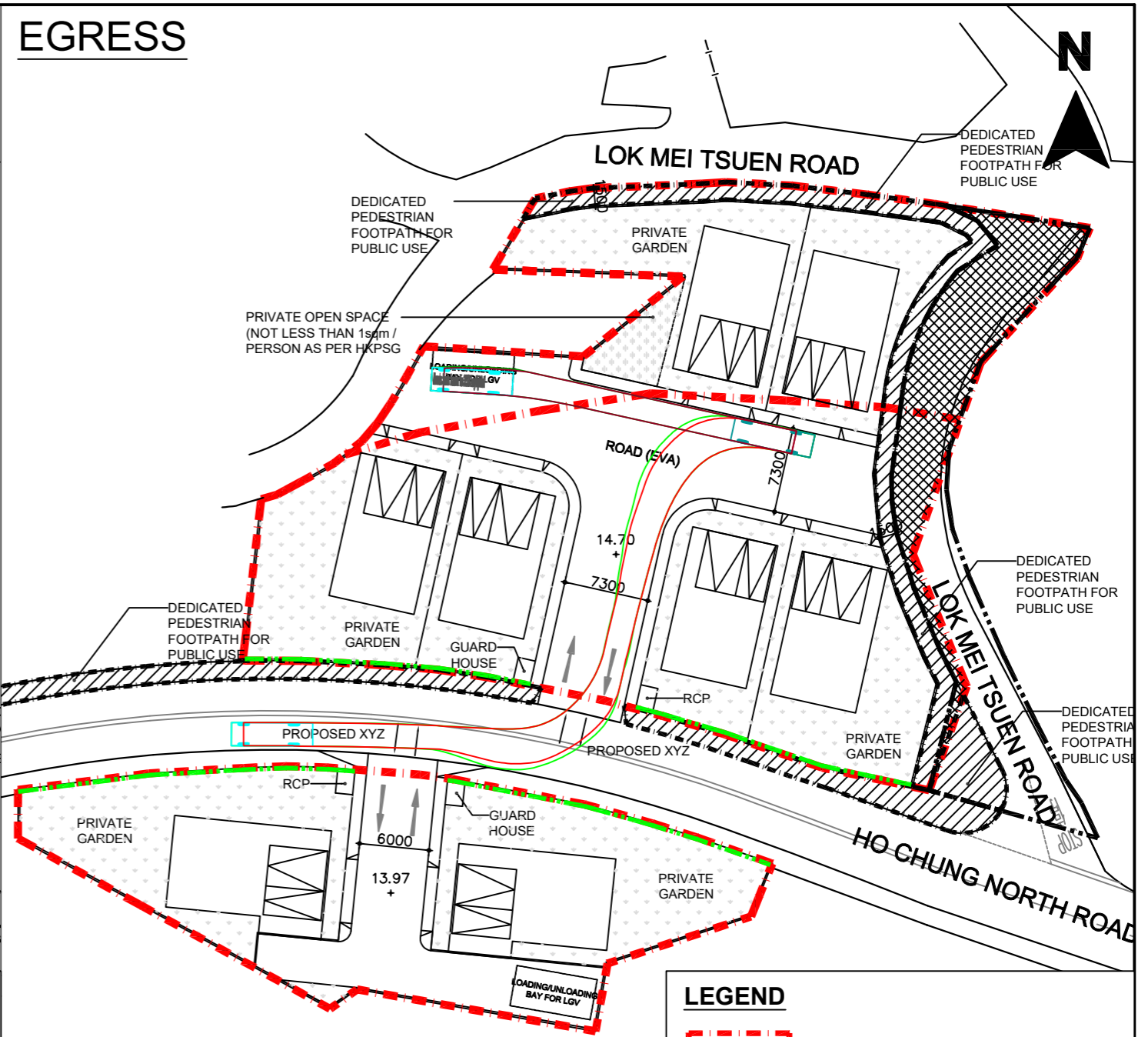
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	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title INTERNAL TRAFFIC LAYOUT				Drawn HY	Date 18/12/2023	Drawing No. Fig. 5.1						
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Rev	Description	Date													

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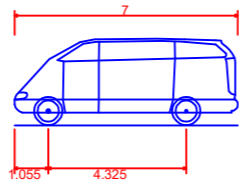


EGRESS



SWEPT PATH LEGEND

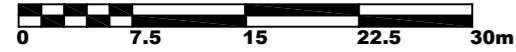
— OUTER MOST PATH
— INNER MOST PATH



Mercedes Sprinter Traveliner Van 315CDI Long High Roof
 Overall Length 7.000m
 Overall Width 1.993m
 Overall Body Height 2.715m
 Min Body Ground Clearance 0.400m
 Track Width 1.993m
 Lock-to-lock time 5.00s
 Wall to Wall Turning Radius 7.800m

LEGEND

- SITE BOUNDARY
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- BUILDING FOOTPRINT
- PRIVATE GARDEN
- PRIVATE OPEN SPACE
- GREEN NOISE BARRIER



File Name :
Source :

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 TEL: 2507 8333
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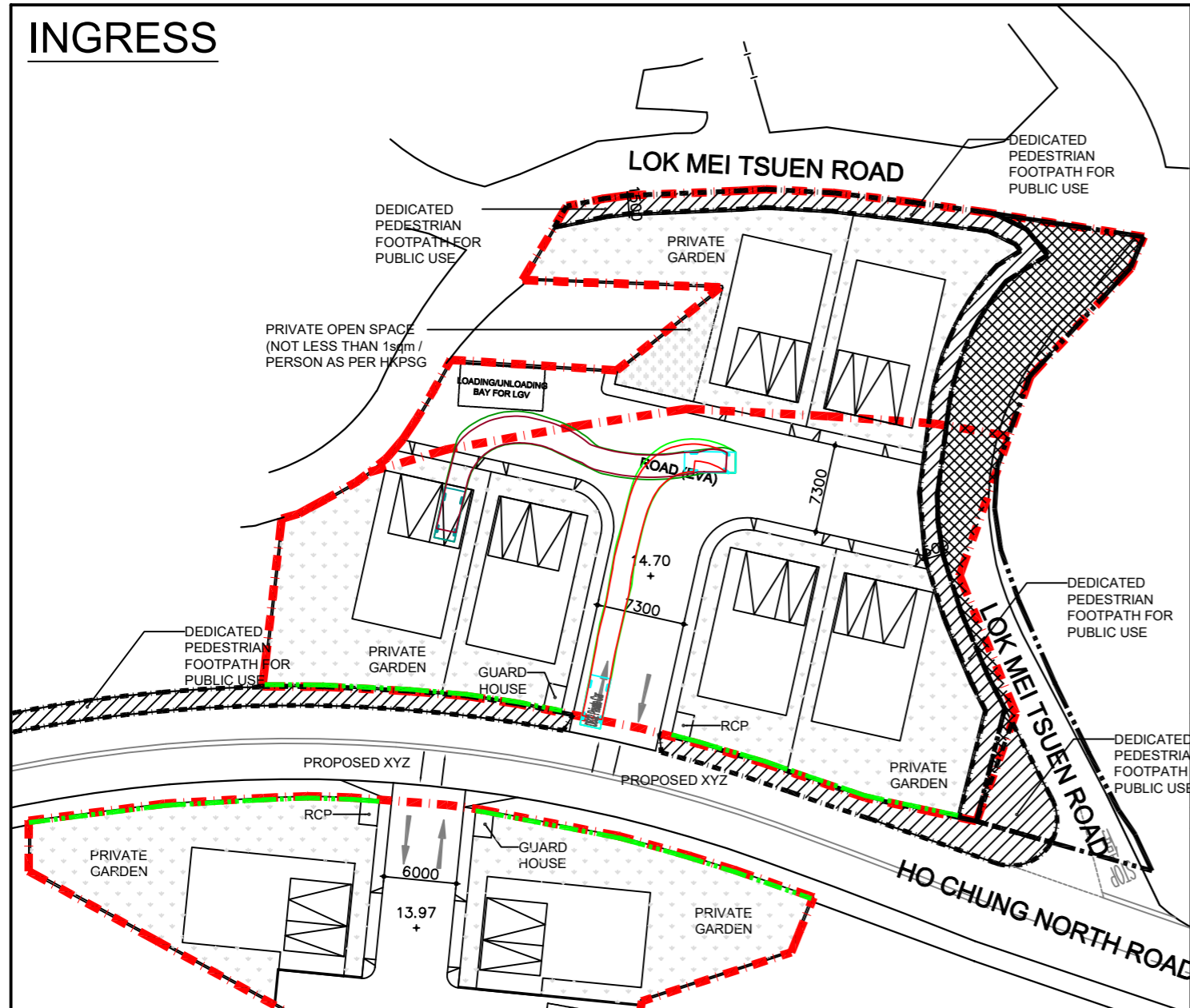
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Drawing Title
SWEPT PATH ANALYSIS (PARCEL A AND B)

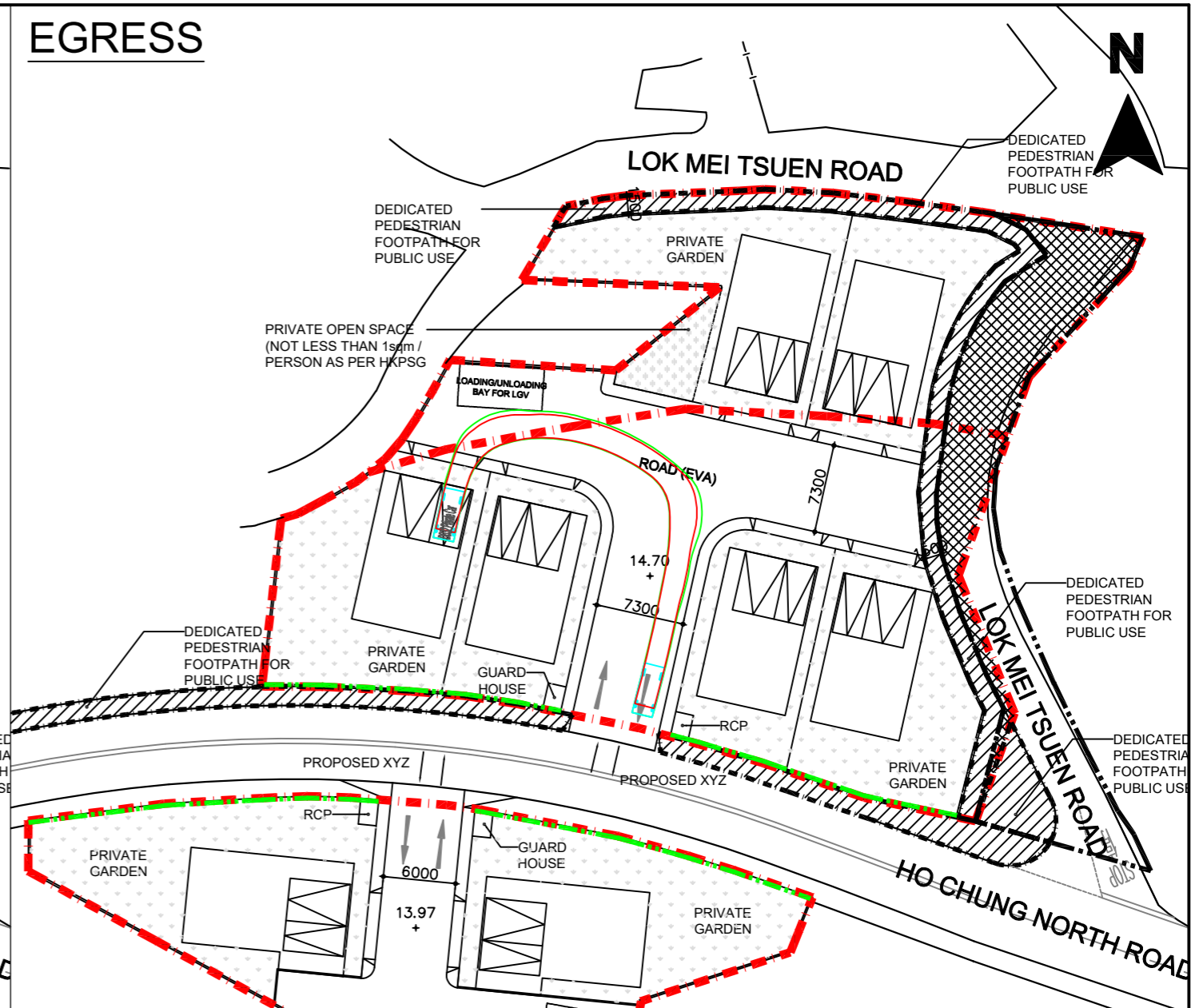
Rev	Description	Date

Drawn	HY	Date	18/12/2023	Drawing No.	Fig. 5.2
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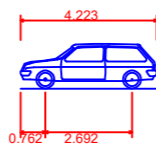


EGRESS



SWEPT PATH LEGEND

— OUTER MOST PATH
— INNER MOST PATH



DB32 Private Car
 Overall Length 4.223m
 Overall Width 1.715m
 Overall Body Height 1.392m
 Min Body Ground Clearance 0.233m
 Max Track Width 1.629m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 5.780m

LEGEND

- SITE BOUNDARY
- AREA TO BE DEDICATED AS RIGHT OF WAY
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- BUILDING FOOTPRINT
- PRIVATE GARDEN
- PRIVATE OPEN SPACE
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File Name :
Source :



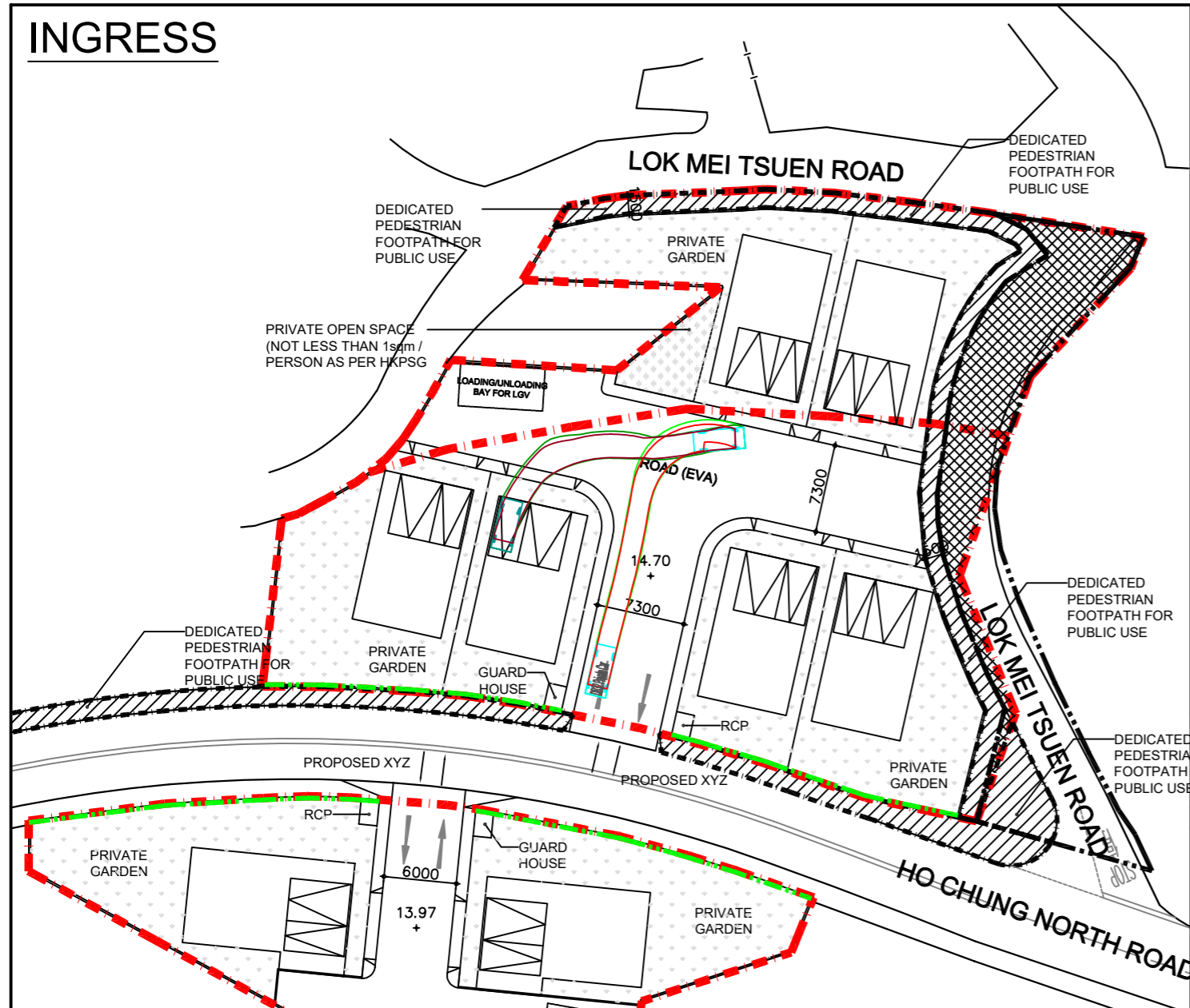
ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
 244 DES VOEUX ROAD CENTRAL HONG KONG
 TEL: 2507 8333
 FAX: 2598 6576

JOB TITLE:
 Amendment of Plan to Rezone 2 from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

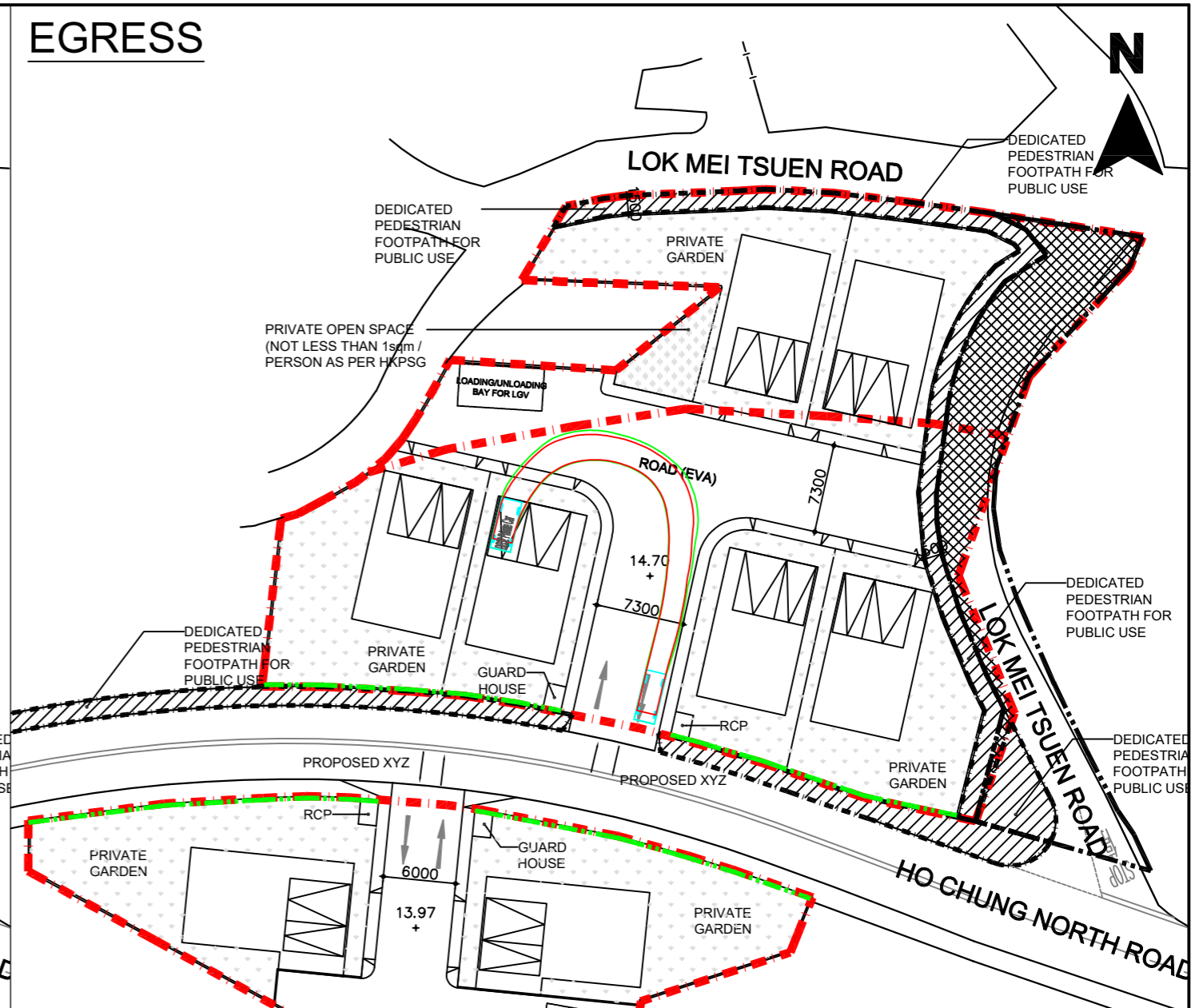
Drawing Title
 SWEPT PATH ANALYSIS
 (PARCEL A AND B)

Drawn	HY	Date	18/12/2023	Drawing No.	
Checked	RT	Approved	FW	Fig. 5.2 A	
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Rev	Description	Date			

INGRESS

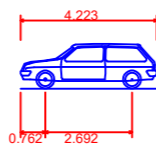


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SWEPT PATH LEGEND

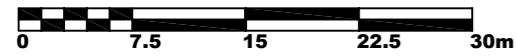
— OUTER MOST PATH
— INNER MOST PATH



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LEGEND

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JOB TITLE:

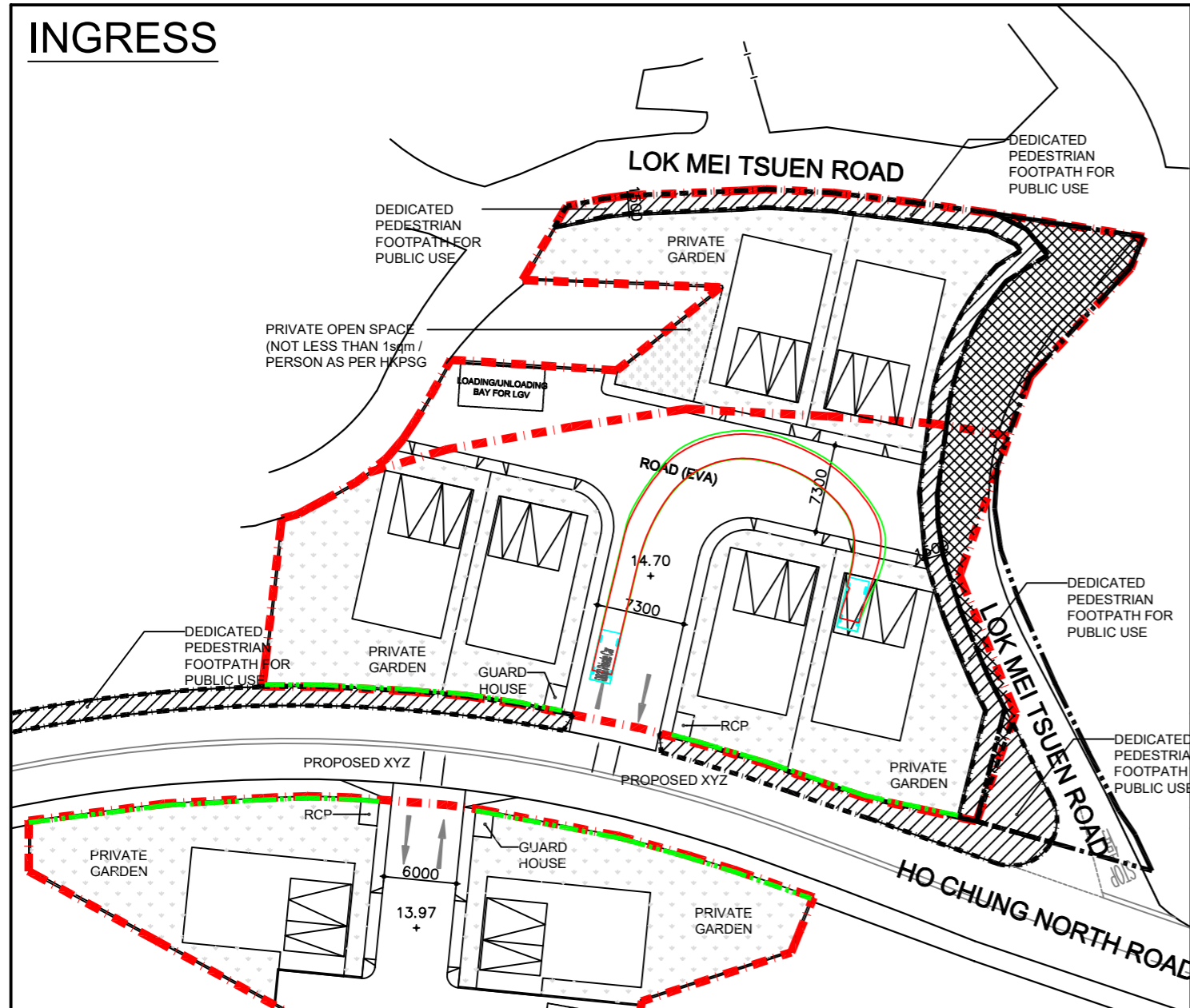
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Drawing Title

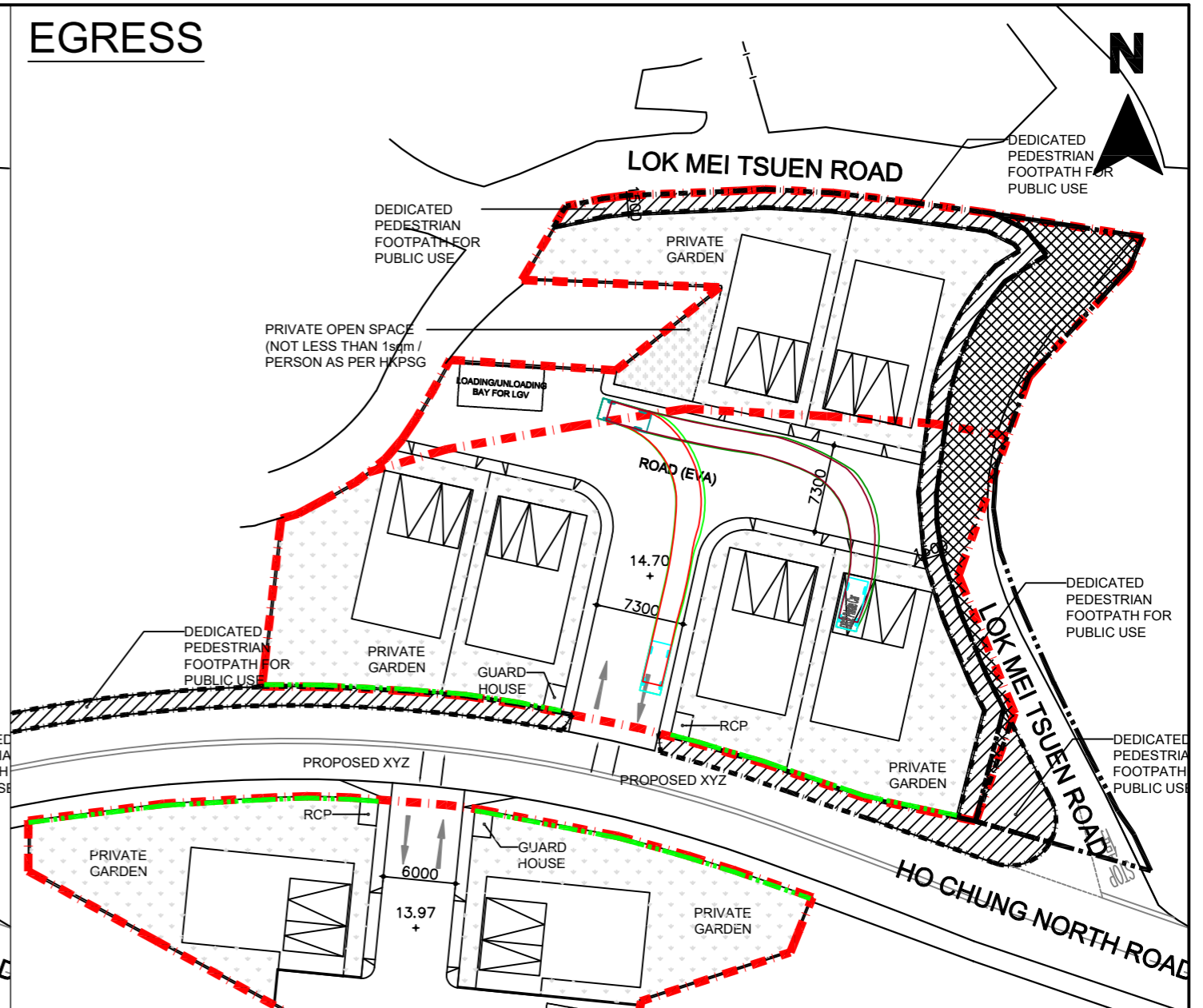
SWEPT PATH ANALYSIS (PARCEL A AND B)

Drawn	HY	Date	18/12/2023	Drawing No.	
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Rev	Description	Date			

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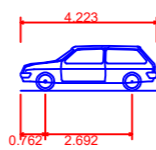


EGRESS



SWEPT PATH LEGEND

— OUTER MOST PATH
— INNER MOST PATH



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LEGEND

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- PRIVATE OPEN SPACE
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File Name :
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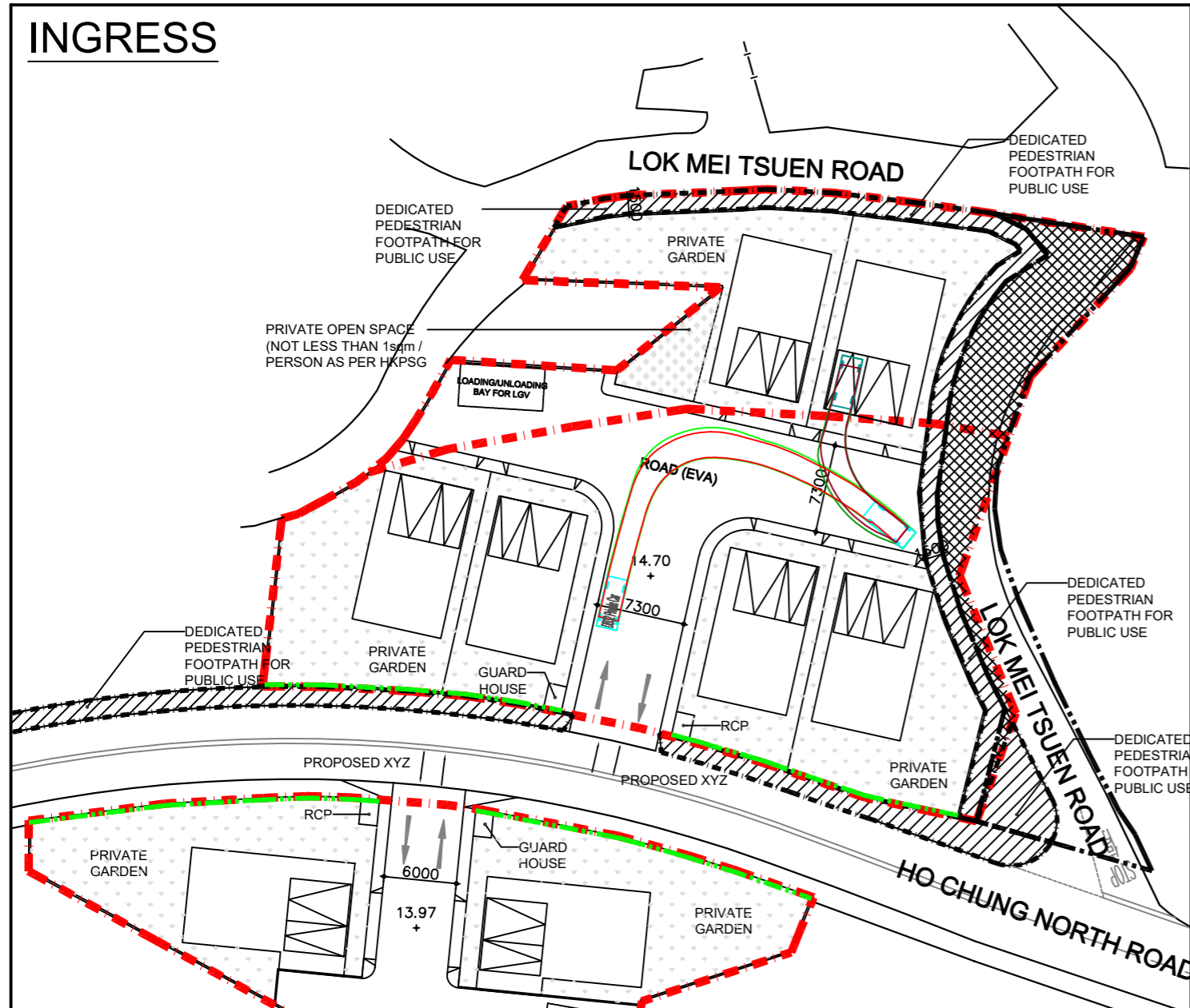
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SWEPT PATH ANALYSIS (PARCEL A AND B)

Rev	Description	Date

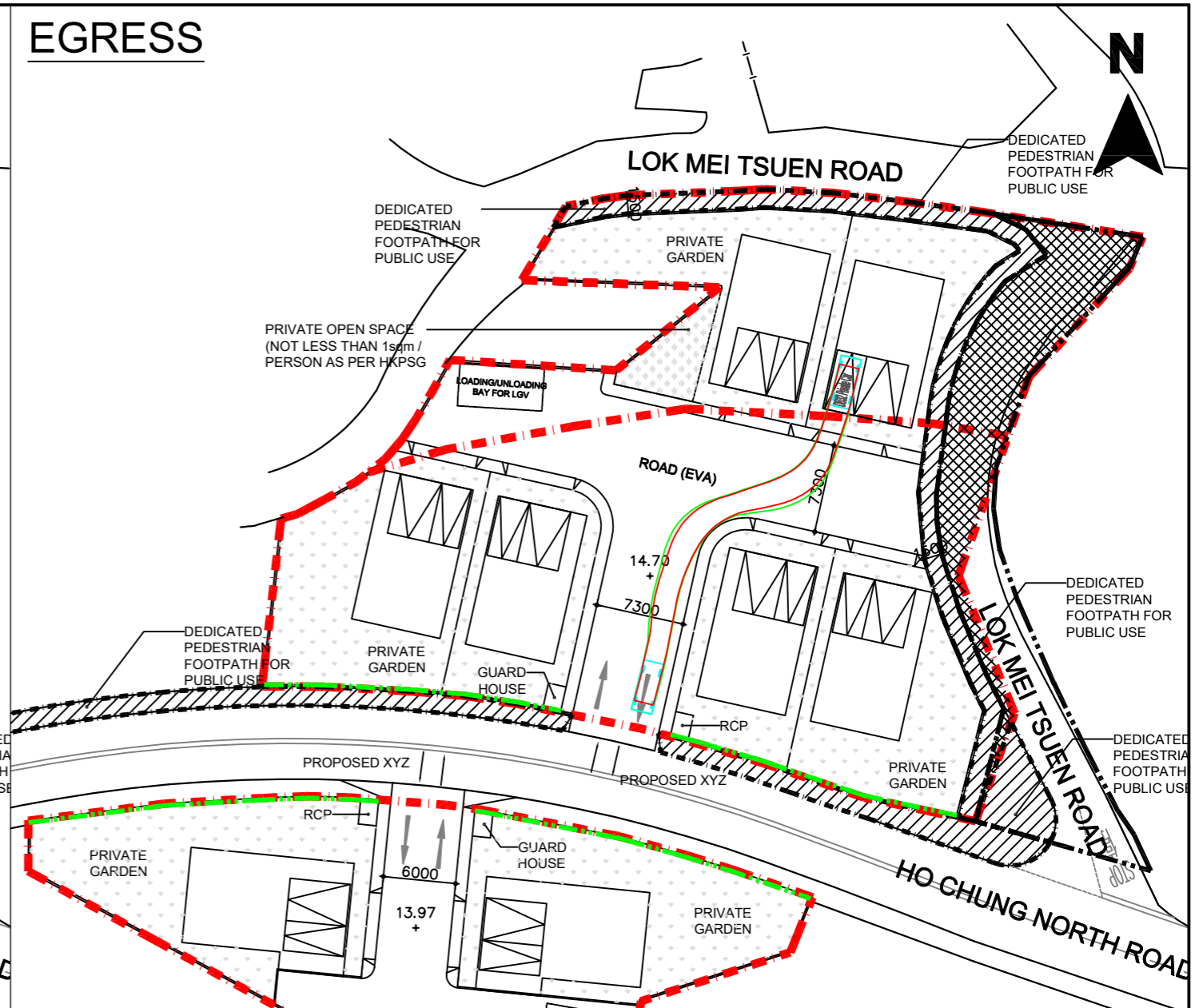
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Drawing No.	Fig. 5.2 C
Rev.	-

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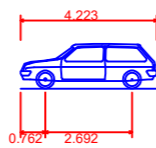


EGRESS



SWEPT PATH LEGEND

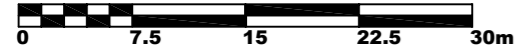
— OUTER MOST PATH
— INNER MOST PATH



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LEGEND

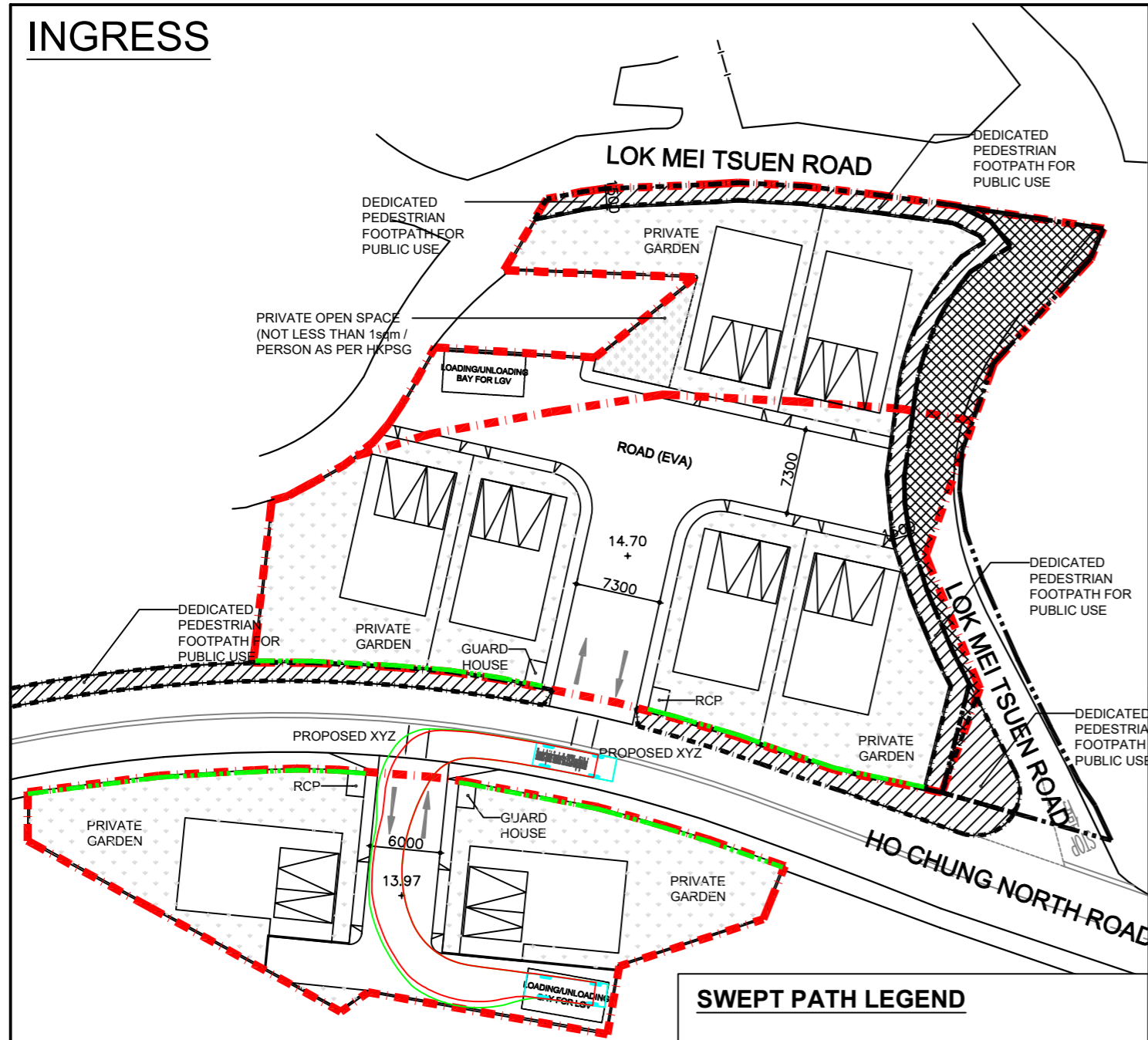
- SITE BOUNDARY
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- PRIVATE OPEN SPACE
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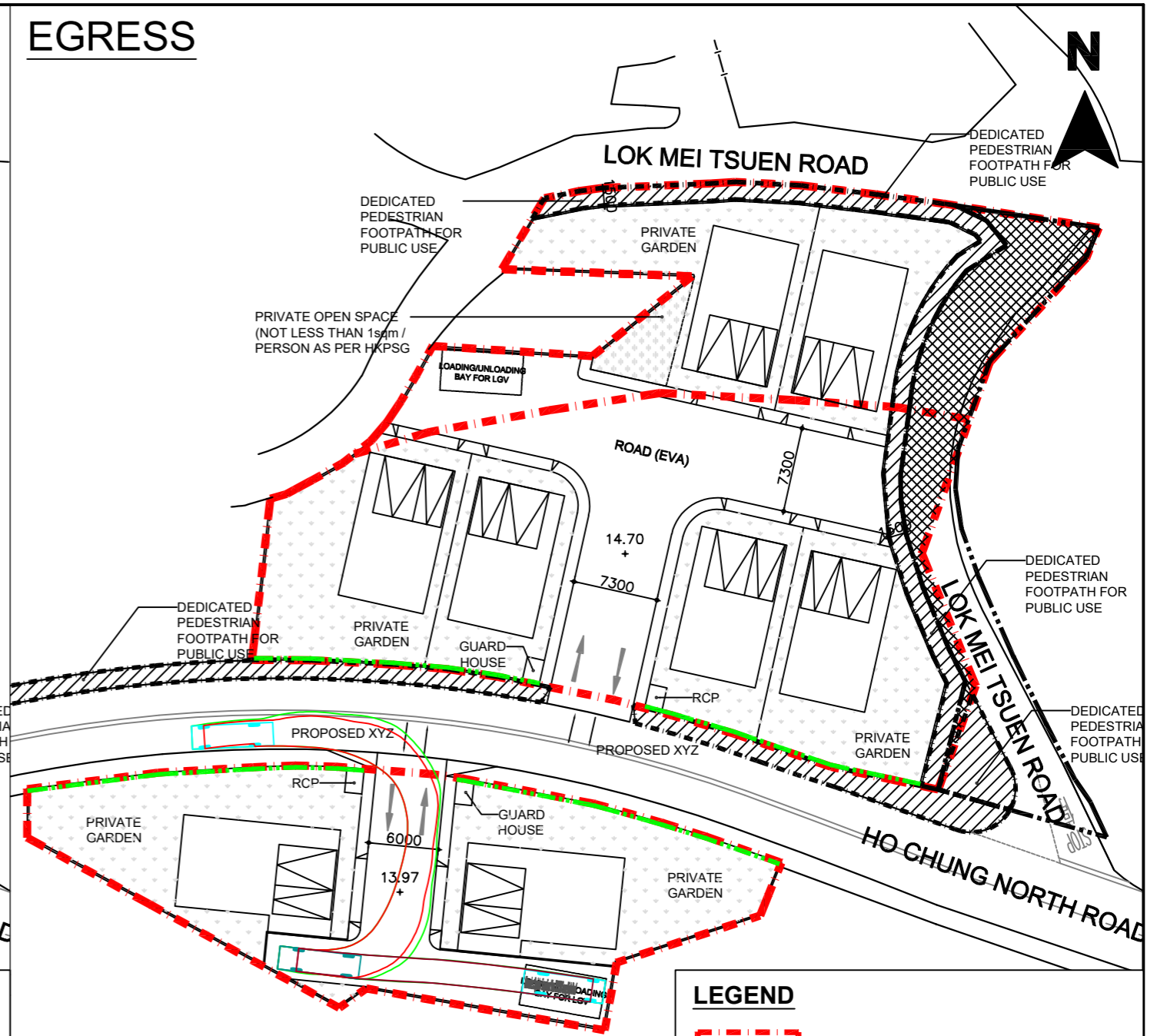
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	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone 2 from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title SWEPT PATH ANALYSIS (PARCEL A AND B)			Drawn HY Date 18/12/2023 Checked RT Approved FW	Drawing No. Fig. 5.2 D
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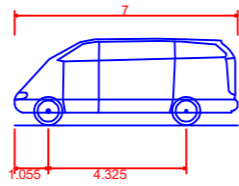


EGRESS



SWEPT PATH LEGEND

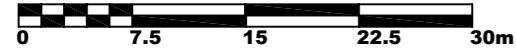
— OUTER MOST PATH
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Mercedes Sprinter Traveliner Van 315CDI Long High Roof
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LEGEND

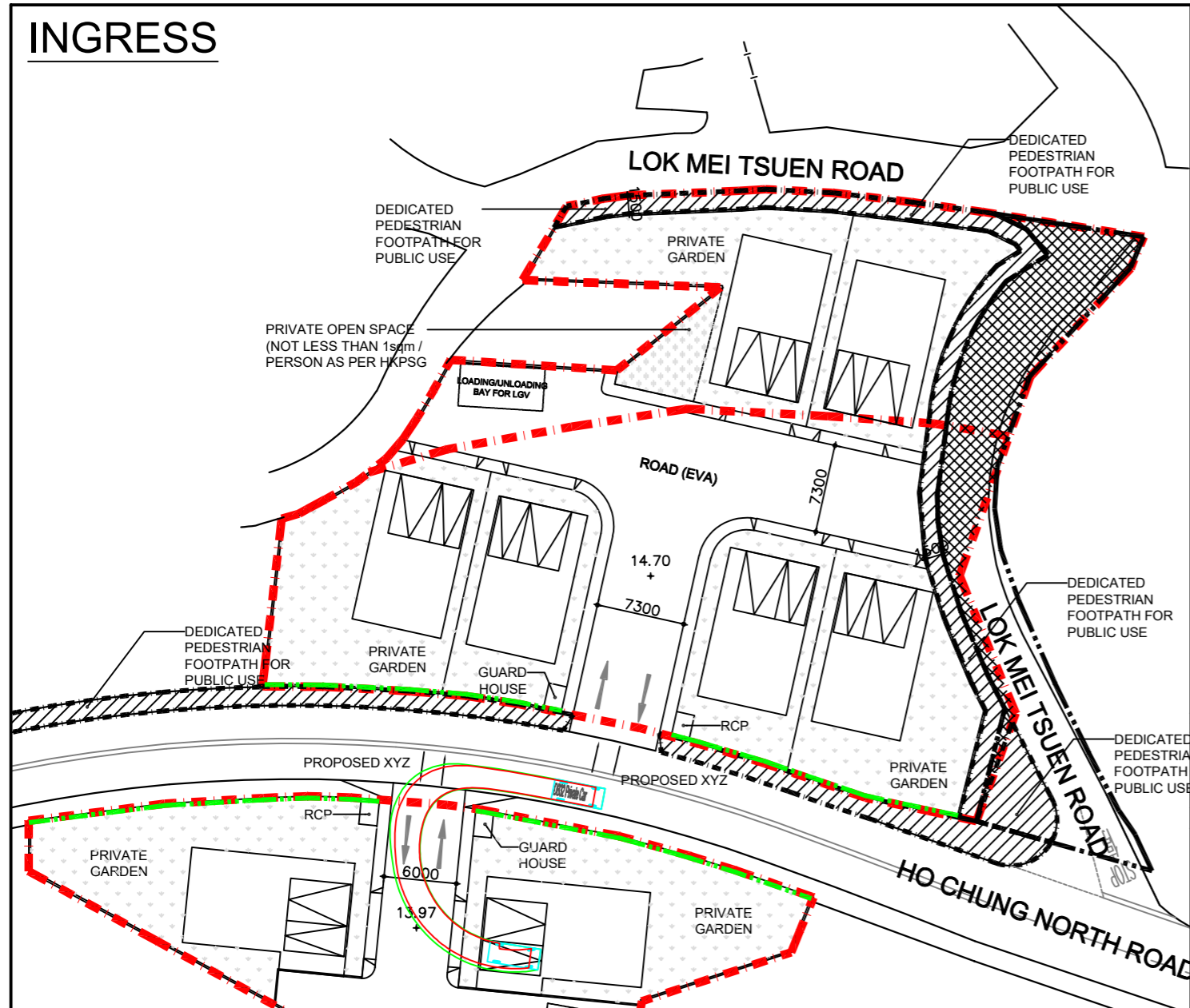
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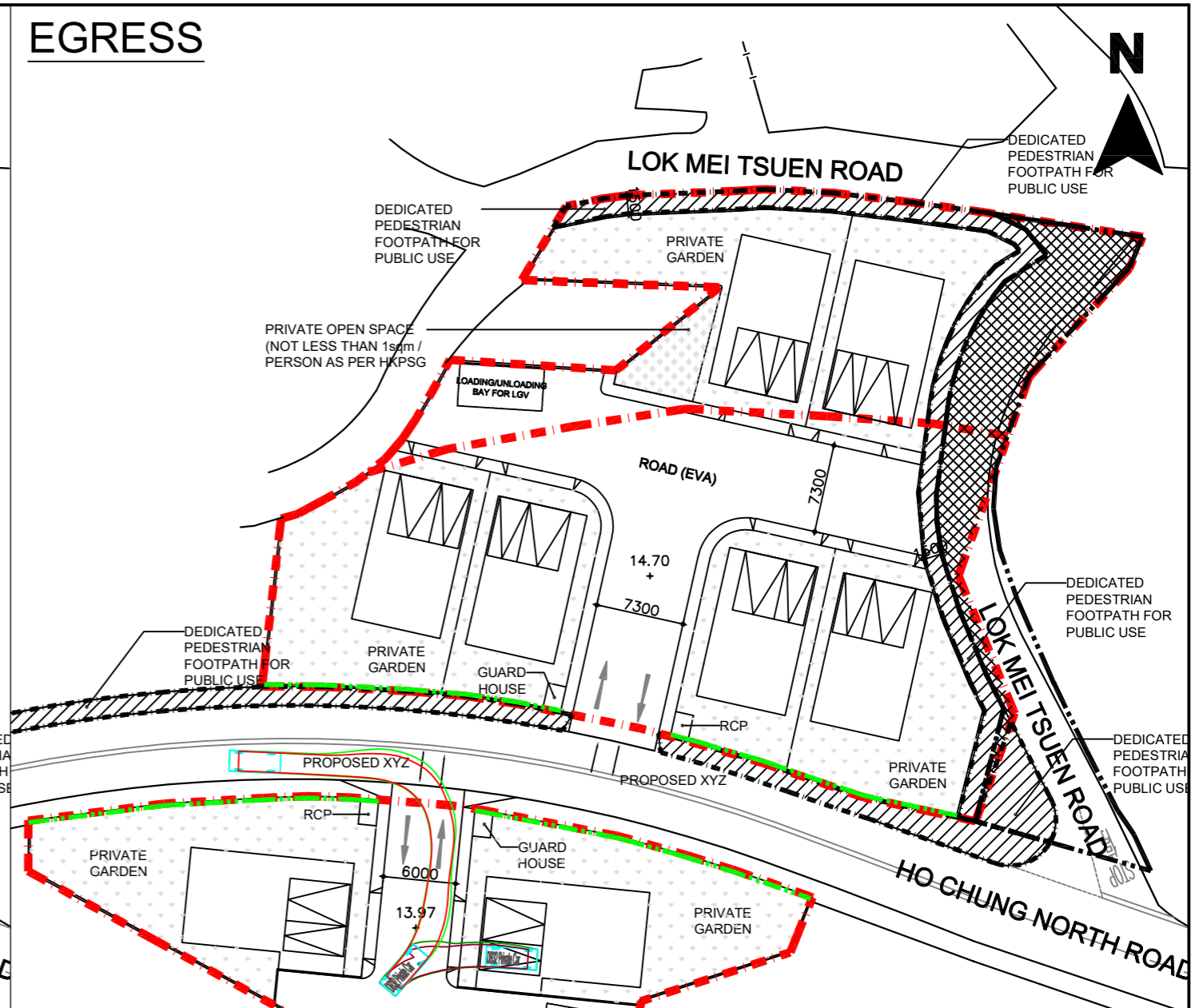
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	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title SWEPT PATH ANALYSIS (PARCEL C)			Drawn HY	Date 18/12/2023	Drawing No. Fig. 5.3	
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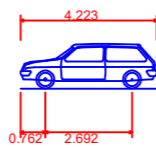


EGRESS



SWEPT PATH LEGEND

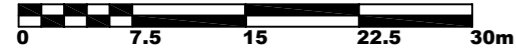
— OUTER MOST PATH
— INNER MOST PATH



DB32 Private Car
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LEGEND

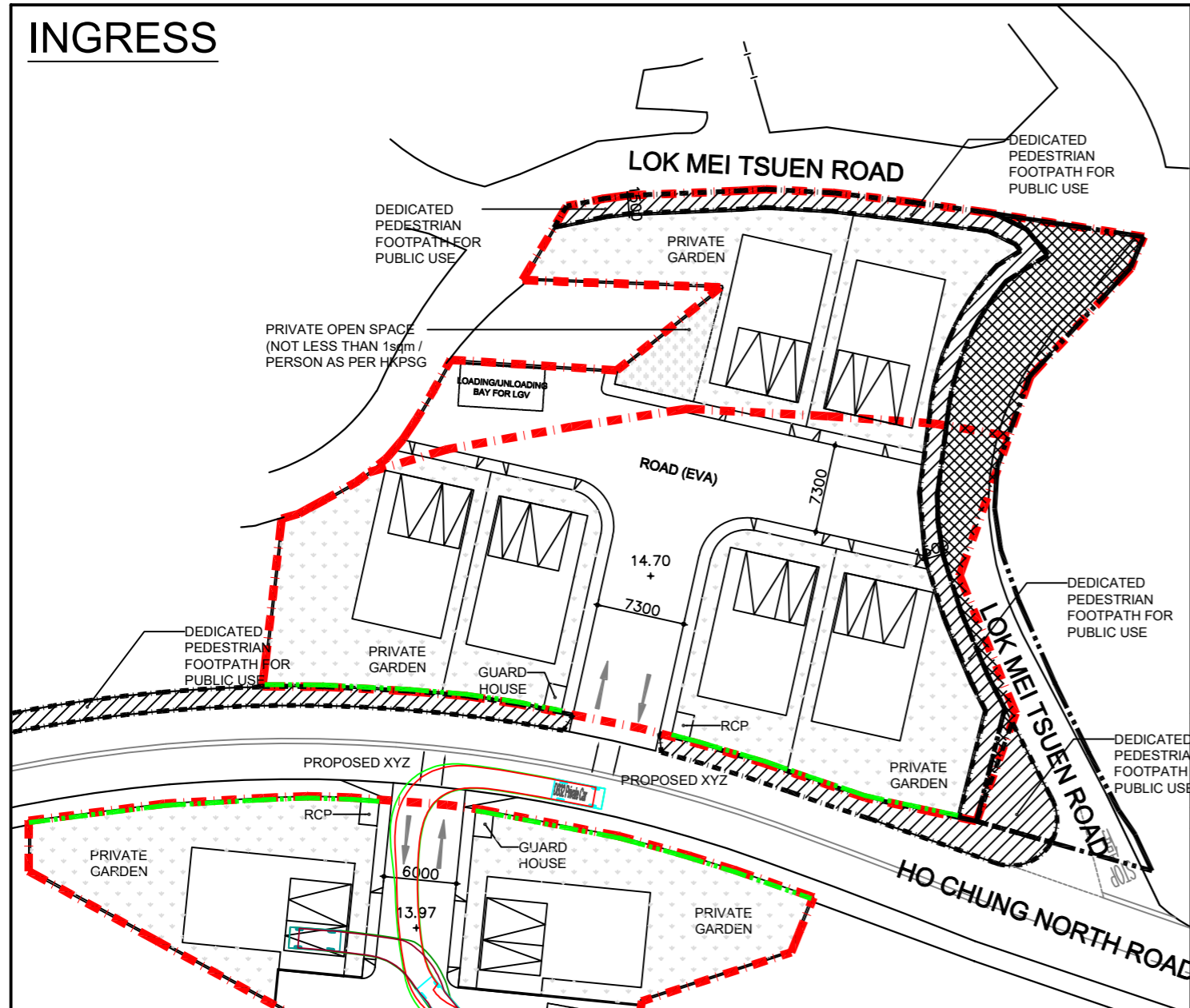
- SITE BOUNDARY
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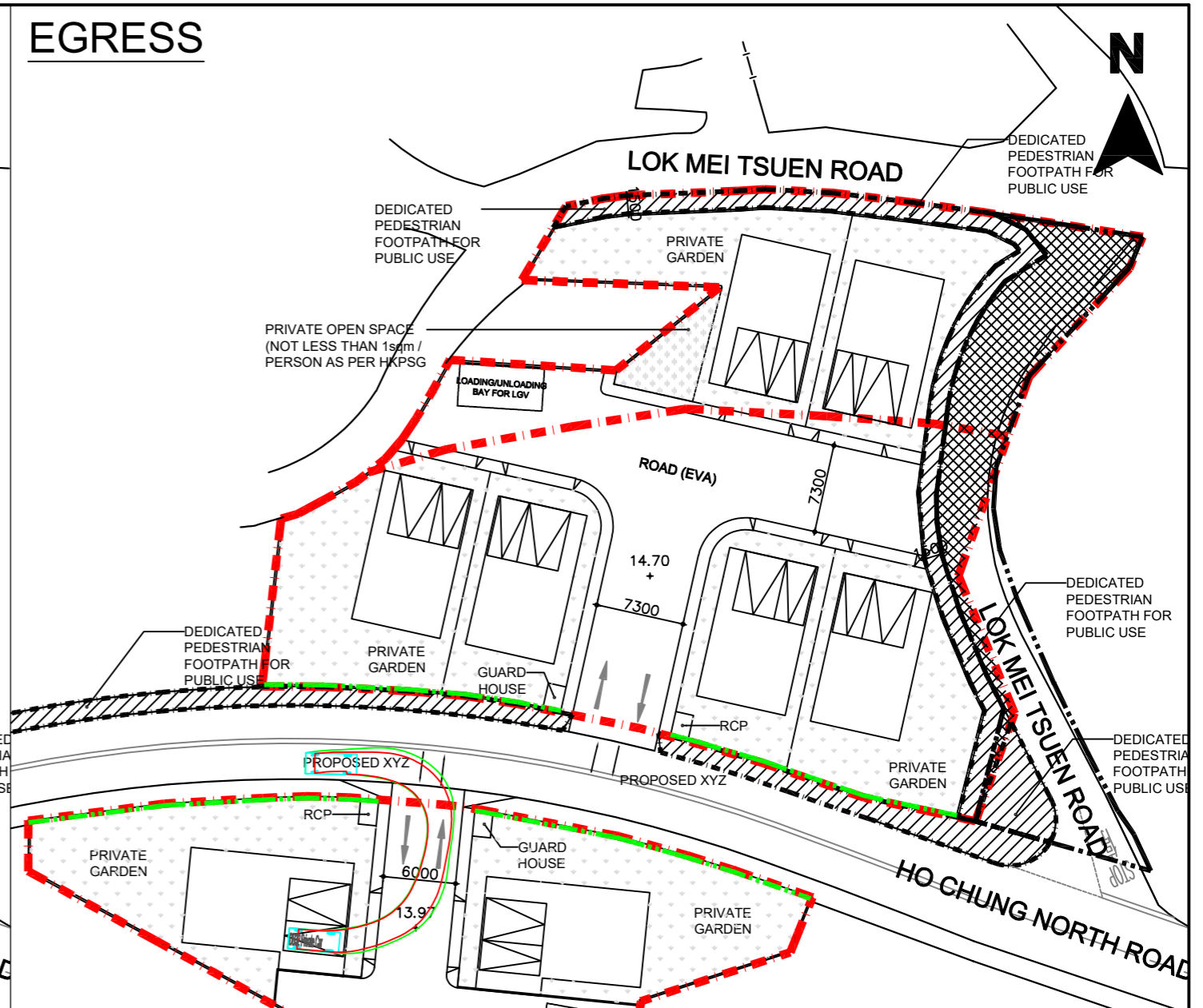
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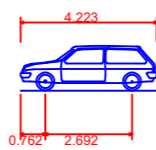


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SWEPT PATH LEGEND

— OUTER MOST PATH
— INNER MOST PATH



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LEGEND

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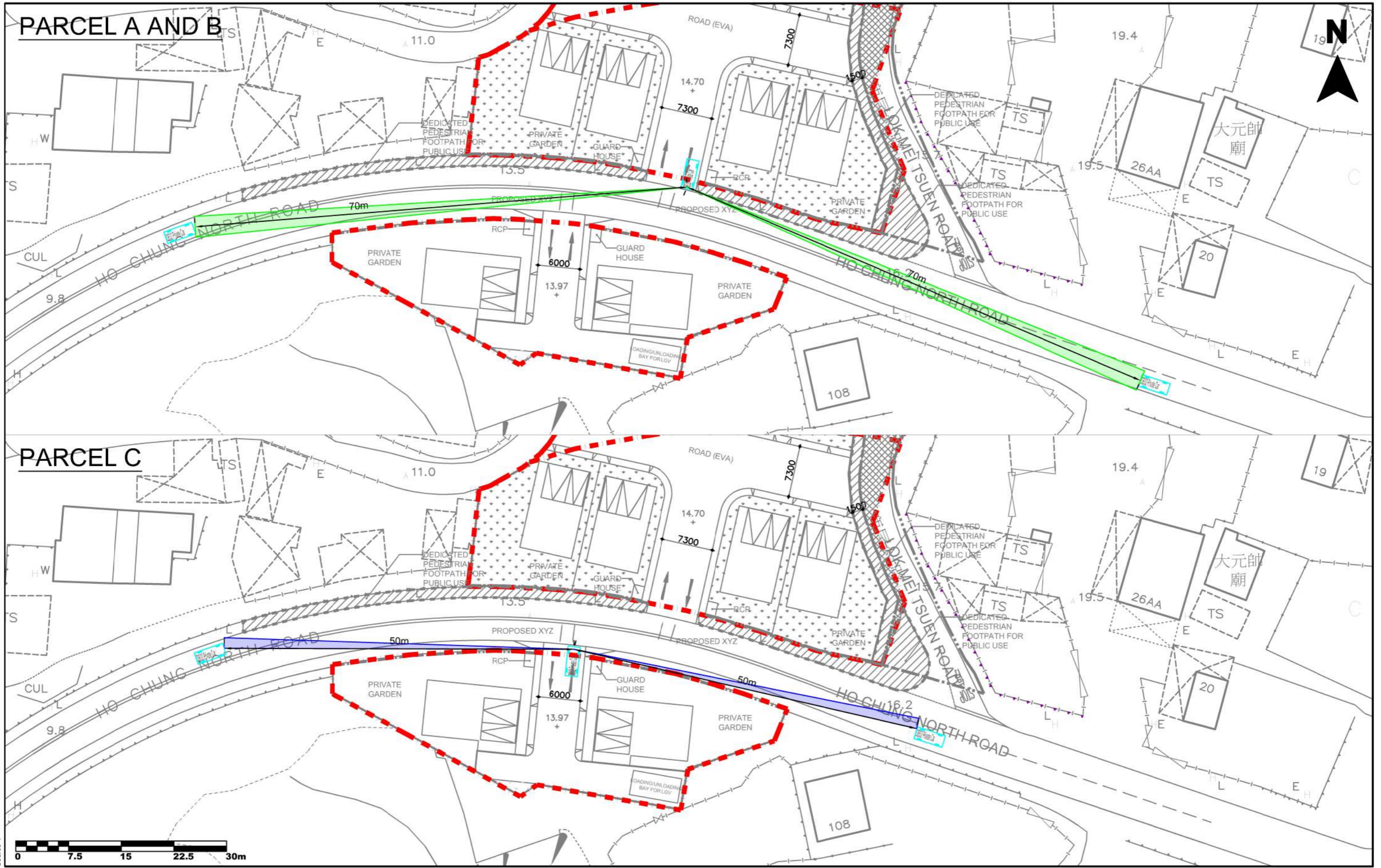


ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
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Drawing Title
 SWEEP PATH ANALYSIS (PARCEL C)

Drawn	HY	Date	18/12/2023	Drawing No.	
Checked	RT	Approved	FW	Fig. 5.3 B	
Scale	1:500 @ A3			Rev.	-
Rev	Description	Date			



File Name :
Source :

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JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group E)1" ("R(E)1") or "Residential (Group C)1" ("R(C)1") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
SIGHTLINE ANALYSIS

Rev	Description	Date

Drawn	HY	Date	14/12/2023
Checked	CH	Approved	CH
Scale	1:500 @ A3		

Drawing No.
Fig. 5.4

Rev. -

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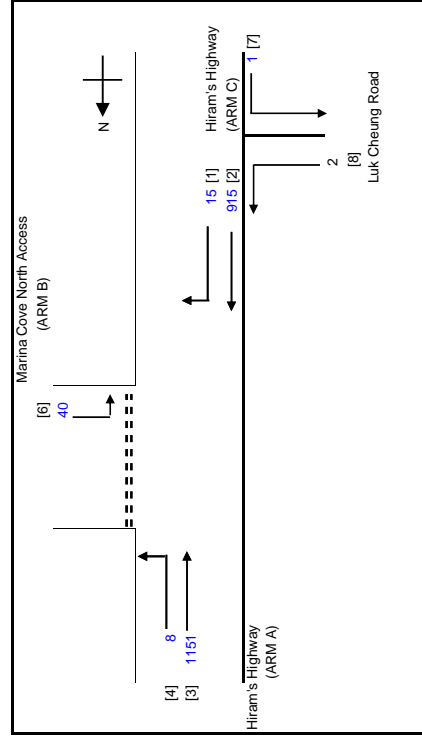
Appendix A

Junction Calculations

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PRIORITY JUNCTION CALCULATION

	INITIALS	
		DATE
	PROJECT NO.:	PREPARED BY:
	FILENAME :	CHECKED BY:
	J1-LukCheungRoad-MCN.xls	REVIEWED BY:
	2023AM	



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
 V_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
 V_{r-b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
 V_{r-b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
 V_{r-c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
 D = STREAM-SPECIFIC B-A
 E = STREAM-SPECIFIC B-C
 F = STREAM-SPECIFIC C-B
 Y = (1-0.0345W)

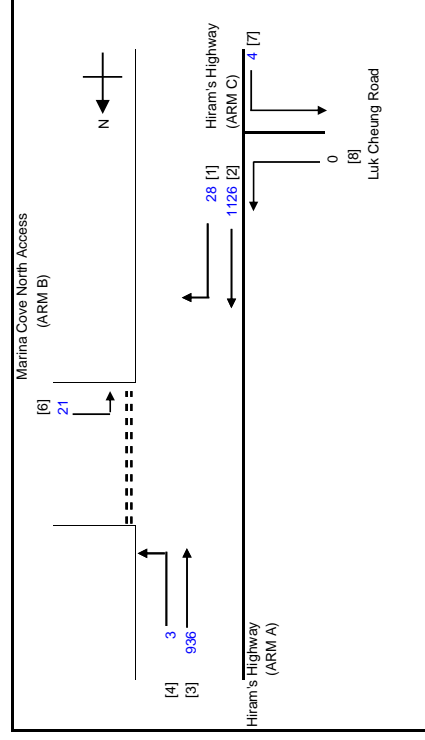
GEOMETRIC DETAILS:		GEOMETRIC FACTORS :		THE CAPACITY OF MOVEMENT :		COMPARISON OF DESIGN FLOW TO CAPACITY :	
MAJOR ROAD (ARM A)		MAJOR ROAD (ARM C)		MINOR ROAD (ARM B)			
W =	22.00 (metres)	W =	5.00 (metres)	W _{b-a} =	4.40 (metres)	DFC b-a	= 0.0000
W _{cr} =	7 (metres)	V _{r-c-b} =	100 (metres)	W _{b-c} =		DFC b-c	= 0.0632
q _{a-b} =	8 (pcu/hr)	q _{c-a} =	915 (pcu/hr)	V _{b-a} =	30 (metres)	DFC c-b	= 0.0211
q _{a-c} =	1151 (pcu/hr)	q _{c-b} =	15 (pcu/hr)	V _{r-b-a} =			
				V _{r-b-c} =			
				q _{b-a} =			
				q _{b-c} =	40 (pcu/hr)		
				TOTAL FLOW = 2128.5 (PCU/HR)		CRITICAL DFC = 0.06	

PRIORITY JUNCTION CALCULATION

	INITIALS	
		DATE
	PROJECT NO.:	PREPARED BY:
	FILENAME :	CHECKED BY:
	J1-LukCheungRoad-MCN.xls	REVIEWED BY:

2023PM

J1 Hiram's Highway / Marina Cove North Access
2023 Weekday PM Peak



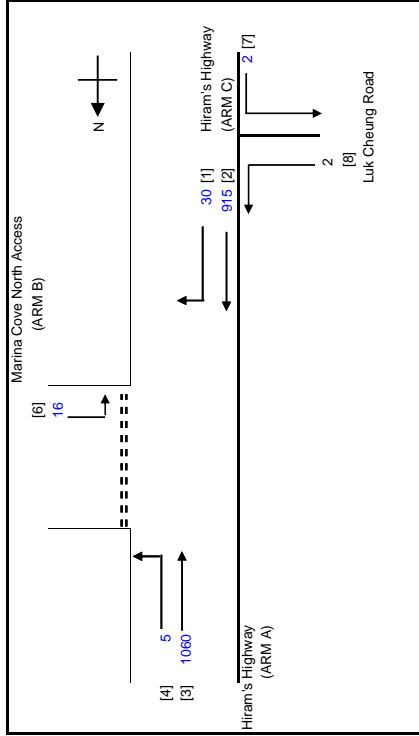
NOTES : (GEOMETRIC INPUT DATA)

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
 V l b-a = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
 V r b-a = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
 V r b-c = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
 D = STREAM-SPECIFIC B-A
 E = STREAM-SPECIFIC B-C
 F = STREAM-SPECIFIC C-B
 Y = (1-0.0345W)

GEOMETRIC DETAILS:		THE CAPACITY OF MOVEMENT :		COMPARISON OF DESIGN FLOW TO CAPACITY :	
MAJOR ROAD (ARM A)		MAJOR ROAD (ARM C)		MINOR ROAD (ARM B)	
W = 22.00 (metres)	D = 0.5332189	Q b-a = 308	Q b-c (O) = 652	DFC b-a = 0.0000	
W cr = 7 (metres)	E = 0.9837895	Q b-c = 652		DFC b-c = 0.0322	
q a-b = 3 (pcu/hr)	F = 1.1066158	Q c-b = 733		DFC c-b = 0.0382	
q a-c = 936 (pcu/hr)	Y = 0.241	TOTAL FLOW = 2113.5 (PCU/HR)		CRITICAL DFC = 0.04	

PRIORITY JUNCTION CALCULATION

2023Sun	PROJECT NO.:	PREPARED BY:	INITIALS
	FILENAME :	CHECKED BY:	DATE
J1 Hiram's Highway / Marina Cove North Access	J1-LukCheungRoad-MCN.xls	REVIEWED BY:	
2023 Weekend PM Peak			



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
- Vi 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
- 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 = 22.00 (metres)
 W cr = 7 (metres)
 q a-b = 5 (pcu/hr)
 q a-c = 1060 (pcu/hr)

MAJOR ROAD (ARM C)
 W c-b = 5.00 (metres)
 Vr c-b = 100 (metres)
 q c-a = 914.5 (pcu/hr)
 q c-b = 30 (pcu/hr)

MINOR ROAD (ARM B)
 W b-a = (metres)
 W b-c = 4.40 (metres)
 Vi b-a = (metres)
 Vr b-a = (metres)
 Vr b-c = 30 (metres)
 q b-a = (pcu/hr)
 q b-c = 16 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
 E = 0.9837895
 F = 1.1066158
 Y = 0.241

THE CAPACITY OF MOVEMENT :

Q b-a = 308
 Q b-c = 641
 Q c-b = 721

TOTAL FLOW = 2025.5 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.0000
 DFC b-c = 0.0250
 DFC c-b = 0.0416

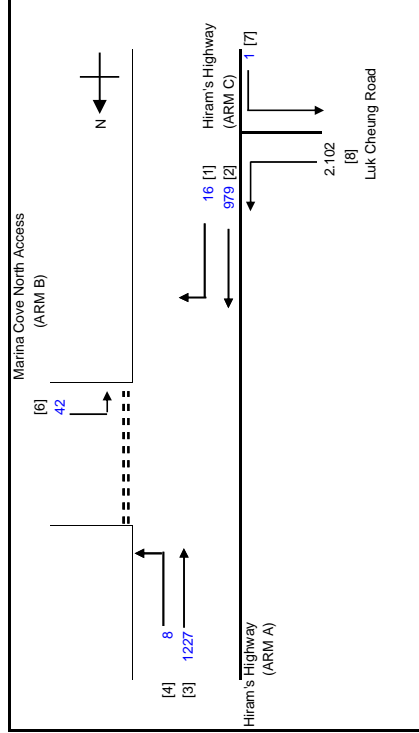
CRITICAL DFC = 0.04

PRIORITY JUNCTION CALCULATION

	INITIALS	
		DATE
	PROJECT NO.:	PREPARED BY:
	FILENAME :	CHECKED BY:
	J1-LukCheungRoad-MCN.xls	REVIEWED BY:

2028refAM

J1 Hiram's Highway / Marina Cove North Access
2028 Reference Scenario Weekday AM Peak



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
- V b-a = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- V b-c = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- V r-b-c = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- V r-c-b = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- 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 = 22.00 (metres)
 W cr = 7 (metres)
 q a-b = 8 (pcu/hr)
 q a-c = 1227 (pcu/hr)

MAJOR ROAD (ARM C)
 W c-b = 5.00 (metres)
 V r-c-b = 100 (metres)
 q c-a = 979.1 (pcu/hr)
 q c-b = 15.77 (pcu/hr)

MINOR ROAD (ARM B)
 W b-a = 4.40 (metres)
 W b-c = 4.40 (metres)
 V l-b-a = 30 (metres)
 V r-b-c = 30 (metres)
 q b-a = 42 (pcu/hr)
 q b-c = 42 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
 E = 0.9837895
 F = 1.1066158
 Y = 0.241

THE CAPACITY OF MOVEMENT :

Q b-a = 299
 Q b-c = 627
 Q c-b = 705
 Q b-c (O) = 627

TOTAL FLOW = 2272.002092 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.0000
 DFC b-c = 0.0671
 DFC c-b = 0.0224

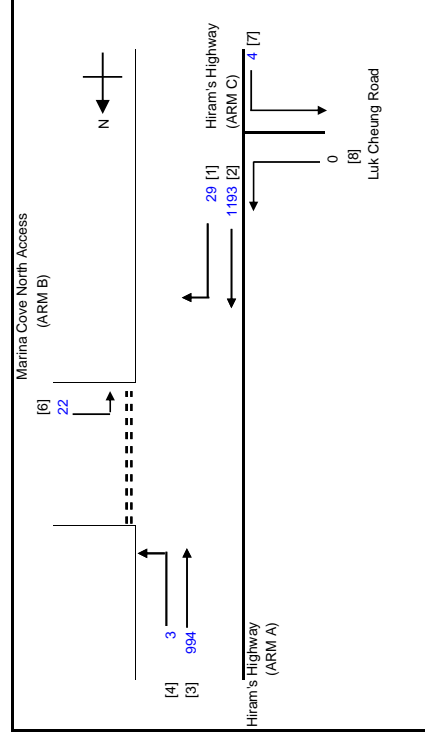
CRITICAL DFC = 0.07

PRIORITY JUNCTION CALCULATION

	INITIALS	
		DATE
	PROJECT NO.:	PREPARED BY:
	FILENAME :	CHECKED BY:
	J1-LukCheungRoad-MCN.xls	REVIEWED BY:

2028refPM

J1 Hiram's Highway / Marina Cove North Access
2028 Reference Scenario Weekday PM Peak



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
 V_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
 V_{r-b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
 V_{r-b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
 V_{r-c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
 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 = 22.00 (metres)	D = 0.5332189
W _{cr} = 7 (metres)	E = 0.9837895
q _{a-b} = 3 (pcu/hr)	F = 1.1066158
q _{a-c} = 994 (pcu/hr)	Y = 0.241
MAJOR ROAD (ARM C)	
W _{c-b} = 5.00 (metres)	
V _{r-c-b} = 100 (metres)	
q _{c-a} = 1193 (pcu/hr)	
q _{c-b} = 29.43 (pcu/hr)	
MINOR ROAD (ARM B)	
W _{b-a} = 4.40 (metres)	
W _{b-c} = 4.40 (metres)	
V _{b-a} = 30 (metres)	
V _{r-b-a} = 30 (metres)	
q _{b-a} = 22 (pcu/hr)	
q _{b-c} = 22 (pcu/hr)	

GEOMETRIC FACTORS :

D = 0.5332189
E = 0.9837895
F = 1.1066158
Y = 0.241

THE CAPACITY OF MOVEMENT :

Q _{b-a} = 303	Q _{b-c (O)} = 647
Q _{b-c} = 647	
Q _{c-b} = 728	

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC _{b-a} = 0.0000
DFC _{b-c} = 0.0341
DFC _{c-b} = 0.0404

TOTAL FLOW = 2241.910741 (PCU/HR)

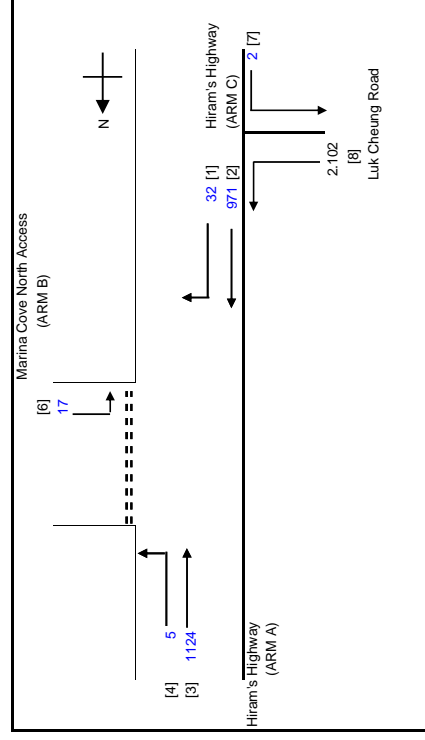
CRITICAL DFC = 0.04

PRIORITY JUNCTION CALCULATION

	INITIALS	
		DATE
	PROJECT NO.:	PREPARED BY:
	FILENAME :	CHECKED BY:
	J1-LukCheungRoad-MCN.xls	REVIEWED BY:

2028refSUN

J1 Hiram's Highway / Marina Cove North Access
2028 Reference Scenario Weekend PM Peak



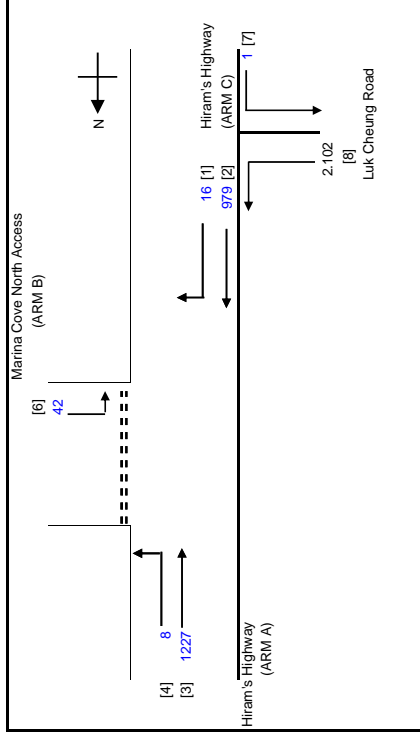
NOTES : (GEOMETRIC INPUT DATA)

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
 V_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
 V_{r-b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
 V_{r-b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
 V_{r-c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
 D = STREAM-SPECIFIC B-A
 E = STREAM-SPECIFIC B-C
 F = STREAM-SPECIFIC C-B
 Y = (1-0.0345W)

GEOMETRIC DETAILS:		THE CAPACITY OF MOVEMENT :		COMPARISON OF DESIGN FLOW TO CAPACITY :	
MAJOR ROAD (ARM A)		Q _{b-a} =	303	DFC _{b-a}	= 0.0000
W =	22.00 (metres)	Q _{b-c} =	636	DFC _{b-c}	= 0.0264
W _{cr} =	7 (metres)	Q _{c-b} =	715	DFC _{c-b}	= 0.0441
q _{a-b} =	5 (pcu/hr)	TOTAL FLOW = 2149.421856 (PCU/HR)			
q _{a-c} =	1124 (pcu/hr)	CRITICAL DFC = 0.04			
MAJOR ROAD (ARM C)					
W _{c-b} =	5.00 (metres)				
V _{r-c-b} =	100 (metres)				
q _{c-a} =	971.4 (pcu/hr)				
q _{c-b} =	31.53 (pcu/hr)				
MINOR ROAD (ARM B)					
W _{b-a} =	(metres)				
W _{b-c} =	4.40 (metres)				
V _{b-a} =	(metres)				
V _{r-b-a} =	(metres)				
V _{r-b-c} =	30 (metres)				
q _{b-a} =	(pcu/hr)				
q _{b-c} =	17 (pcu/hr)				

PRIORITY JUNCTION CALCULATION

	INITIALS	DATE
2028desAM	PROJECT NO.:	PREPARED BY:
J1 Hiram's Highway / Marina Cove North Access	FILENAME :	CHECKED BY:
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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
 V_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
 V_{r-b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
 V_{r-b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
 V_{r-c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
 D = STREAM-SPECIFIC B-A
 E = STREAM-SPECIFIC B-C
 F = STREAM-SPECIFIC C-B
 Y = (1-0.0345W)

GEOMETRIC FACTORS :

MAJOR ROAD (ARM A)			
W = 22.00 (metres)	D = 0.5332189	Q _{b-a} = 299	DFC _{b-a} = 0.0000
W _{cr} = 7 (metres)	E = 0.9837895	Q _{b-c} = 627	DFC _{b-c} = 0.0671
q _{a-b} = 8 (pcu/hr)	F = 1.1066158	Q _{c-b} = 705	DFC _{c-b} = 0.0224
q _{a-c} = 1227 (pcu/hr)	Y = 0.241	TOTAL FLOW = 2272.002092 (PCU/HR)	
MAJOR ROAD (ARM C)			
W _{c-b} = 5.00 (metres)			
V _{r-c-b} = 100 (metres)			
q _{c-a} = 979.1 (pcu/hr)			
q _{c-b} = 15.77 (pcu/hr)			
MINOR ROAD (ARM B)			
W _{b-a} = (metres)			
W _{b-c} = (metres)			
V _{b-a} = 4.40 (metres)			
V _{r-b-a} = (metres)			
V _{r-b-c} = 30 (metres)			
q _{b-a} = (pcu/hr)			
q _{b-c} = 42 (pcu/hr)			

THE CAPACITY OF MOVEMENT :

Q_{b-a} = 299 Q_{b-c}(O) = 627

Q_{c-b} = 705

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC_{b-a} = 0.0000

DFC_{b-c} = 0.0671

DFC_{c-b} = 0.0224

CRITICAL DFC = 0.07

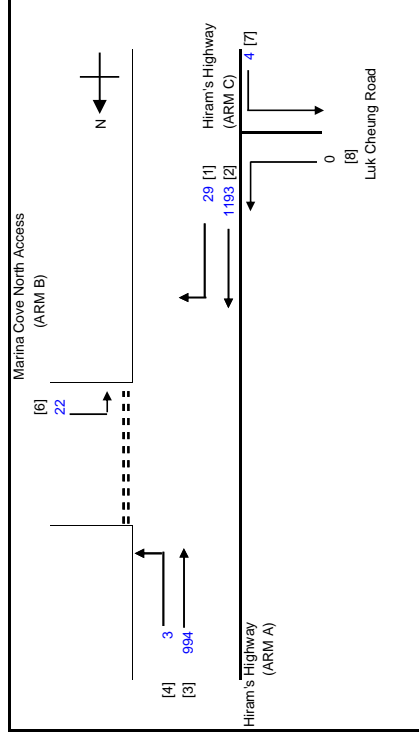
PRIORITY JUNCTION CALCULATION

	INITIALS	
		DATE
	PROJECT NO.:	PREPARED BY:
	FILENAME :	CHECKED BY:
	J1-LukCheungRoad-MCN.xls	REVIEWED BY:

2028desPM

J1 Hiram's Highway / Marina Cove North Access

2028 Design Scenario Weekday PM Peak



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
- V_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- V_{r-b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- V_{r-b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- V_{r-c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- 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 = 22.00 (metres)
 W_{cr} = 7 (metres)
 q_{a-b} = 3 (pcu/hr)
 q_{a-c} = 994 (pcu/hr)

MAJOR ROAD (ARM C)
 W_{c-b} = 5.00 (metres)
 V_{r-c-b} = 100 (metres)
 q_{c-a} = 1193 (pcu/hr)
 q_{c-b} = 29.43 (pcu/hr)

MINOR ROAD (ARM B)
 W_{b-a} = (metres)
 W_{b-c} = (metres)
 V_{b-a} = 4.40 (metres)
 V_{r-b-a} = (metres)
 V_{r-b-c} = 30 (metres)
 q_{b-a} = (pcu/hr)
 q_{b-c} = 22 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
 E = 0.9837895
 F = 1.1066158
 Y = 0.241

THE CAPACITY OF MOVEMENT :

Q_{b-a} = 303
 Q_{b-c} = 647
 Q_{c-b} = 728
 Q_{b-c (O)} = 647

TOTAL FLOW = 2241.910741 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC_{b-a} = 0.0000
 DFC_{b-c} = 0.0341
 DFC_{c-b} = 0.0404

CRITICAL DFC = 0.04

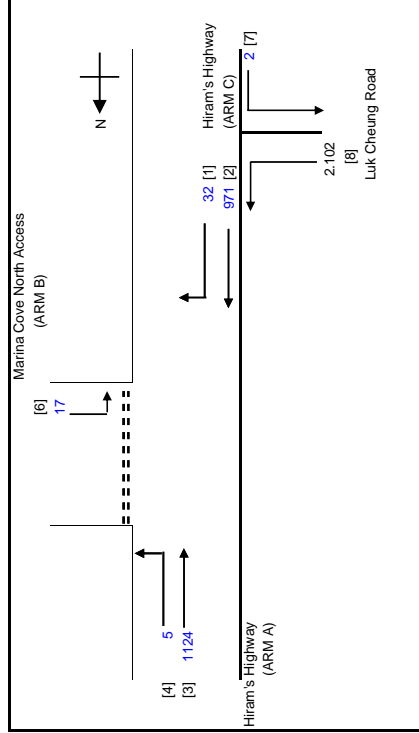
PRIORITY JUNCTION CALCULATION

	INITIALS	
		DATE
	PROJECT NO.:	PREPARED BY:
	FILENAME :	CHECKED BY:
	J1-LukCheungRoad-MCN.xls	REVIEWED BY:

2028desSUN

J1 Hiram's Highway / Marina Cove North Access

2028 Design Scenario Weekend PM Peak



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
- V_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- V_{r-b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- V_{r-b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- V_{r-c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- 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 = 22.00 (metres)
 W_{cr} = 7 (metres)
 q_{a-b} = 5 (pcu/hr)
 q_{a-c} = 1124 (pcu/hr)

MAJOR ROAD (ARM C)
 W_{c-b} = 5.00 (metres)
 V_{r-c-b} = 100 (metres)
 q_{c-a} = 971.4 (pcu/hr)
 q_{c-b} = 31.53 (pcu/hr)

MINOR ROAD (ARM B)
 W_{b-a} = (metres)
 W_{b-c} = (metres)
 V_{b-a} = 4.40 (metres)
 V_{r-b-a} = (metres)
 V_{r-b-c} = 30 (metres)
 q_{b-a} = (pcu/hr)
 q_{b-c} = 17 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
 E = 0.9837895
 F = 1.1066158
 Y = 0.241

THE CAPACITY OF MOVEMENT :

Q_{b-a} = 303
 Q_{b-c} = 636
 Q_{c-b} = 715
 Q_{b-c}(O) = 636

TOTAL FLOW = 2149.421856 (PCU/HR)

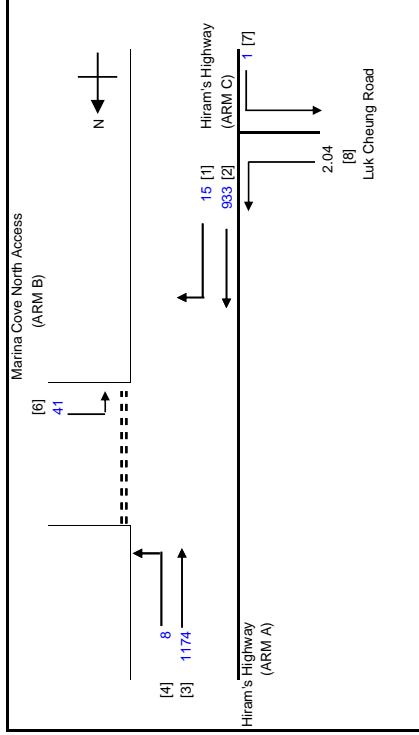
COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC_{b-a} = 0.0000
 DFC_{b-c} = 0.0264
 DFC_{c-b} = 0.0441

CRITICAL DFC = 0.04

PRIORITY JUNCTION CALCULATION

2025refAM		PROJECT NO.:	PREPARED BY:	INITIALS	DATE
J1 Hiram's Highway / Marina Cove North Access		FILENAME :	CHECKED BY:		
2025 Reference Scenario Weekday AM Peak		J1-LukCheungRoad-MCN.xls	REVIEWED BY:		



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
 V_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
 V_{r-b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
 V_{r-b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
 V_{r-c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
 D = STREAM-SPECIFIC B-A
 E = STREAM-SPECIFIC B-C
 F = STREAM-SPECIFIC C-B
 Y = (1-0.0345W)

GEOMETRIC FACTORS :

MAJOR ROAD (ARM A)	D =	0.5332189
W = 22.00 (metres)	E =	0.9837895
W _{cr} = 7 (metres)	F =	1.1066158
q a-b = 8 (pcu/hr)	Y =	0.241
q a-c = 1174 (pcu/hr)		

MAJOR ROAD (ARM C)

W c-b = 5.00 (metres)
V r c-b = 100 (metres)
q c-a = 933.4 (pcu/hr)
q c-b = 15.3 (pcu/hr)

MINOR ROAD (ARM B)

W b-a = 4.40 (metres)
W b-c = 4.40 (metres)
V l b-a = (metres)
V r b-a = (metres)
V r b-c = 30 (metres)
q b-a = (pcu/hr)
q b-c = 41 (pcu/hr)

THE CAPACITY OF MOVEMENT :

Q b-a = 303	Q b-c (O) = 631
Q b-c = 631	Q c-b = 710
Q c-b = 710	

TOTAL FLOW = 2171.28285 (PCU/HR)

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC b-a = 0.0000	
DFC b-c = 0.0647	
DFC c-b = 0.0216	

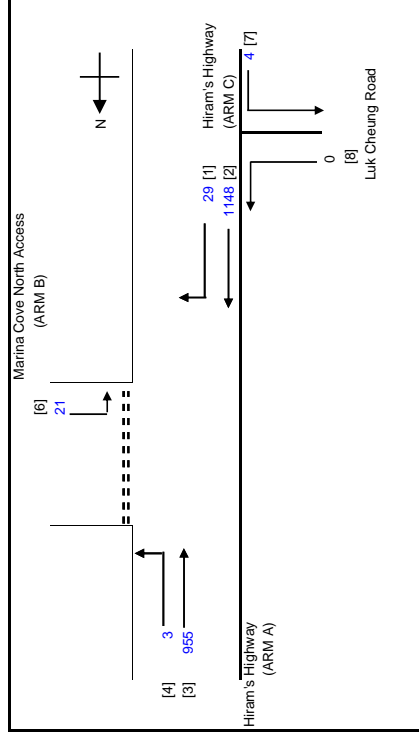
CRITICAL DFC = 0.06

PRIORITY JUNCTION CALCULATION

	INITIALS	
		DATE
	PROJECT NO.:	PREPARED BY:
	FILENAME :	CHECKED BY:
	J1-LukCheungRoad-MCN.xls	REVIEWED BY:

2025refPM

J1 Hiram's Highway / Marina Cove North Access
2025 Reference Scenario Weekday PM Peak



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
- V_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- V_{r-b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- V_{r-b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- V_{r-c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- 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 = 22.00 (metres)	D = 0.5332189
W _{cr} = 7 (metres)	E = 0.9837895
q _{a-b} = 3 (pcu/hr)	F = 1.1066158
q _{a-c} = 955 (pcu/hr)	Y = 0.241
MAJOR ROAD (ARM C)	
W _{c-b} = 5.00 (metres)	
V _{r-c-b} = 100 (metres)	
q _{c-a} = 1148 (pcu/hr)	
q _{c-b} = 28.56 (pcu/hr)	
MINOR ROAD (ARM B)	
W _{b-a} = 4.40 (metres)	
W _{b-c} = 4.40 (metres)	
V _{b-a} = 30 (metres)	
V _{r-b-a} = 30 (metres)	
V _{r-b-c} = 30 (metres)	
q _{b-a} = 21 (pcu/hr)	
q _{b-c} = 21 (pcu/hr)	

GEOMETRIC FACTORS :

D = 0.5332189
E = 0.9837895
F = 1.1066158
Y = 0.241

THE CAPACITY OF MOVEMENT :

Q _{b-a} = 306	Q _{b-c (O)} = 650
Q _{b-c} = 650	
Q _{c-b} = 731	
TOTAL FLOW = 2155.98135 (PCU/HR)	

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC _{b-a}	=	0.0000
DFC _{b-c}	=	0.0330
DFC _{c-b}	=	0.0391

CRITICAL DFC = 0.04

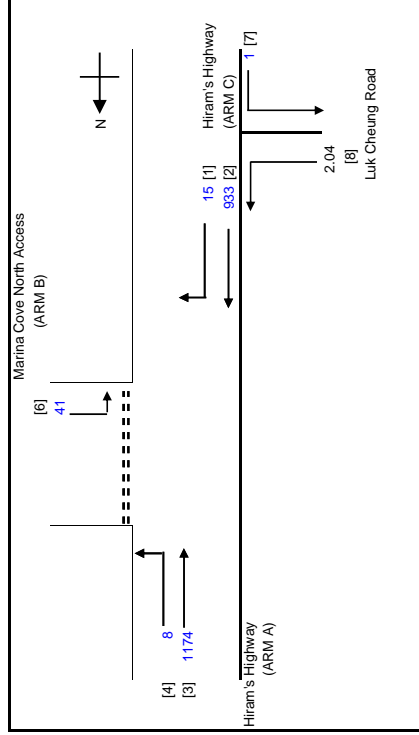
PRIORITY JUNCTION CALCULATION

	INITIALS	
		DATE
	PROJECT NO.:	PREPARED BY:
	FILENAME :	CHECKED BY:
	J1-LukCheungRoad-MCN.xls	REVIEWED BY:

2025desAM

J1 Hiram's Highway / Marina Cove North Access

2025 Design Scenario Weekday AM Peak



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
- V_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- V_{r-b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- V_{r-b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- V_{r-c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- 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 = 22.00 (metres)	D = 0.5332189
W _{cr} = 7 (metres)	E = 0.9837895
q _{a-b} = 8 (pcu/hr)	F = 1.1066158
q _{a-c} = 1174 (pcu/hr)	Y = 0.241
MAJOR ROAD (ARM C)	
W _{c-b} = 5.00 (metres)	
V _{r-c-b} = 100 (metres)	
q _{c-a} = 933.4 (pcu/hr)	
q _{c-b} = 15.3 (pcu/hr)	
MINOR ROAD (ARM B)	
W _{b-a} = (metres)	
W _{b-c} = 4.40 (metres)	
V _{b-a} = (metres)	
V _{r-b-a} = (metres)	
V _{r-b-c} = 30 (metres)	
q _{b-a} = (pcu/hr)	
q _{b-c} = 41 (pcu/hr)	

GEOMETRIC FACTORS :

D = 0.5332189
E = 0.9837895
F = 1.1066158
Y = 0.241

THE CAPACITY OF MOVEMENT :

Q _{b-a} = 303	Q _{b-c (O)} = 631
Q _{b-c} = 631	
Q _{c-b} = 710	
TOTAL FLOW = 2171.28285 (PCU/HR)	

COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC _{b-a}	=	0.0000
DFC _{b-c}	=	0.0647
DFC _{c-b}	=	0.0216

CRITICAL DFC = 0.06

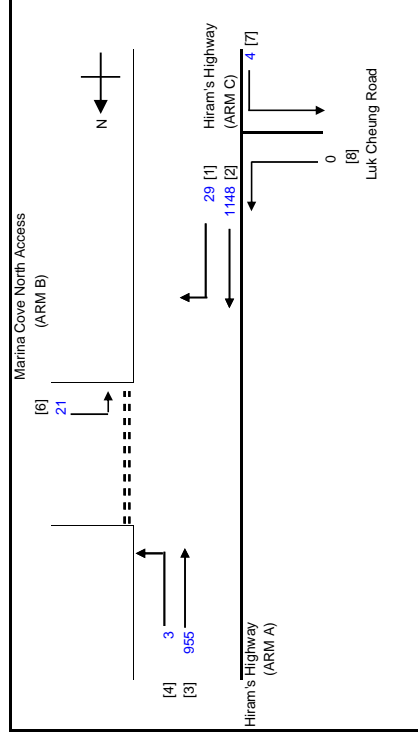
PRIORITY JUNCTION CALCULATION

	INITIALS	
		DATE
	PROJECT NO.:	PREPARED BY:
	FILENAME :	CHECKED BY:
	J1-LukCheungRoad-MCN.xls	REVIEWED BY:

2025desPM

J1 Hiram's Highway / Marina Cove North Access

2025 Design Scenario Weekday PM Peak



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
- V_{b-a} = VISIBILITY TO THE LEFT FOR VEHICLES WAITING IN STREAM b-a
- V_{r-b-a} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-a
- V_{r-b-c} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM b-c
- V_{r-c-b} = VISIBILITY TO THE RIGHT FOR VEHICLES WAITING IN STREAM c-b
- 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 = 22.00 (metres)
 W_{cr} = 7 (metres)
 q_{a-b} = 3 (pcu/hr)
 q_{a-c} = 955 (pcu/hr)

MAJOR ROAD (ARM C)
 W_{c-b} = 5.00 (metres)
 V_{r-c-b} = 100 (metres)
 q_{c-a} = 1148 (pcu/hr)
 q_{c-b} = 28.56 (pcu/hr)

MINOR ROAD (ARM B)
 W_{b-a} = (metres)
 W_{b-c} = (metres)
 V_{b-a} = 4.40 (metres)
 V_{r-b-a} = (metres)
 V_{r-b-c} = 30 (metres)
 q_{b-a} = (pcu/hr)
 q_{b-c} = 21 (pcu/hr)

GEOMETRIC FACTORS :

D = 0.5332189
 E = 0.9837895
 F = 1.1066158
 Y = 0.241

THE CAPACITY OF MOVEMENT :

Q_{b-a} = 306
 Q_{b-c} = 650
 Q_{c-b} = 731

TOTAL FLOW = 2155.98135 (PCU/HR)

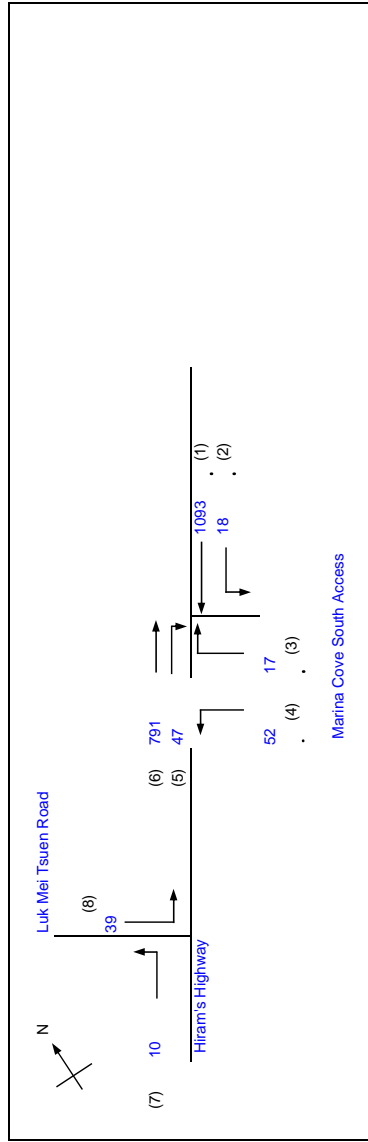
COMPARISON OF DESIGN FLOW TO CAPACITY :

DFC_{b-a} = 0.0000
 DFC_{b-c} = 0.0330
 DFC_{c-b} = 0.0391

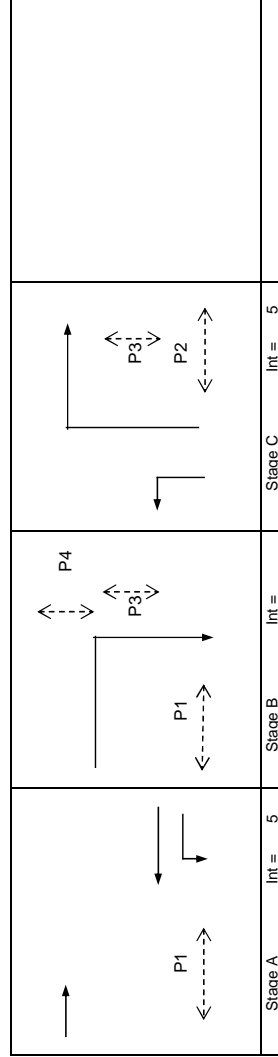
CRITICAL DFC = 0.04

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: 2023AM FILENAME : REFERENCE NO.:	INITIALS DATE
PROJECT NO.: FILENAME : REFERENCE NO.:	Prepared By: Checked By: Reviewed By:



No. of stages per cycle Cycle time Sum(y) Loss time Total Flow Co Cm Yult R.C.ult Cp Ymax R.C.(C)	N = 3 C = 120 sec Y = 0.298 L = 18 sec = 2016 pcu = 45.6 sec = 25.7 sec = 0.765 = 156.4 % = 26.9 sec = 0.850 = 156 %
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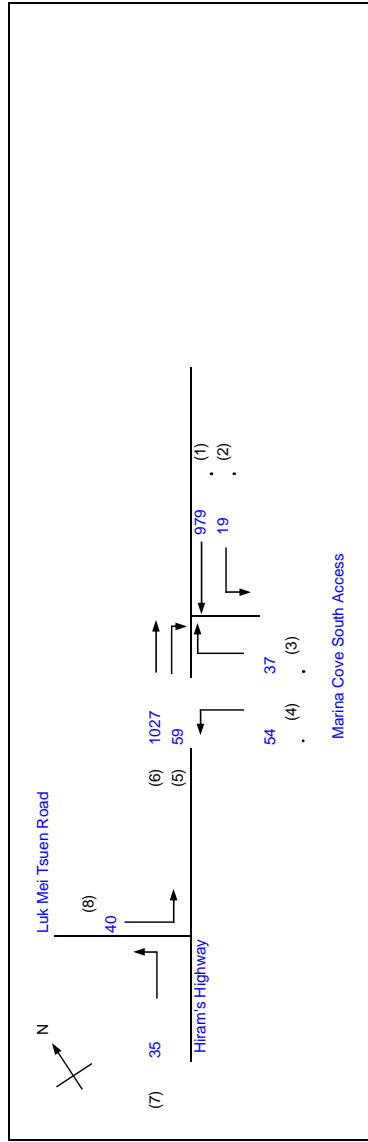
Pedestrian Phase	Stage	Width (m)	SG	FG	Delay	Green Time Required (s)	Green Time Provided (s)
P1	AB	6	5	5			
P2	C	8	5	5			
P3	B,C	8	5	5			
P4	B	9	5	5			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Right pcu/h	Through pcu/h														
→	A	3.30	6	2			N	4030	791	0.00	4030	0.196	0.269	67	67	0.351	33	13							
←	A	3.80	1	1			N	2135	575	0.00	2135	0.269	0.269	92	92	0.351	24	5							
↔	A	3.80	1,2	1	10		N	1995	535	0.03	1985	0.269	0.269	92	92	0.351	24	5							
→	B	3.50	5	1	15		N	2105	47	1.00	1914	0.024	0.024	8	8	0.351	6	55							
↔	C	3.00	3	1	30		N	2055	17	1.00	1957	0.009	0.009	3	3	0.351	0	70							
↔	C	3.00	4	1	20		N	1915	52	1.00	1781	0.029	0.029	10	10	0.351	6	53							
↕	B		P4																						

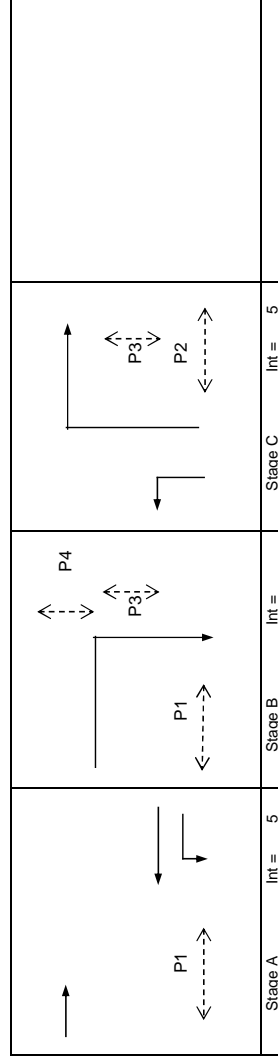
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: FILENAME : REFERENCE NO.:	Prepared By: Checked By: Reviewed By:
2023pm	
J2 Hiram's Highway / Marina Cove South Access 2023 Weekday PM Peak	
	INITIALS DATE



No. of stages per cycle Cycle time Sum(y) Loss time Total Flow Co Cm Yult R.C.ult Cp Ymax R.C.(C)	$N = 3$ $C = 120 \text{ sec}$ $Y = 0.285$ $L = 18 \text{ sec}$ $= 2174 \text{ pcu}$ $= 44.8 \text{ sec}$ $= 25.2 \text{ sec}$ $= 0.765$ $= 168.3 \%$ $= 26.3 \text{ sec}$ $= 0.850$ $= (0.9 \cdot Y_{\max} \cdot Y) / Y \cdot 100\%$ = 168 %
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Pedestrian Phase	Stage	Width (m)	Green Time Required (s)			Green Time Provided (s)	
			SG	FG	Delay	SG	FG
P1	AB	6	5	5			
P2	C	8	5	5			
P3	B,C	8	5	5			
P4	B	9	5	5			

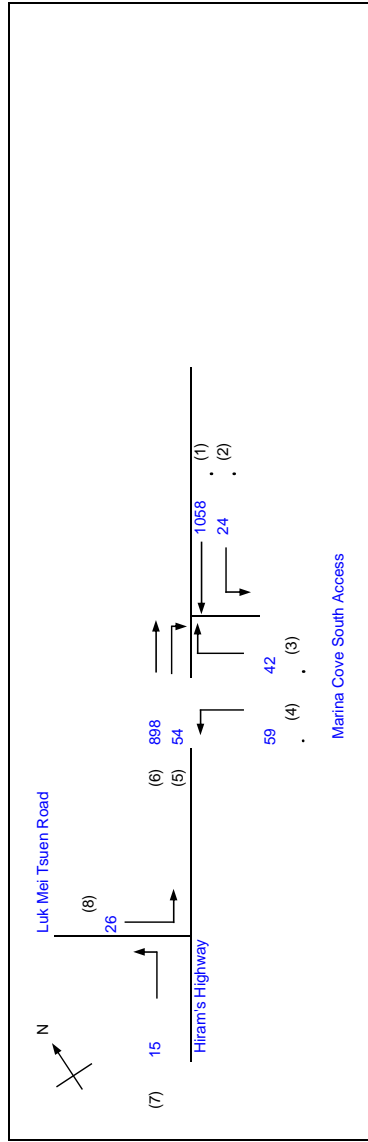
Move-ment	Stage	Lane Width (m)	Phase	No. of lane	Radius (m)	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow	Proportion of Turning Vehicles	Sat. Flow	Flare lane Length (m)	Share Effect	Revised Sat. Flow	y	Greater y	L (sec)	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left	Right	Right														
→	A	3.30	6	2			N	4030	1027	1027	0.00	4030				4030	0.255	0.255	8	91	91	0.335	24	4	
←	A	3.80	1	1			N	2135	517	517	0.00	2135				2135	0.242	0.242		87	87	0.335	24	6	
↔	A	3.80	1,2	1	10		N	1995	461	480	0.04	1983				1983	0.242	0.242		87	87	0.335	24	6	
→	B	3.50	5	1	15		N	2105	59	59	1.00	1914				1914	0.031	0.031	10	11	11	0.335	6	51	
↔	C	3.00	3	1	30		N	2055	37	37	1.00	1957				1957	0.019	0.019		7	7	0.335	6	56	
↔	C	3.00	4	1	20		N	1915	54	54	1.00	1781				1781	0.030	0.030		11	11	0.335	6	51	
↕	B		P4																						

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

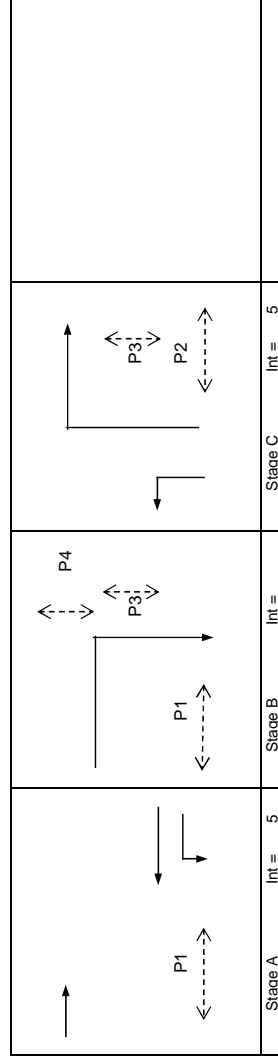
TRAFFIC SIGNAL CALCULATION

2023SUN	INITIALS
PROJECT NO.:	Prepared By:
FILENAME :	Checked By:
REFERENCE NO.:	Reviewed By:

<p>No. of stages per cycle = 3</p> <p>Cycle time = 120 sec</p> <p>Sum(Y) = 0.296</p> <p>Loss time = 18 sec</p> <p>Total Flow = 2134 pcu</p> <p>Co = 45.4 sec</p> <p>Cm = 25.6 sec</p> <p>Yult = 0.765</p> <p>R.C.ult = 158.7 %</p> <p>Cp = 26.8 sec</p> <p>Ymax = 0.850</p> <p>R.C.(C) = (0.9*Ymax-Y)/Y*100% = 159 %</p>	<p>Existing Cycle Time</p> <p>N = 3</p> <p>C = 120 sec</p> <p>Y = 0.296</p> <p>L = 18 sec</p> <p>= 2134 pcu</p> <p>= 45.4 sec</p> <p>= 25.6 sec</p> <p>= 0.765</p> <p>= 158.7 %</p> <p>= 26.8 sec</p> <p>= 0.850</p> <p>= 159 %</p>
---	--



Pedestrian Phase	Stage	Width (m)	SG	FG	Delay	Green Time Required (s)	Green Time Provided (s)
P1	AB	6	5	5			
P2	C	8	5	5			
P3	B,C	8	5	5			
P4	B	9	5	5			

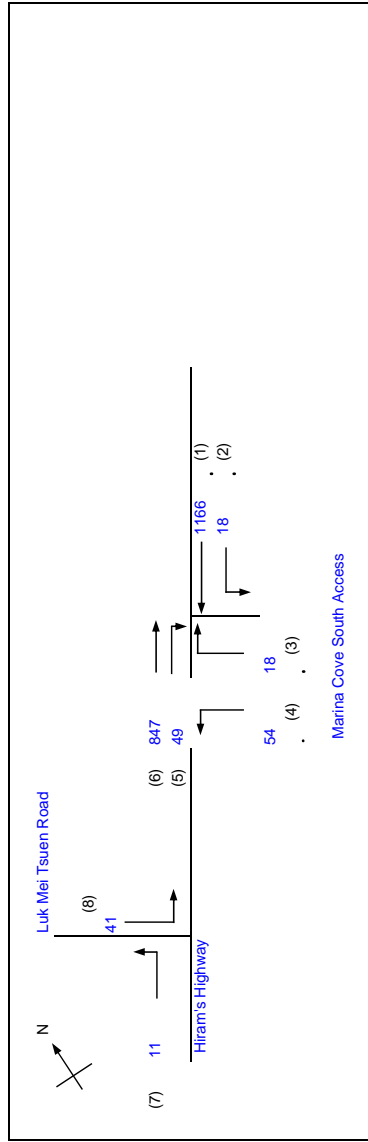


Move-ment	Stage	Lane Width (m)	Phase	No. of lane	Radius (m)	O	N	Straight-Ahead Sat. Flow	Movement		Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length (m)	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L (sec)	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Right pcu/h														
→	A	3.30	6	2			N	4030	898	898	0.00	4030			4030	0.223	0.263	8	77	77	0.348	30	9	
←	A	3.80	1	1			N	2135	561	561	0.00	2135			2135	0.263	0.263		91	91	0.348	24	5	
↔	A	3.80	1,2	1	10		N	1995	521	497	0.05	1981			1981	0.263	0.263		91	91	0.348	24	5	
→	B	3.50	5	1	15		N	2105	54	54	1.00	1914			1914	0.028	0.033	10	10	10	0.348	6	52	
↔	C	3.00	3	1	30		N	2055	42	42	1.00	1957			1957	0.021	0.033	7	7	7	0.348	6	56	
↔	C	3.00	4	1	20		N	1915	59	59	1.00	1781			1781	0.033	0.033	11	11	11	0.348	6	51	
↕	B		P4																10					

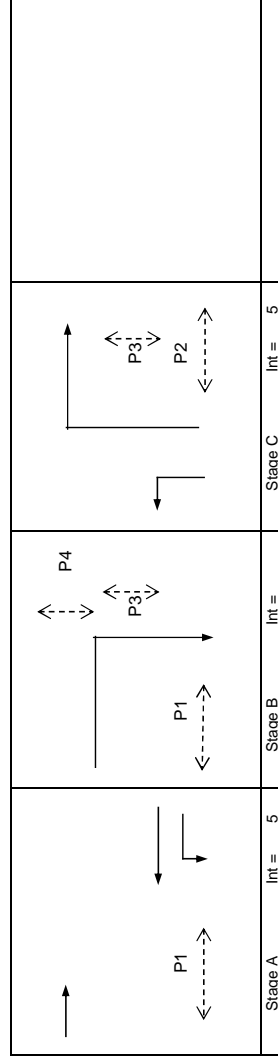
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: 2028refAM	INITIALS
FILENAME :	DATE
REFERENCE NO.:	
Prepared By:	
Checked By:	
Reviewed By:	



No. of stages per cycle	N = 3
Cycle time	C = 120 sec
Sum(y)	Y = 0.318
Loss time	L = 18 sec
Total Flow	= 2152 pcu
Co	= 46.9 sec
Cm	= 26.4 sec
Yult	= 0.765
R.C.ult	= 140.8 %
Cp	= 27.8 sec
Ymax	= 0.850
R.C.(C)	= (0.9*Ymax*Y)/Y*100% = 141 %



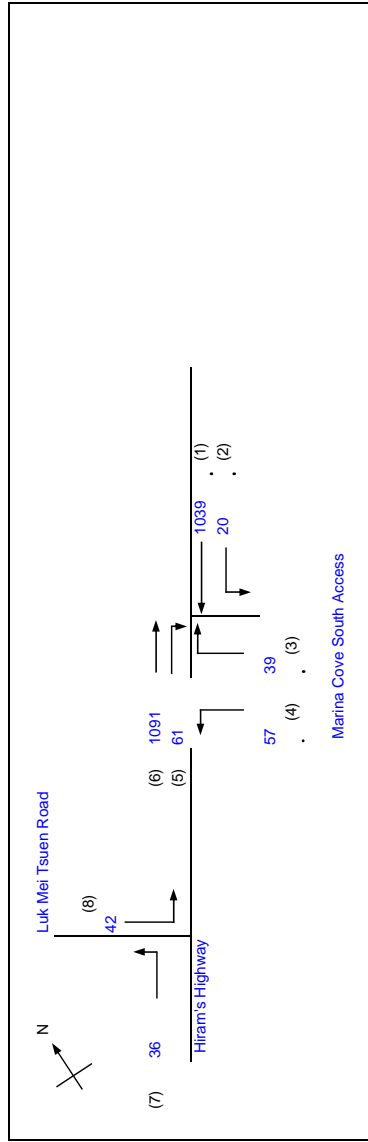
Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG
P1	AB	6	5	5		
P2	C	8	5	5		
P3	B,C	8	5	5		
P4	B	9	5	5		

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Right pcu/h	Right pcu/h														
→	A	3.30	6	2			N	4030	847	0.00	4030		4030		0.210	0.287	0.287	8	67	67	8	0.374	36	14	
←	A	3.80	1	1			N	2135	614	0.00	2135		2135		0.287	0.287	0.287	8	92	92	8	0.374	24	5	
↔	A	3.80	1,2	1	10		N	1995	571	0.03	1985		1985		0.026	0.026	0.026	8	92	92	8	0.374	24	5	
→	B	3.50	5	1	15		N	2105	49	1.00	1914		1914		0.009	0.009	0.009	10	8	3	10	0.374	6	56	
↔	C	3.00	3	1	30		N	2055	18	1.00	1957		1957		0.030	0.030	0.030	10	3	3	10	0.374	0	72	
↔	C	3.00	4	1	20		N	1915	54	1.00	1781		1781										6	54	
↕	B		P4																						

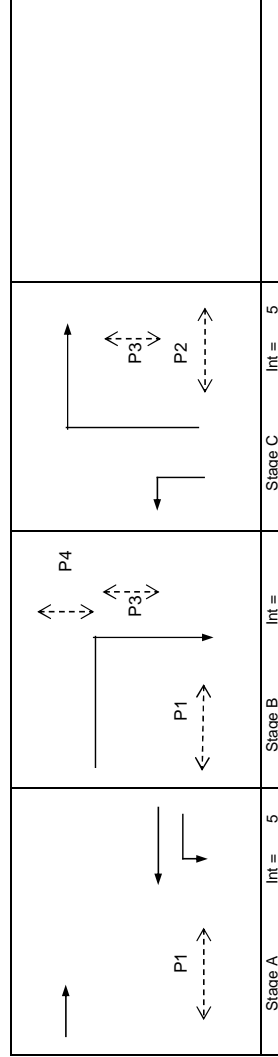
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: 2028refPM	INITIALS
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Checked By:	
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No. of stages per cycle	N = 3
Cycle time	C = 120 sec
Sum(y)	Y = 0.303
Loss time	L = 18 sec
Total Flow	= 2307 pcu
Co	= 45.9 sec
Cm	= 25.8 sec
Yult	= 0.765
R.C.ult	= 152.9 %
Cp	= 27.1 sec
Ymax	= 0.850
R.C.(C)	= (0.9*Ymax-Y)/Y*100% = 153 %



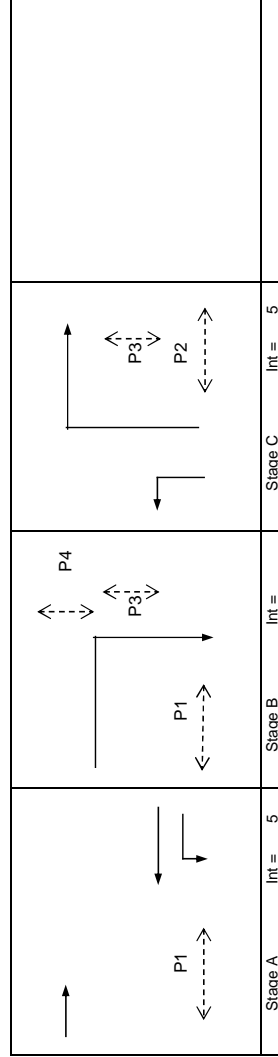
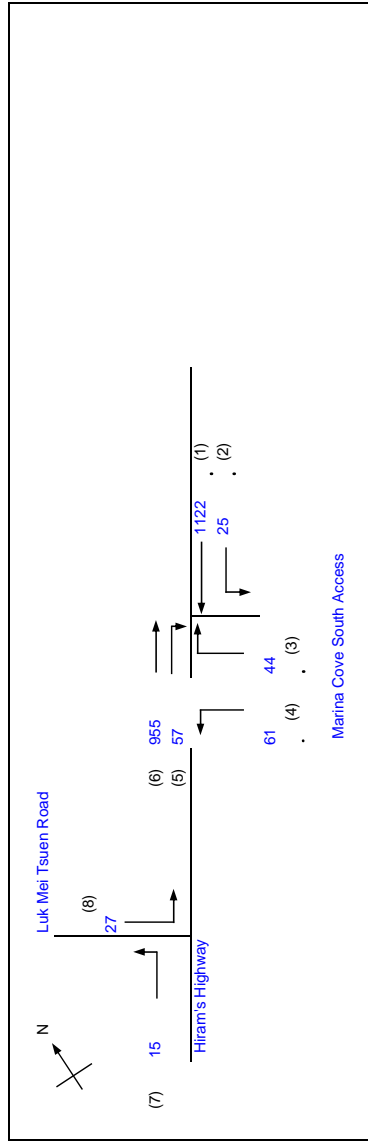
Phase	Stage	Width (m)	Green Time Required (s)	Green Time Provided (s)
P1	AB	6	5	5
P2	C	8	5	5
P3	B,C	8	5	5
P4	B	9	5	5

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Right pcu/h	Through pcu/h														
→	A	3.30	6	2			N	4030	1091	0.00	4030	0.271	0.271	8	91	91	0.356	24	5						
←	A	3.80	1	1			N	2135	549	0.00	2135	0.257	0.257	8	87	87	0.356	30	6						
↔	A	3.80	1,2	1	10		N	1995	510	0.04	1983	0.257	0.257	8	87	87	0.356	24	6						
→	B	3.50	5	1	15		N	2105	61	1.00	1914	0.032	0.032	10	11	11	0.356	6	51						
↔	C	3.00	3	1	30		N	2055	39	1.00	1957	0.020	0.020	10	7	7	0.356	6	57						
↔	C	3.00	4	1	20		N	1915	57	1.00	1781	0.032	0.032	10	11	11	0.356	6	52						
↕	B		P4																						

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: 2028refSUN	INITIALS
FILENAME :	DATE
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Checked By:	
Reviewed By:	

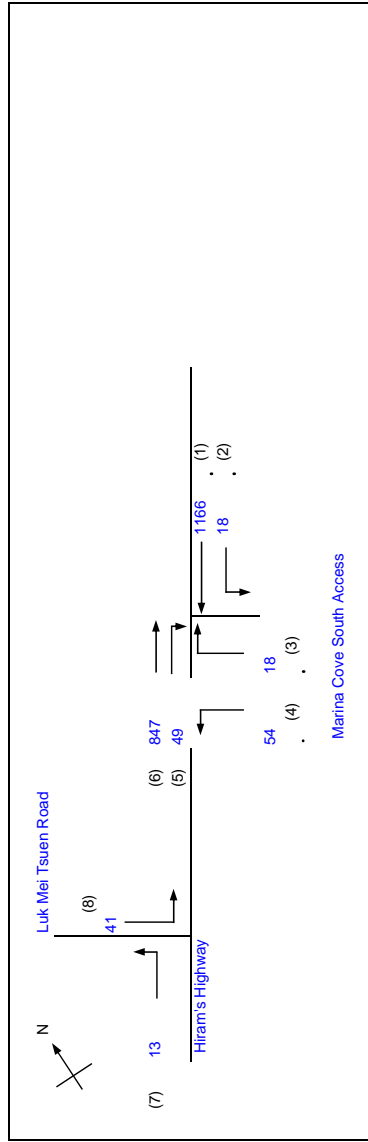


Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Right pcu/h	Through pcu/h													
→	A	3.30	6	2			N	4030	955	0.00	4030		4030	0.237	0.279	77	77	6	77	77	0.369	33	9	
←	A	3.80	1	1			N	2135	595	0.00	2135		2135	0.279	0.279	91	91	8	91	91	0.369	24	5	
↔	A	3.80	1,2	1	10		N	1995	552	0.05	1981		1981	0.279	0.279	91	91	8	91	91	0.369	24	5	
→	B	3.50	5	1	15		N	2105	57	1.00	1914		1914	0.030	0.030	10	10	10	10	10	0.369	6	53	
↔	C	3.00	3	1	30		N	2055	44	1.00	1957		1957	0.023	0.023	7	7	10	7	7	0.369	6	57	
↔	C	3.00	4	1	20		N	1915	61	1.00	1781		1781	0.035	0.035	11	11	10	11	11	0.369	6	52	
↕	B		P4																					

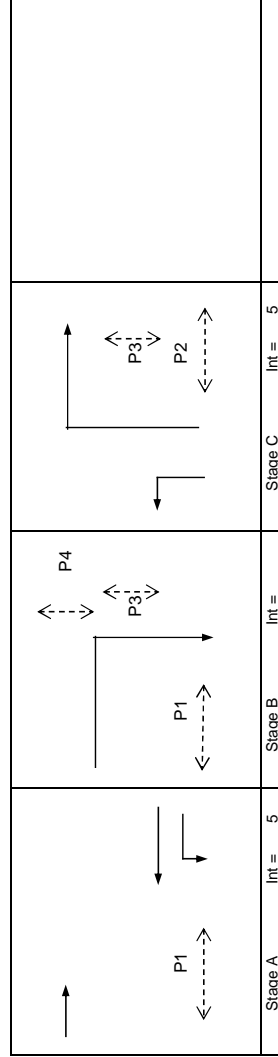
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

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No. of stages per cycle Cycle time Sum(y) Loss time Total Flow Co Cm Yult R.C.ult Cp Ymax R.C.(C)	N = 3 C = 120 sec Y = 0.318 L = 18 sec = 2152 pcu = 46.9 sec = 26.4 sec = 0.765 = 140.8 % = 27.8 sec = 0.850 = 141 %
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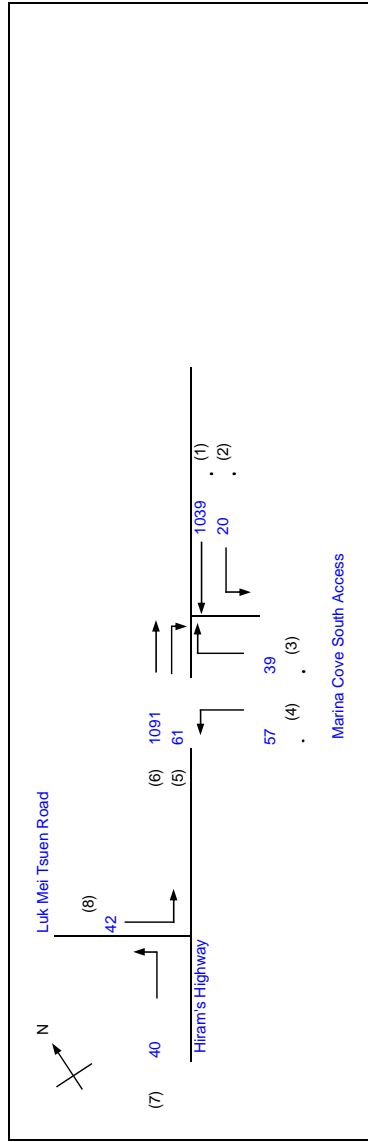
Phase	Stage	Width (m)	Green Time Required (s)	Green Time Provided (s)
P1	AB	6	5	5
P2	C	8	5	5
P3	B,C	8	5	5
P4	B	9	5	5

Move-ment	Stage	Lane Width (m)	Phase	No. of lane	Radius (m)	O	N	Straight-Ahead Sat. Flow	Movement		Total Flow	Proportion of Turning Vehicles	Sat. Flow	Flare lane Length (m)	Share Effect	Revised Sat. Flow	y	Greater y	L (sec)	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left	Right														
→	A	3.30	6	2			N	4030	847	0.00	4030	0.210	0.287	0.287	0.026	0.009	0.030	10	67	92	0.374	36	14	
←	A	3.80	1	1			N	2135	614	0.00	2135	0.287	0.287	0.026	0.009	0.030	10	92	92	0.374	24	5		
↔	A	3.80	1,2	1	10		N	1995	571	0.03	1985	0.287	0.287	0.026	0.009	0.030	10	92	92	0.374	24	5		
→	B	3.50	5	1	15		N	2105	49	1.00	1914	0.026	0.026	0.026	0.009	0.030	10	8	8	0.374	6	56		
↔	C	3.00	3	1	30		N	2055	18	1.00	1957	0.009	0.009	0.009	0.009	0.009	10	3	3	0.374	0	72		
↔	C	3.00	4	1	20		N	1915	54	1.00	1781	0.030	0.030	0.030	0.030	0.030	10	10	10	0.374	6	54		
↕	B		P4																					

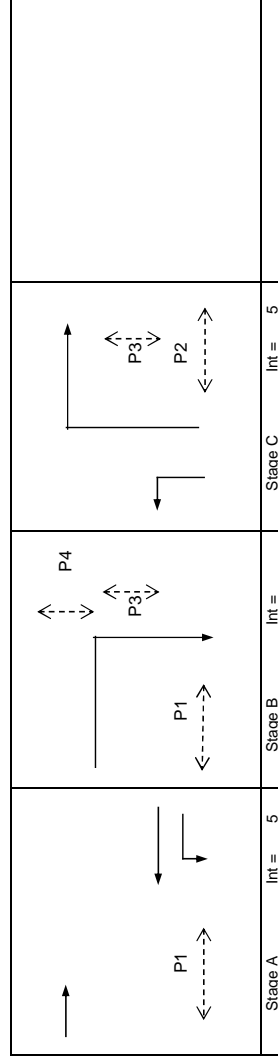
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

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No. of stages per cycle Cycle time Sum(Y) Loss time Total Flow Co Cm Yult R.C.ult Cp Ymax R.C.(C)	N = 3 C = 120 sec Y = 0.303 L = 18 sec = 2307 pcu = 45.9 sec = 25.8 sec = 0.765 = 152.9 % = 27.1 sec = 0.850 = 153 %
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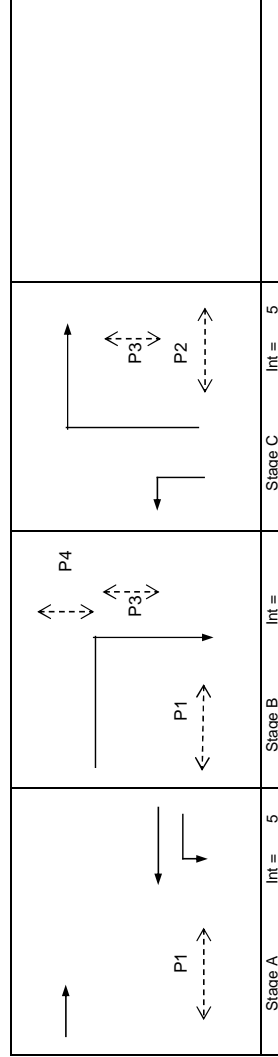
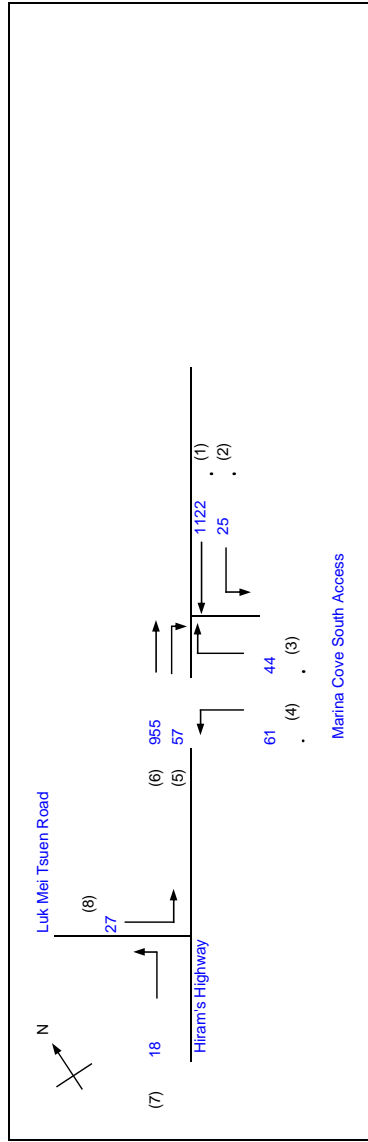
Pedestrian Phase	Stage	Width (m)	SG	FG	Delay	Green Time Required (s)	Green Time Provided (s)
P1	AB	6	5	5			
P2	C	8	5	5			
P3	B,C	8	5	5			
P4	B	9	5	5			

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Right pcu/h	Through pcu/h														
→	A	3.30	6	2			N	4030	1091	0.00	4030		4030			0.271	0.271	8	91	91	0.356	24	5		
←	A	3.80	1	1			N	2135	549	0.00	2135		2135			0.257	0.257	8	87	87	0.356	30	6		
↔	A	3.80	1,2	1	10		N	1995	510	0.04	1983		1983			0.257	0.257	8	87	87	0.356	24	6		
→	B	3.50	5	1	15		N	2105	61	1.00	1914		1914			0.032	0.032	10	11	11	0.356	6	51		
↔	C	3.00	3	1	30		N	2055	39	1.00	1957		1957			0.020	0.020	10	7	7	0.356	6	57		
↔	C	3.00	4	1	20		N	1915	57	1.00	1781		1781			0.032	0.032	10	11	11	0.356	6	52		
↕	B		P4																						

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: 2028desSUN	INITIALS
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REFERENCE NO.:	
Prepared By:	
Checked By:	
Reviewed By:	



Move-ment	Stage	Lane Width (m)	Phase	No. of lane	Radius (m)	O	N	Straight-Ahead Sat. Flow	Movement		Total Flow	Proportion of Turning Vehicles	Sat. Flow	Flare lane Length (m)	Share Effect	Revised Sat. Flow	y	Greater y	L (sec)	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left	Right														
→	A	3.30	6	2			N	4030	955	955	0.00	4030			4030	0.237	0.279	6	77	77	0.369	33	9	
←	A	3.80	1	1			N	2135	595	595	0.00	2135			2135	0.279	0.279	8	91	91	0.369	24	5	
↔	A	3.80	1,2	1	10		N	1995	527	552	0.05	1981			1981	0.279	0.279	8	91	91	0.369	24	5	
→	B	3.50	5	1	15		N	2105	57	57	1.00	1914			1914	0.030	0.030	10	10	10	0.369	6	53	
↔	C	3.00	3	1	30		N	2055	44	44	1.00	1957			1957	0.023	0.023	7	7	7	0.369	6	57	
↔	C	3.00	4	1	20		N	1915	61	61	1.00	1781			1781	0.035	0.035	11	11	11	0.369	6	52	
↕	B		P4																10					

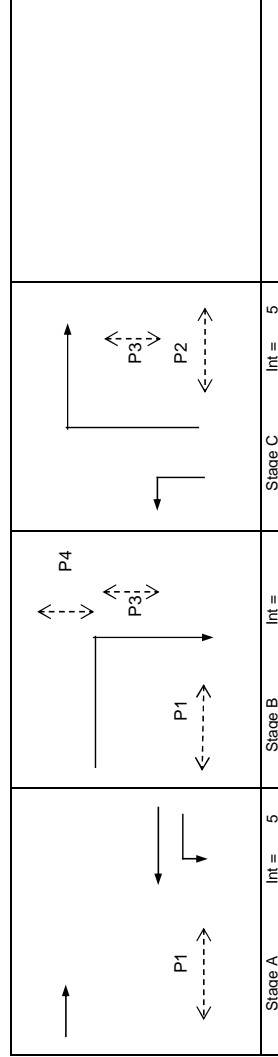
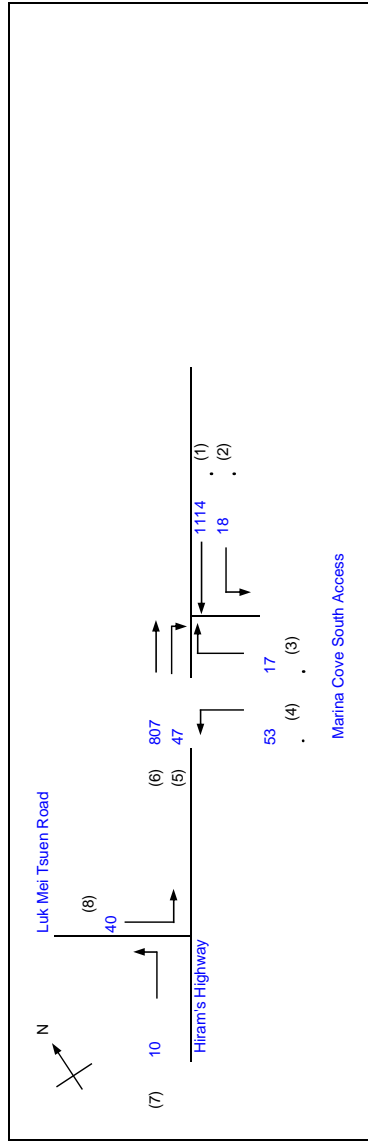
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

No. of stages per cycle = 3
 Cycle time = 120 sec
 Sum(y) = 0.313
 Loss time = 18 sec
 Total Flow = 2265 pcu
 Co = 46.6 sec
 Cm = 26.2 sec
 Yult = 0.765
 R.C.ult = 144.2 %
 Cp = 27.6 sec
 Ymax = 0.850
 R.C.(C) = 144 %

Pedestrian Phase	Stage	Width (m)	SG	FG	Delay	Green Time Required (s)	Green Time Provided (s)
P1	AB	6	5	5			
P2	C	8	5	5			
P3	B,C	8	5	5			
P4	B	9	5	5			

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: FILENAME : REFERENCE NO.:	INITIALS
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Pedestrian Phase	Stage	Width (m)	Green Time Required (s)	Green Time Provided (s)
			SG	FG
P1	AB	6	5	5
P2	C	8	5	5
P3	B,C	8	5	5
P4	B	9	5	5

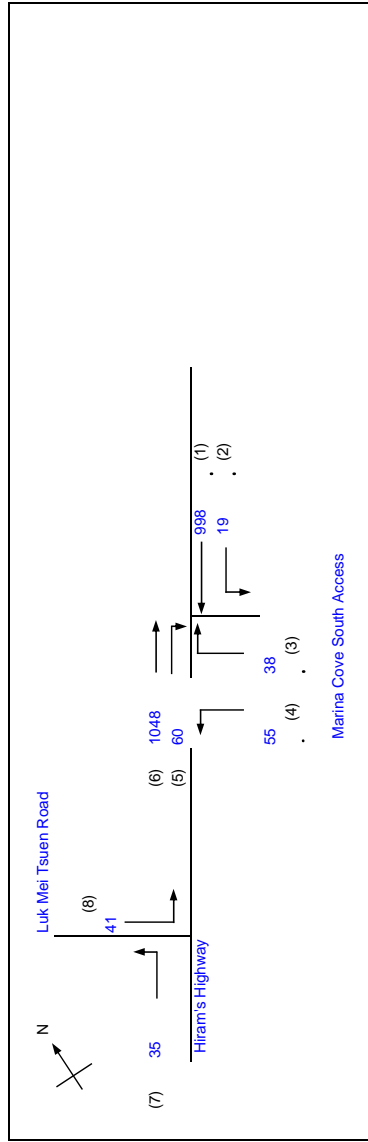
No. of stages per cycle	N = 3
Cycle time	C = 120 sec
Sum(y)	Y = 0.304
Loss time	L = 18 sec
Total Flow	Co = 2057 pcu
Co	Co = (1.5*L+5)/(1-Y)
Cm	Cm = L/(1-Y)
Yult	Yult = 0.765
R.C.ult	R.C.ult = 151.4 %
Cp	Cp = 27.2 sec
Ymax	Ymax = 0.850
R.C.(C)	= (0.9*Ymax-Y)/Y*100% = 151 %

Move-ment	Stage	Lane Width (m)	Phase	No. of lane	Radius (m)	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow	Proportion of Turning Vehicles	Sat. Flow	Flare lane Length (m)	Share Effect	Revised Sat. Flow	y	Greater y	L (sec)	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left	Right	Right														
→	A	3.30	6	2			N	4030	807	0.00	4030	0.200	0.275	67	67	4030	0.200	0.275	6	8	67	0.358	33	14	
←	A	3.80	1	1			N	2135	587	0.00	2135	0.275	0.275	92	92	2135	0.275	0.275	8	8	92	0.358	24	5	
↔	A	3.80	1,2	1	10		N	1995	546	0.03	1985	0.275	0.275	92	92	1985	0.275	0.275	8	8	92	0.358	24	5	
→	B	3.50	5	1	15		N	2105	47	1.00	1914	0.025	0.025	8	8	1914	0.025	0.029	10	10	8	0.358	6	55	
↔	C	3.00	3	1	30		N	2055	17	1.00	1957	0.009	0.009	3	3	1957	0.009	0.029	10	10	3	0.358	0	70	
↔	C	3.00	4	1	20		N	1915	53	1.00	1781	0.029	0.029	10	10	1781	0.029	0.029	10	10	10	0.358	6	53	
↕	B		P4																						

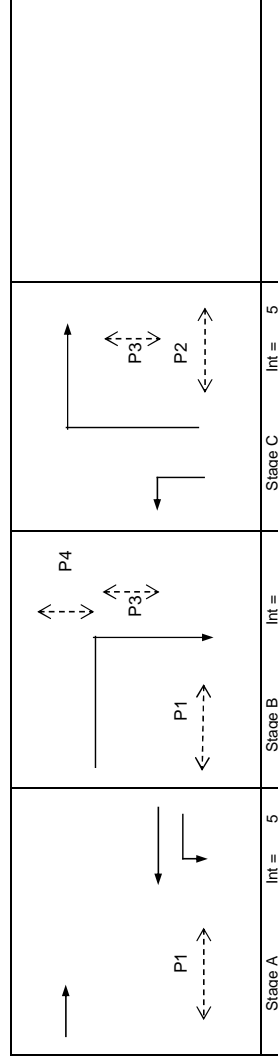
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

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No. of stages per cycle Cycle time Sum(Y) Loss time Total Flow Co Cm Yult R.C.ult Cp Ymax R.C.(C)	$N = 3$ $C = 120 \text{ sec}$ $Y = 0.291$ $L = 18 \text{ sec}$ $= 2218 \text{ pcu}$ $= (1.5 \cdot L + 5) / (1 - Y)$ $= L / (1 - Y)$ $= 0.765$ $= 163.0 \%$ $= 26.6 \text{ sec}$ $= 0.850$ $= (0.9 \cdot Y_{\text{max}} - Y) / Y \cdot 100\%$ $= 163 \%$
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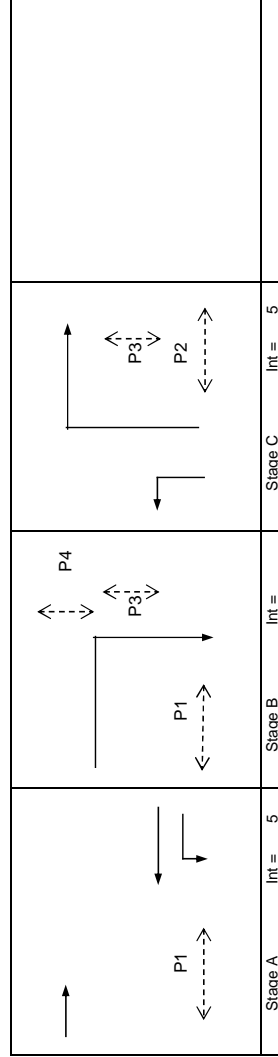
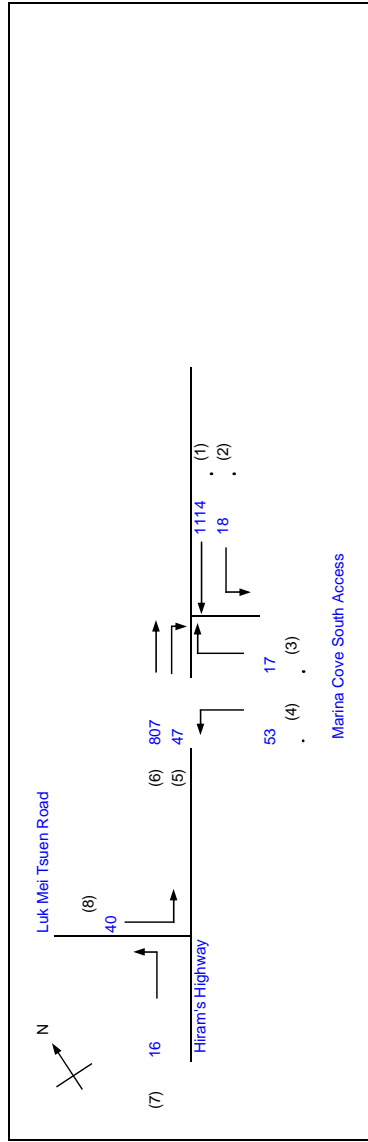
Pedestrian Phase	Stage	Width (m)	SG	FG	Delay	Green Time Required (s)	Green Time Provided (s)
P1	AB	6	5	5			
P2	C	8	5	5			
P3	B,C	8	5	5			
P4	B	9	5	5			

Move-ment	Stage	Lane Width (m)	Phase	No. of lane	Radius (m)	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow	Proportion of Turning Vehicles	Sat. Flow	Flare lane Length (m)	Share Effect	Revised Sat. Flow	y	Greater y	L (sec)	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left	Right	Right														
→	A	3.30	6	2			N	4030	1048	0.00	4030	0.260	0.260	24	0.342	91	91	24	4						
←	A	3.80	1	1			N	2135	528	0.00	2135	0.247	0.247	24	0.342	87	87	24	6						
↔	A	3.80	1,2	1	10		N	1995	490	0.04	1983	0.247	0.247	24	0.342	87	87	24	6						
→	B	3.50	5	1	15		N	2105	60	1.00	1914	0.031	0.031	6	0.342	11	11	6	51						
↔	C	3.00	3	1	30		N	2055	38	1.00	1957	0.019	0.019	6	0.342	7	7	6	57						
↔	C	3.00	4	1	20		N	1915	55	1.00	1781	0.031	0.031	6	0.342	11	11	6	51						
↕	B		P4											10											

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

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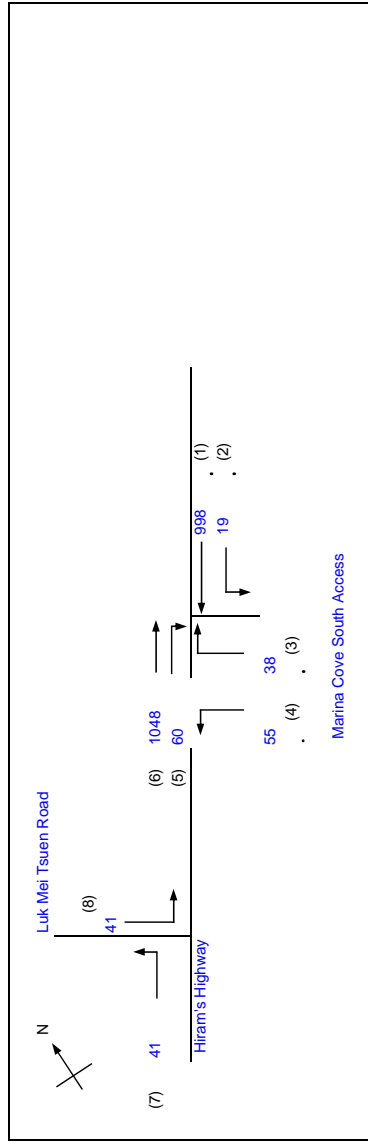
Pedestrian Phase	Stage	Width (m)	Green Time Required (s)	Green Time Provided (s)
			SG	FG
P1	AB	6	5	5
P2	C	8	5	5
P3	B,C	8	5	5
P4	B	9	5	5

Move-ment	Stage	Lane Width (m)	Phase	No. of lane	Radius (m)	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow	Proportion of Turning Vehicles	Sat. Flow	Flare lane Length (m)	Share Effect	Revised Sat. Flow	y	Greater y	L (sec)	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left	Right	Right														
→	A	3.30	6	2			N	4030	807	0.00	4030		4030		0.200	0.275	0.275	8	67	67	67	0.358	33	14	
←	A	3.80	1	1			N	2135	587	0.00	2135		2135		0.275	0.275	0.275	8	92	92	92	0.358	24	5	
↔	A	3.80	1,2	1	10		N	1995	546	0.03	1985	47	1985		0.025	0.029	0.029	8	8	8	8	0.358	24	5	
→	B	3.50	5	1	15		N	2105	47	1.00	1914	47	1914		0.029	0.029	0.029	10	10	10	10	0.358	6	55	
↔	C	3.00	3	1	30		N	2055	17	1.00	1957	17	1957		0.029	0.029	0.029	10	3	3	3	0.358	0	70	
↔	C	3.00	4	1	20		N	1915	53	1.00	1781	53	1781		0.029	0.029	0.029	10	10	10	10	0.358	6	53	
↕	B		P4																						

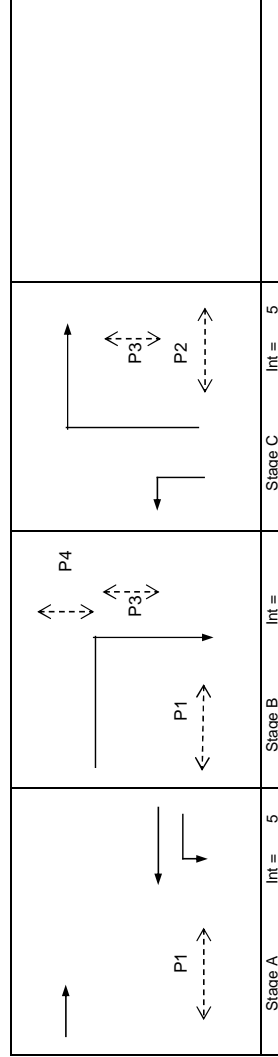
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: FILENAME : REFERENCE NO.:	Prepared By: Checked By: Reviewed By:
2025desPM	
J2 Hiram's Highway / Marina Cove South Access 2025 Design Scenario Weekday PM Peak	
	INITIALS DATE



No. of stages per cycle Cycle time Sum(Y) Loss time Total Flow Co Cm Yult R.C.ult Cp Ymax R.C.(C)	N = 3 C = 120 sec Y = 0.291 L = 18 sec = 2218 pcu = (1.5*L+5)/(1-Y) = L/(1-Y) = (Yult-Y)*Y*100% = 0.9*L/(0.9-Y) = 1-L/C = (0.9*Ymax-Y)*Y*100%
Existing Cycle Time	= 163 %



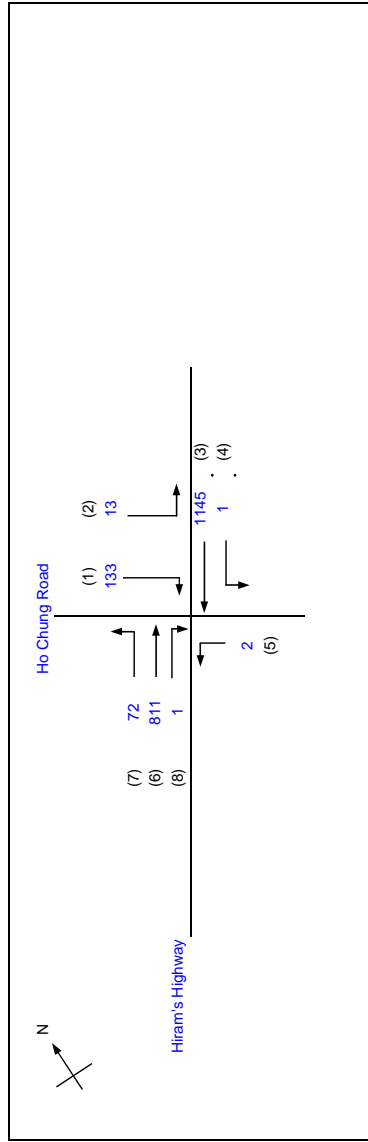
Pedestrian Phase	Stage	Width (m)	SG	FG	Delay	Green Time Required (s)	Green Time Provided (s)
P1	AB	6	5	5			
P2	C	8	5	5			
P3	B,C	8	5	5			
P4	B	9	5	5			

Move-ment	Stage	Lane Width (m)	Phase	No. of lane	Radius (m)	O	N	Straight-Ahead Sat. Flow	Movement		Total Flow	Proportion of Turning Vehicles	Sat. Flow	Flare lane Length (m)	Share Effect	Revised Sat. Flow	y	Greater y	L (sec)	g (required) sec	g (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left	Right														
→	A	3.30	6	2			N	4030	1048	1048	0.00	4030			4030	0.260	0.260	8	91	91	0.342	24	4	
←	A	3.80	1	1			N	2135	528	528	0.00	2135			2135	0.247	0.247	8	87	87	0.342	24	6	
↔	A	3.80	1,2	1	10		N	1995	490	471	0.04	1983			1983	0.247	0.247	8	87	87	0.342	24	6	
→	B	3.50	5	1	15		N	2105	60	60	1.00	1914			1914	0.031	0.031	10	11	11	0.342	6	51	
↔	C	3.00	3	1	30		N	2055	38	38	1.00	1957			1957	0.019	0.019	10	7	7	0.342	6	57	
↔	C	3.00	4	1	20		N	1915	55	55	1.00	1781			1781	0.031	0.031	10	11	11	0.342	6	51	
↔	B		P4																					

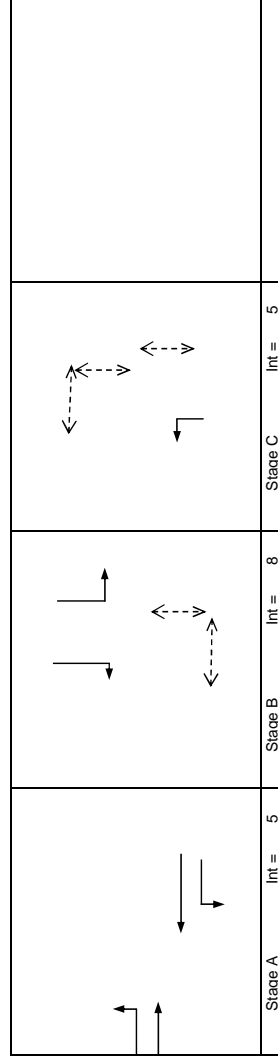
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: 2023AM	INITIALS
FILENAME :	DATE
REFERENCE NO.:	
Prepared By:	
Checked By:	
Reviewed By:	



No. of stages per cycle	N = 3
Cycle time	C = 130 sec
Sum(y)	Y = 0.353
Loss time	L = 25 sec
Total Flow	= 2176 pcu
Co	= 65.7 sec
Cm	= 38.6 sec
Yult	= 0.713
R.C.ult	= 101.9 %
Cp	= 41.1 sec
Ymax	= 0.808
R.C.(C)	= (0.9*Ymax-Y)*100% = 106 %



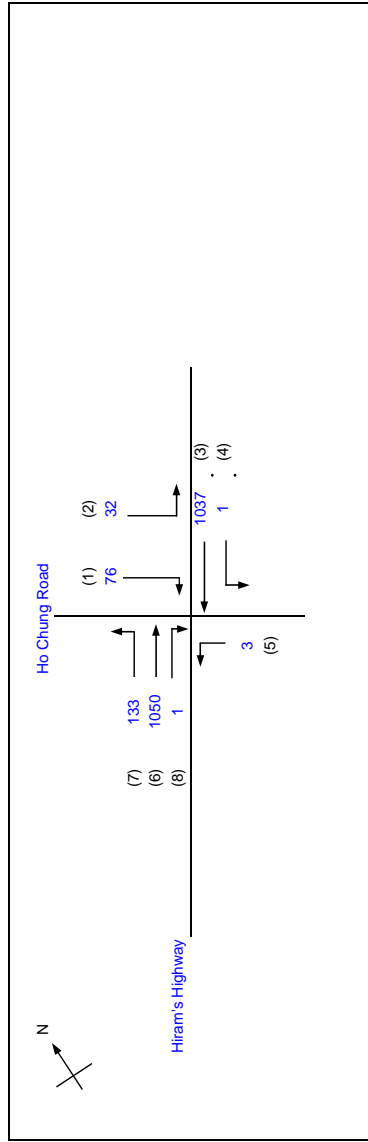
Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight Right pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	72	811		72	1.00	1691		1191	0.060	0.284	15	18	17	0.463	12	56	
6	A	3.30		2	10		N	4170	811	811	811	0.00	4170		4170	0.194	0.284	58	57	57	0.445	48	24		
4,3	A	3.30		1	30		N	1945	1	552	552	0.00	1945		1945	0.284	0.284	85	84	84	0.442	42	11		
3	A	3.30		1	30		N	2085	593	593	593	0.00	2085		2085	0.284	0.284	85	84	84	0.442	42	11		
2	B	3.30		1	10		N	1945	13	13	13	1.00	1691		1191	0.011	0.067	3	2	2	0.631	0	192		
1	B	3.30		1	25		N	2085	133	133	133	1.00	1967		1967	0.067	0.067	20	19	19	0.460	24	50		
5	C	3.30		1	10		N	1945	2	2	2	1.00	1691		1691	0.001	0.001	0	0	0	0.013	0	48		

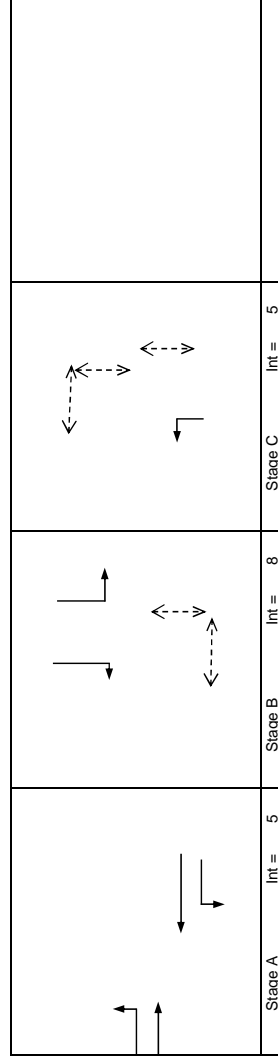
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: FILENAME : REFERENCE NO.:	Prepared By: Checked By: Reviewed By:
2023PM	
J3 Hiram's Highway / Ho Chung Road 2023 Weekday PM Peak	
INITIALS	DATE



No. of stages per cycle	N =	3	Existing Cycle Time
Cycle time	C =	130 sec	
Sum(y)	Y =	0.298	
Loss time	L =	25 sec	
Total Flow	=	2332 pcu	
Co	=	60.5 sec	
Cm	=	35.6 sec	
Yult	=	0.713	
R.C.ult	=	139.3 %	
Cp	=	37.4 sec	
Ymax	=	0.808	
R.C.(C)	=	$(0.9 * Y_{max} - Y) / Y * 100\%$	144 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight Right pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	133	1050	133	1.00	1691		-500	1191	0.112	0.258	15	39	38	0.378	18	36	
6	A	3.30		2	30		N	4170	1050	500	1050	0.00	4170		-500	4170	0.252	0.258	89	88	0.373	36	9		
4,3	A	3.30		1	30		N	1945	1	537	501	0.00	1945		-500	1945	0.258	0.258	91	90	0.373	30	8		
3	A	3.30		1	30		N	2085	537	537	537	0.00	2085		-500	2085	0.258	0.258	91	90	0.373	30	8		
2	B	3.30		1	10		N	1945	32	76	32	1.00	1691		-500	1191	0.027	0.039	9	8	0.412	6	67		
1	B	3.30		1	25		N	2085	76	76	76	1.00	1967		-500	1967	0.039	0.039	14	13	0.398	12	55		
5	C	3.30		1	10		N	1945	3	3	3	1.00	1691		-500	1691	0.001	0.001	1	1	0.016	0	48		

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

2023SUN

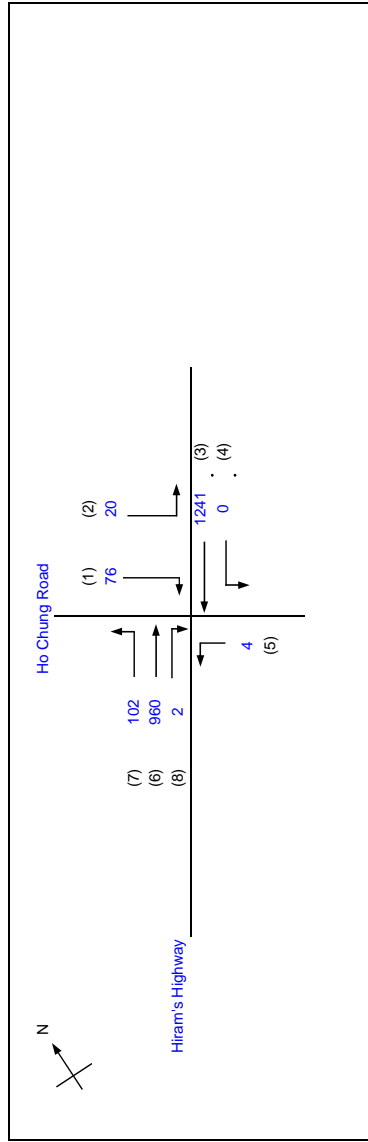
PROJECT NO.: _____ FILENAME : _____

Prepared By: _____ Checked By: _____

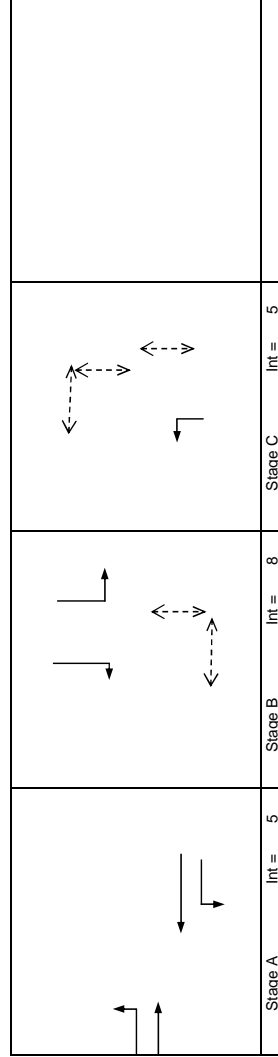
REFERENCE NO.: _____ Reviewed By: _____

INITIALS _____ DATE _____

J3 Hiram's Highway / Ho Chung Road
2023 Weekend PM Peak



No. of stages per cycle	N =	3	Existing Cycle Time
Cycle time	C =	130 sec	
Sum(Y)	Y =	0.349	
Loss time	L =	25 sec	
Total Flow	=	2401 pcu	
Co	=	65.2 sec	
Cm	=	38.4 sec	
Yult	=	0.713	
R.C.ult	=	104.4 %	
Cp	=	40.8 sec	
Ymax	=	0.808	
R.C.(C)	=	$(0.9 * Y_{max} - Y) / Y * 100\%$	109 %



Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG

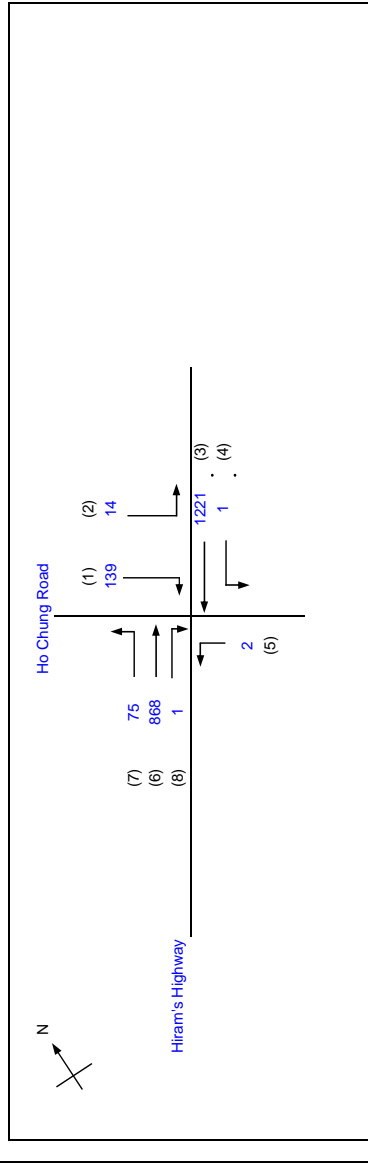
Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement		Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	102	960	102	1.00	1691		-500	1191	0.086	0.308	15	26	25	0.449	12	48
6	A	3.30		2	30		N	4170	0	960	960	0.00	4170		4170	0.230	0.230		69	68	0.438	48	18	
4,3	A	3.30		1	30		N	1945	0	599	599	0.00	1945		1945	0.308	0.308		93	92	0.436	36	8	
3	A	3.30		1	30		N	2085	642	642	642	0.00	2085		2085	0.308	0.308		93	92	0.436	36	8	
2	B	3.30		1	10		N	1945	20	20	20	1.00	1691		-500	1191	0.016	0.038		5	4	0.541	0	109
1	B	3.30		1	25		N	2085	76	76	76	1.00	1967			1967	0.038	0.038		12	11	0.472	12	60
5	C	3.30		1	10		N	1945	4	4	4	1.00	1691			1691	0.002	0.002		1	12	0.026	0	49

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

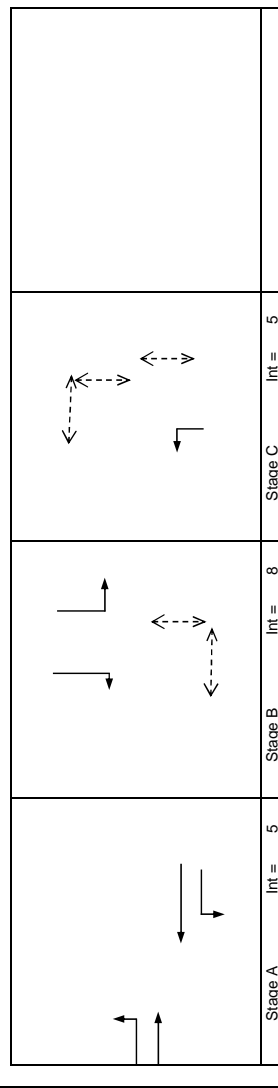
TRAFFIC SIGNAL CALCULATION

PROJECT NO.: **2028refAM** INITIALS: _____ DATE: _____
 FILENAME: _____ Prepared By: _____
 REFERENCE NO.: _____ Checked By: _____
 _____ Reviewed By: _____

<p>No. of stages per cycle = 3</p> <p>Cycle time = 130 sec</p> <p>Sum(y) = 0.375</p> <p>Loss time = 25 sec</p> <p>Total Flow = 2320 pcu</p> <p>Co = 68.0 sec</p> <p>Cm = 40.0 sec</p> <p>Yult = 0.713</p> <p>R.C.ult = 89.9 %</p> <p>Cp = 42.9 sec</p> <p>Ymax = 0.808</p> <p>R.C.(C) = $(0.9 * Y_{max} - Y) / Y * 100\%$ = 94 %</p>	<p>Existing Cycle Time</p> <p>N = 3</p> <p>C = 130 sec</p> <p>Y = 0.375</p> <p>L = 25 sec</p> <p>= 2320 pcu</p> <p>= 68.0 sec</p> <p>= 40.0 sec</p> <p>= 0.713</p> <p>= 89.9 %</p> <p>= 42.9 sec</p> <p>= 0.808</p> <p>= 94 %</p>
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Move-ment	Stage	Lane Width (m)	Phase	No. of lane	Radius (m)	O	N	Stage A		Stage B		Stage C		Int = 5
								Int = 5	Int = 8	Int = 5	Int = 8	Int = 5	Int = 8	
7	A	3.30		1	10		N							
6	A	3.30		2	30		N							
4,3	A	3.30		1	30		N							
3	A	3.30		1	30		N							
2	B	3.30		1	10		N							
1	B	3.30		1	25		N							
5	C	3.30		1	10		N							



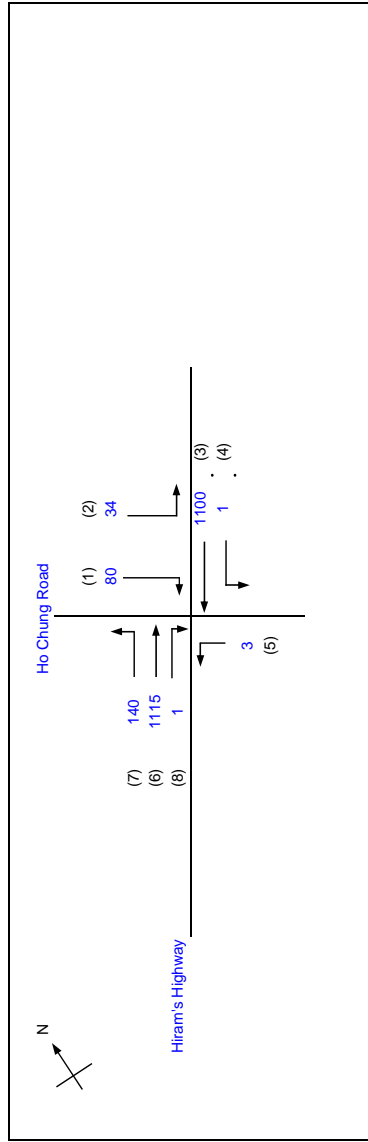
Move-ment	Stage	Lane Width (m)	Phase	No. of lane	Radius (m)	O	N	Straight-Ahead Sat. Flow	Movement		Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	75	868	75	1.00	1691		-500	1191	0.063	0.303	15	18	17	0.493	12	58
6	A	3.30		2	30		N	4170	868	868	868	0.00	4170		-500	4170	0.208	0.208	58	57	57	0.473	51	24
4,3	A	3.30		1	30		N	1945	590	589	590	0.00	1945		-500	1945	0.303	0.303	85	84	84	0.470	42	12
3	A	3.30		1	30		N	2085	632	632	632	0.00	2085		-500	2085	0.303	0.303	85	84	84	0.470	48	12
2	B	3.30		1	10		N	1945	14	14	14	1.00	1691		-500	1191	0.011	0.071	3	2	2	0.675	6	223
1	B	3.30		1	25		N	2085	139	139	139	1.00	1967		-500	1967	0.071	0.071	20	19	19	0.489	24	52
5	C	3.30		1	10		N	1945	2	2	2	1.00	1691		-500	1691	0.001	0.001	0	0	12	0.013	0	48

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

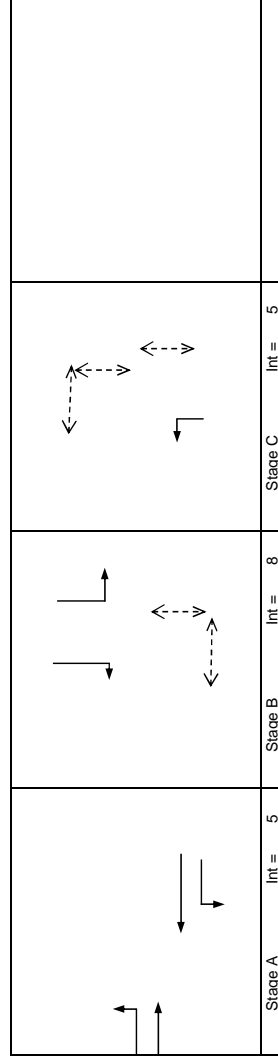
TRAFFIC SIGNAL CALCULATION

PROJECT NO.: **2028refPM** PREPARED BY: _____
 FILENAME: _____ CHECKED BY: _____
 REFERENCE NO.: _____ REVIEWED BY: _____

INITIALS DATE



No. of stages per cycle	N = 3	Existing Cycle Time
Cycle time	C = 130 sec	
Sum(Y)	Y = 0.315	
Loss time	L = 25 sec	
Total Flow	= 2472 pcu	
Co	= 62.1 sec	
Cm	= 36.5 sec	
Yult	= 0.713	
R.C.ult	= 125.9 %	
Cp	= 38.5 sec	
Ymax	= 0.808	
R.C.(C)	= (0.9*Ymax-Y)*100%	= 130 %



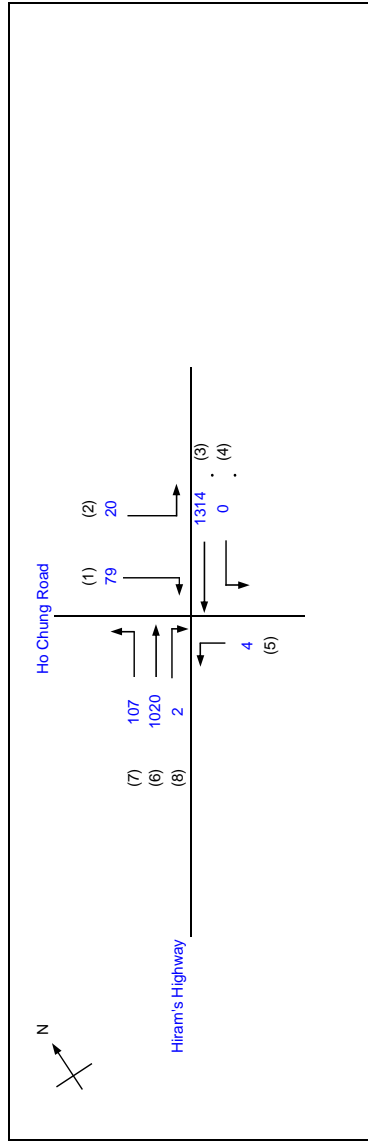
Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight Right pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	140	1115	140	1.00	1691		-500	1191	0.117	0.273	15	39	38	0.401	18	36	
6	A	3.30		2	10		N	4170	1115	1115	1115	0.00	4170		-500	4170	0.267	0.273	89	88	0.395	39	9		
4,3	A	3.30		1	30		N	1945	530	530	530	0.00	1945		-500	1945	0.273	0.273	91	90	0.395	30	8		
3	A	3.30		1	30		N	2085	570	570	570	0.00	2085		-500	2085	0.273	0.273	91	90	0.395	36	8		
2	B	3.30		1	10		N	1945	34	34	34	1.00	1691		-500	1191	0.028	0.041	9	8	0.437	6	69		
1	B	3.30		1	25		N	2085	80	80	80	1.00	1967		-500	1967	0.041	0.041	14	13	0.422	12	56		
5	C	3.30		1	10		N	1945	3	3	3	1.00	1691		-500	1691	0.002	0.002	1	1	0.017	0	48		

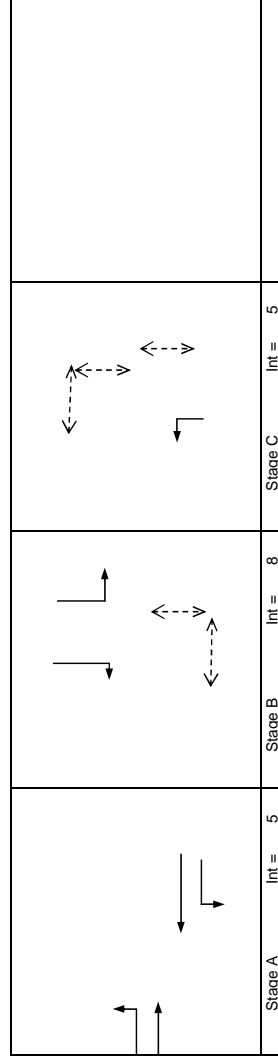
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: 2028refSUN	INITIALS
FILENAME :	DATE
REFERENCE NO.:	
Prepared By:	
Checked By:	
Reviewed By:	



No. of stages per cycle	3
Cycle time	N = 130 sec
Sum(y)	C = 0.369
Loss time	Y = 25 sec
Total Flow	L = 2545 pcu
Co	= 67.3 sec
Cm	= 39.6 sec
Yult	= 0.713
R.C.ult	= 93.1 %
Cp	= 42.4 sec
Ymax	= 0.808
R.C.(C)	= (0.9*Ymax*Y)*100% = 97 %



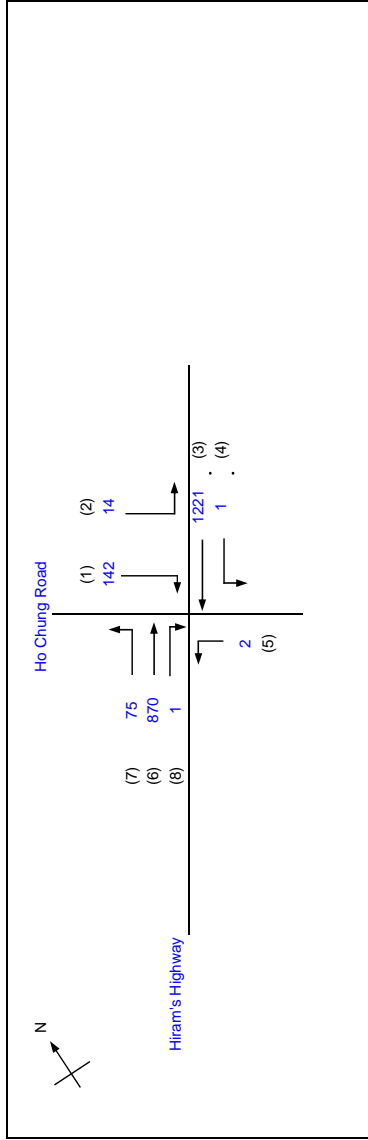
Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG

Move-ment	Stage	Lane Width (m)	Phase	No. of lane	Radius (m)	O	N	Straight-Ahead Sat. Flow	Movement		Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length (m)	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L (sec)	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	107	1020	107	1.00	1691		-500	1191	0.090	0.326	15	26	25	0.475	18	49
6	A	3.30		2	30		N	4170	0	1020	1020	0.00	4170			4170	0.245		70	69	0.463	51	18	
4,3	A	3.30		1	30		N	1945	634	634	634	0.00	1945			1945	0.326		93	92	0.462	36	9	
3	A	3.30		1	30		N	2085	680	680	680	0.00	2085			2085	0.326		93	92	0.462	42	8	
2	B	3.30		1	10		N	1945	20	20	20	1.00	1691		-500	1191	0.017	0.040	5	4	0.574	6	117	
1	B	3.30		1	25		N	2085	79	79	79	1.00	1967			1967	0.040		11	10	0.500	12	62	
5	C	3.30		1	10		N	1945	4	4	4	1.00	1691			1691	0.002	0.002	1	12	0.027	0	49	

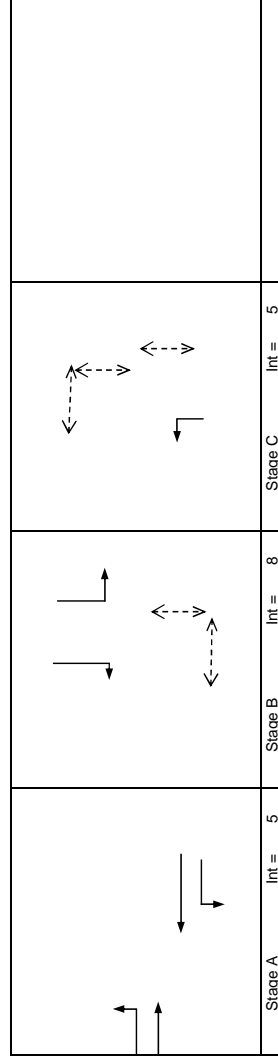
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRAIN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: FILENAME : REFERENCE NO.:	Prepared By: Checked By: Reviewed By:
2028desAM	
J3 Hiram's Highway / Ho Chung Road 2028 Design Scenario Weekday AM Peak	
INITIALS	DATE



No. of stages per cycle Cycle time Sum(Y) Loss time Total Flow Co Cm Yult R.C.ult Cp Ymax R.C.(C)	N = 3 C = 130 sec Y = 0.377 L = 25 sec = 2325 pcu = 68.2 sec = 40.1 sec = 0.713 = 89.2 % = 43.0 sec = 0.808 = (0.9*Ymax-Y)/Y*100% = 93 %
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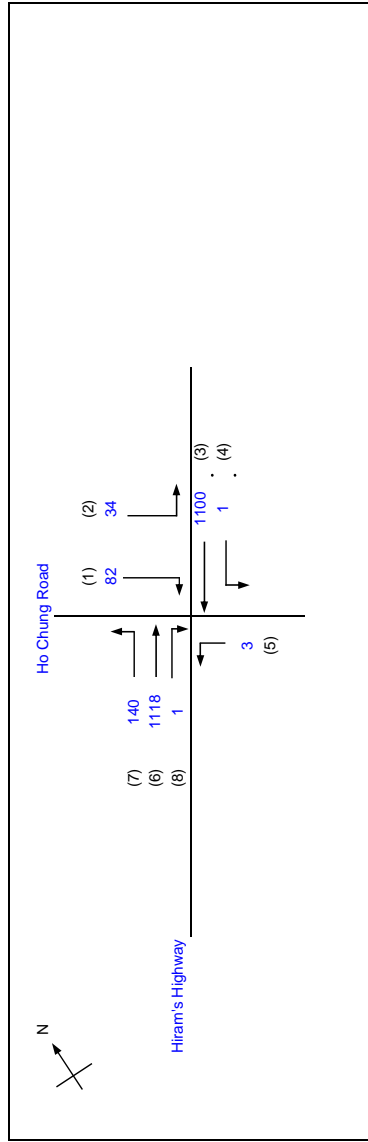
Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight Right pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	75	870	75	1.00	1691		-500	1191	0.063	0.303	15	18	17	0.494	12	58	
6	A	3.30		2	30		N	4170	870	4170	870	0.00	4170			4170	0.209			58	57	0.474	51	24	
4,3	A	3.30		1	30		N	1945	1	589	590	0.00	1945			1945	0.303			85	84	0.472	42	12	
3	A	3.30		1	30		N	2085	632	632	632	0.00	2085			2085	0.303			85	84	0.472	48	12	
2	B	3.30		1	10		N	1945	14	14	14	1.00	1691		-500	1191	0.011	0.072		3	2	0.678	6	227	
1	B	3.30		1	25		N	2085	142	142	142	1.00	1967			1967	0.072			20	19	0.491	24	51	
5	C	3.30		1	10		N	1945	2	2	2	1.00	1691			1691	0.001	0.001	10	0	12	0.013	0	48	

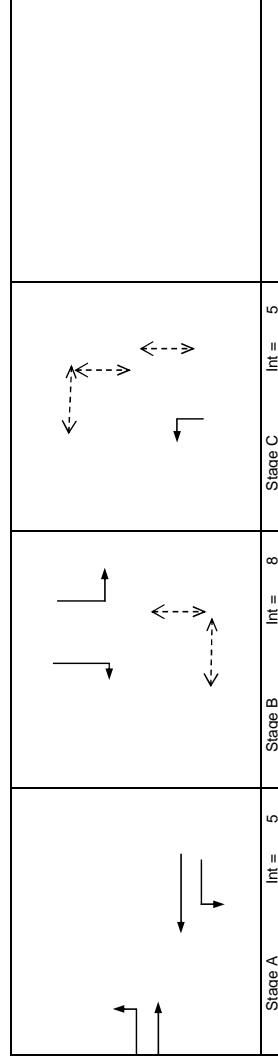
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: FILENAME : REFERENCE NO.:	Prepared By: Checked By: Reviewed By:
2028desPM	
J3 Hiram's Highway / Ho Chung Road 2028 Design Scenario Weekday PM Peak	
INITIALS	DATE



No. of stages per cycle	N =	3	Existing Cycle Time
Cycle time	C =	130 sec	
Sum(y)	Y =	0.317	
Loss time	L =	25 sec	
Total Flow	=	2478 pcu	
Co	=	62.2 sec	
Cm	=	36.6 sec	
Yult	=	0.713	
R.C.ult	=	125.1 %	
Cp	=	38.6 sec	
Ymax	=	0.808	
R.C.(C)	=	$(0.9 * Y_{max} - Y) / Y * 100\%$	130 %



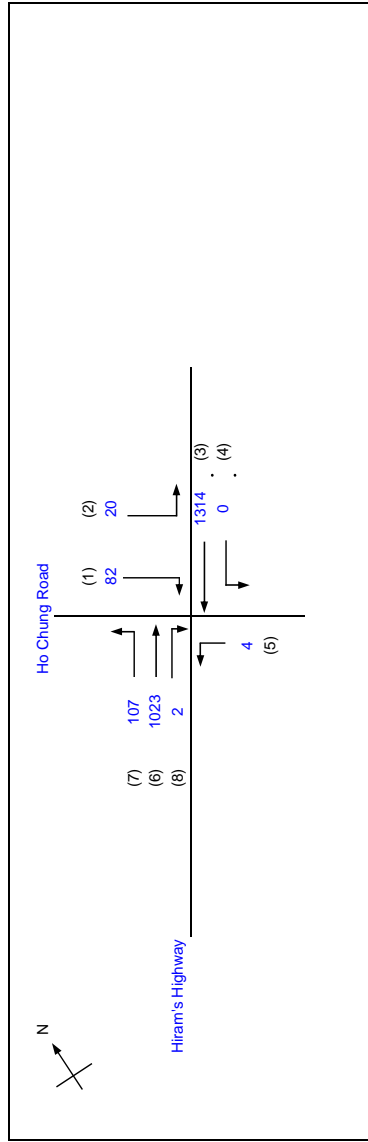
Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight Right pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	140	1118	140	1.00	1691		-500	1191	0.117	0.273	15	39	38	0.402	18	36	
6	A	3.30		2	10		N	4170	1118	1118	1118	0.00	4170		-500	4170	0.268	0.273	89	88	0.396	39	9		
4,3	A	3.30		1	30		N	1945	530	530	531	0.00	1945		-500	1945	0.273	0.273	91	90	0.396	30	9		
3	A	3.30		1	30		N	2085	570	570	570	0.00	2085		-500	2085	0.273	0.273	91	90	0.396	36	9		
2	B	3.30		1	10		N	1945	34	34	34	1.00	1691		-500	1191	0.028	0.042	9	8	0.439	6	69		
1	B	3.30		1	25		N	2085	82	82	82	1.00	1967		-500	1967	0.042	0.002	14	13	0.422	12	56		
5	C	3.30		1	10		N	1945	3	3	3	1.00	1691		-500	1691	0.002	0.002	1	1	0.017	0	48		

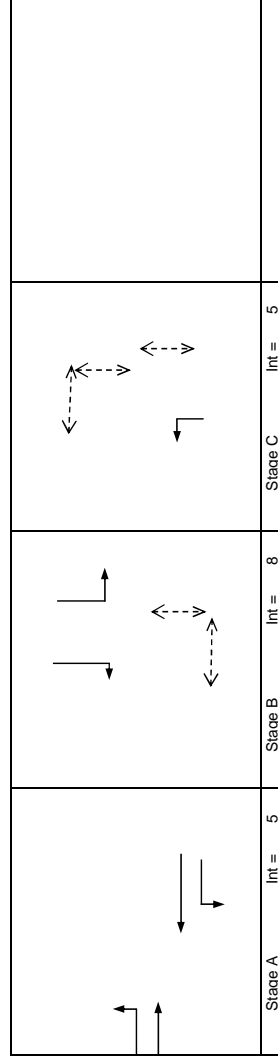
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: 2028desSUN FILENAME : REFERENCE NO.:	Prepared By: Checked By: Reviewed By:
INITIALS _____ DATE _____	



No. of stages per cycle Cycle time Sum(Y) Loss time Total Flow Co Cm Yult R.C.ult Cp Ymax R.C.(C)	N = 3 C = 130 sec Y = 0.370 L = 25 sec = 2551 pcu = 67.5 sec = 39.7 sec = 0.713 = 92.5 % = 42.5 sec = 0.808 = (0.9*Ymax-Y)/Y*100% = 96 %
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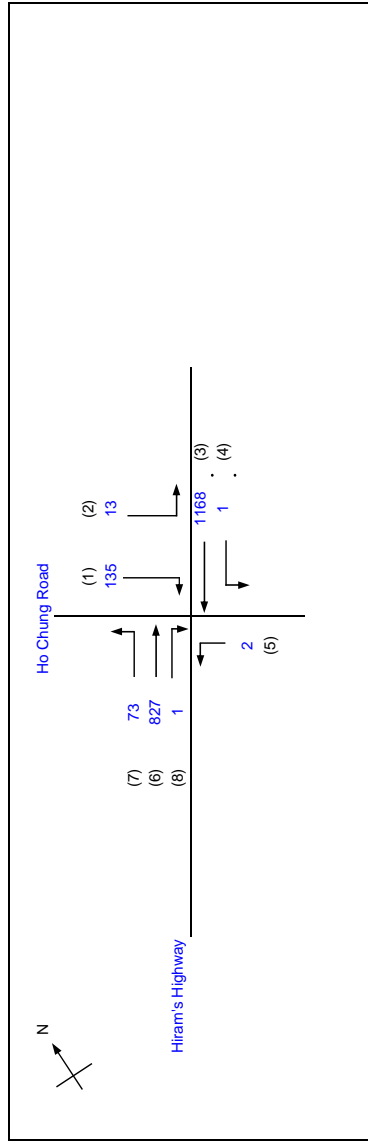
Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement		Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	107	1023	107	1.00	1691		-500	1191	0.090	0.326	15	26	25	0.477	18	49
6	A	3.30		2	10		N	4170	0	1023	1023	0.00	4170		-500	4170	0.245		70	69	0.465	51	18	
4,3	A	3.30		1	30		N	1945	0	634	634	0.00	1945		-500	1945	0.326		93	92	0.463	36	9	
3	A	3.30		1	30		N	2085	0	680	680	0.00	2085		-500	2085	0.326		93	92	0.463	42	9	
2	B	3.30		1	10		N	1945	20	20	20	1.00	1691		-500	1191	0.017	0.041	5	4	0.576	6	118	
1	B	3.30		1	25		N	2085	82	82	82	1.00	1967		-500	1967	0.041		12	11	0.501	12	61	
5	C	3.30		1	10		N	1945	4	4	4	1.00	1691		-500	1691	0.002	0.002	10	1	12	0.027	0	49

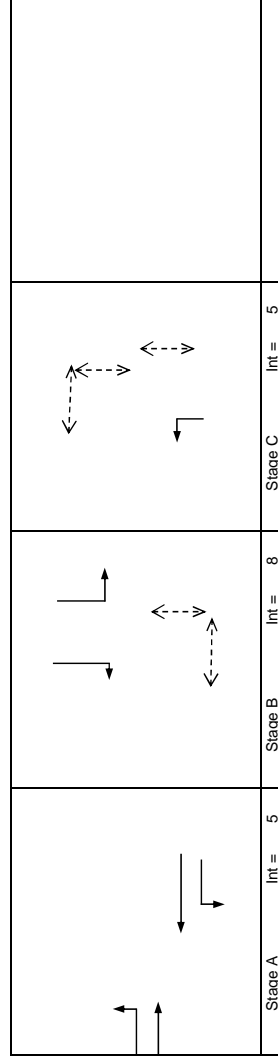
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: FILENAME : REFERENCE NO.:	Prepared By: Checked By: Reviewed By:
2025refAM	
J3 Hiram's Highway / Ho Chung Road 2025 Reference Scenario Weekday AM Peak	
INITIALS	DATE



No. of stages per cycle Cycle time Sum(Y) Loss time Total Flow Co Cm Yult R.C.ult Cp Ymax R.C.(C)	N = 3 C = 130 sec Y = 0.360 L = 25 sec = 2219 pcu = 66.4 sec = 39.1 sec = 0.713 = 97.9 % = 41.7 sec = 0.808 = 102 %
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Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG

Move-ment	Stage	Lane Width (m)	Phase	No. of lane	Radius (m)	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow	Proportion of Turning Vehicles	Sat. Flow	Flare lane Length (m)	Share Effect	Revised Sat. Flow	y	Greater y	L (sec)	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left	Straight	Right														
7	A	3.30		1	10		N	1945	73	0.00	1.00	1691		-500	1191	0.061	0.290	15	18	17	0.472	12	57		
6	A	3.30		2	10		N	4170	827	0.00	0.00	4170			4170	0.198		58	57	0.454	48	24			
4,3	A	3.30		1	30		N	1945	564	0.00	0.00	1945			1945	0.290		85	84	0.451	42	12			
3	A	3.30		1	30		N	2085	605	0.00	0.00	2085			2085	0.290		85	84	0.451	42	11			
2	B	3.30		1	10		N	1945	13	1.00	1.00	1691		-500	1191	0.011	0.069	3	2	0.644	0	200			
1	B	3.30		1	25		N	2085	135	1.00	1.00	1967			1967	0.069		20	19	0.469	24	51			
5	C	3.30		1	10		N	1945	2	1.00	1.00	1691			1691	0.001	0.001	0	0	0.013	0	48			

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

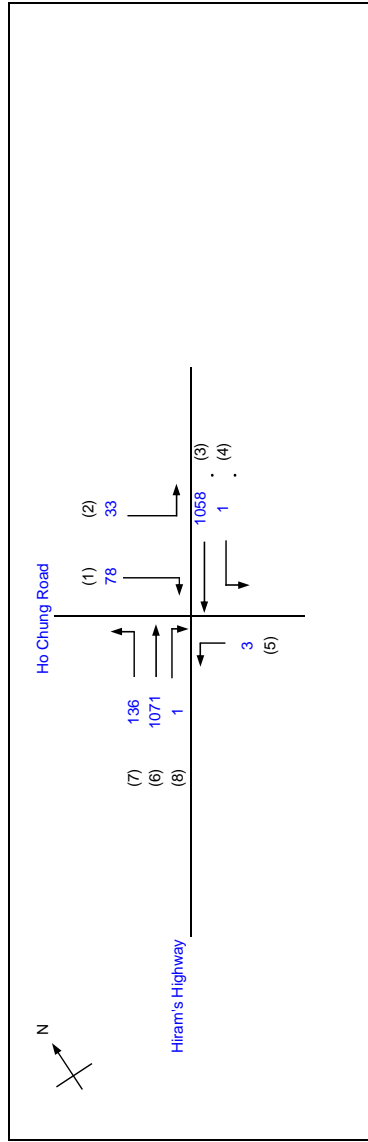
TRAFFIC SIGNAL CALCULATION

PROJECT NO.: **2025refPM** PREPARED BY: _____ INITIALS: _____ DATE: _____

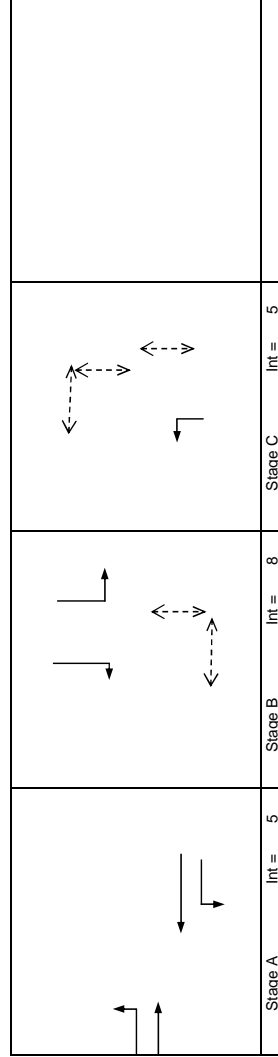
FILENAME: _____ CHECKED BY: _____

REFERENCE NO.: _____ REVIEWED BY: _____

J3 Hiram's Highway / Ho Chung Road
2025 Reference Scenario Weekday PM Peak



No. of stages per cycle	N =	3	Existing Cycle Time
Cycle time	C =	130 sec	
Sum(y)	Y =	0.304	
Loss time	L =	25 sec	
Total Flow	=	2378 pcu	
Co	=	61.0 sec	
Cm	=	35.9 sec	
Yult	=	0.713	
R.C.ult	=	134.6 %	
Cp	=	37.7 sec	
Ymax	=	0.808	
R.C.(C)	=	$(0.9 * Y_{max} - Y) / Y * 100\%$	139 %



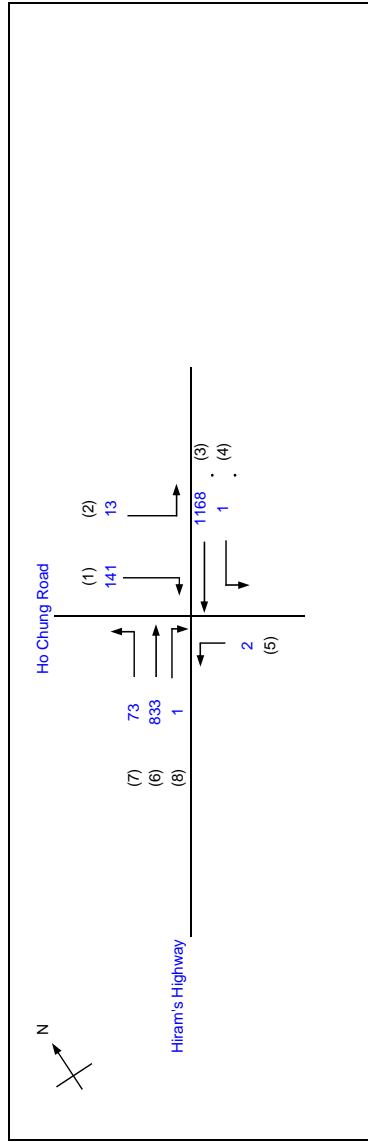
Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG

Move-ment	Stage	Lane Width (m)	Phase	No. of lane	Radius (m)	O	N	Straight-Ahead Sat. Flow	Movement		Total Flow	Proportion of Turning Vehicles	Sat. Flow	Flare lane Length (m)	Share Effect	Revised Sat. Flow	y	Greater y	L (sec)	g (required)	G (input)	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left	Right														
7	A	3.30		1	10		N	1945	136	1071	136	1.00	1691		-500	1191	0.114	0.263	15	39	38	0.386	18	36
6	A	3.30		2	30		N	4170	1071	511	0.00	4170		4170		4170	0.257	0.263	89	88	0.380	36	9	
4,3	A	3.30		1	30		N	1945	510	548	0.00	1945		1945		1945	0.263	0.263	91	90	0.380	30	8	
3	A	3.30		1	30		N	2085	548	548	0.00	2085		2085		2085	0.263	0.263	91	90	0.380	36	8	
2	B	3.30		1	10		N	1945	33	78	1.00	1691		-500	1191	0.027	0.039	9	8	0.420	6	68		
1	B	3.30		1	25		N	2085	78	78	1.00	1967		-500	1967	0.039	0.039	14	13	0.406	12	55		
5	C	3.30		1	10		N	1945	3	3	1.00	1691		-500	1691	0.002	0.002	1	1	0.016	0	48		

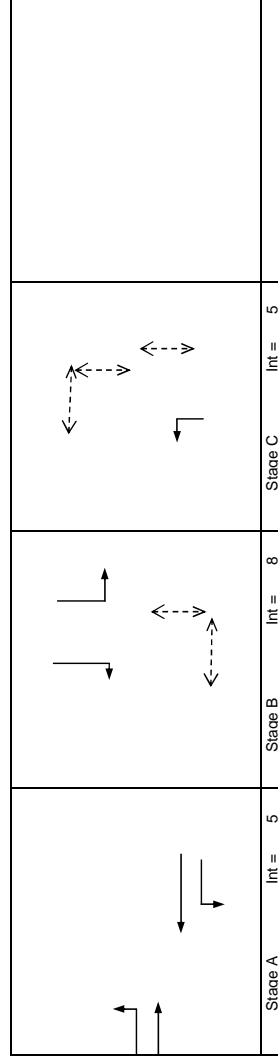
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: FILENAME : REFERENCE NO.:	Prepared By: Checked By: Reviewed By:
2025desAM	
J3 Hiram's Highway / Ho Chung Road 2025 Design Scenario Weekday AM Peak	
	INITIALS DATE



No. of stages per cycle Cycle time Sum(Y) Loss time Total Flow Co Cm Yult R.C.ult Cp Ymax R.C.(C)	N = 3 C = 130 sec Y = 0.363 L = 25 sec = 2231 pcu = 66.7 sec = 39.3 sec = 0.713 = 96.2 % = 41.9 sec = 0.808 = 100 %
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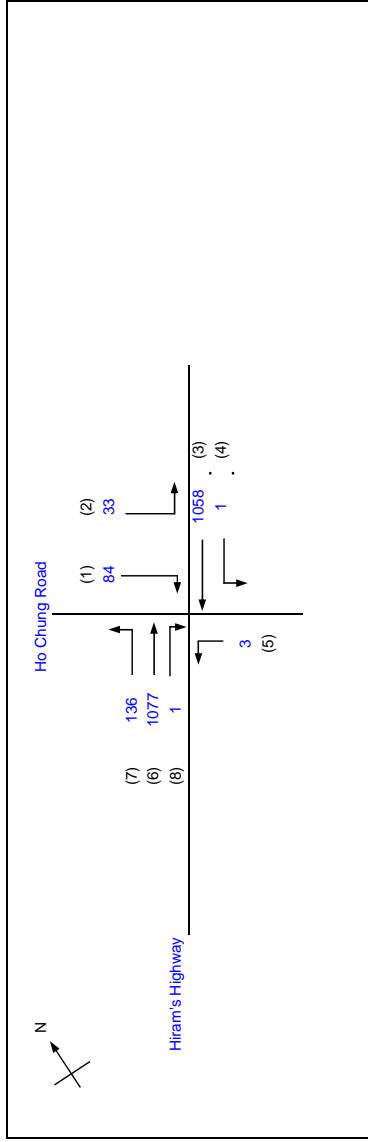
Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement			Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Straight Right pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	73	833	73	1.00	1691		-500	1191	0.061	0.290	15	18	17	0.476	12	57	
6	A	3.30		2	10		N	4170	833	833	833	0.00	4170		-500	4170	0.200	0.200		58	57	0.457	48	24	
4,3	A	3.30		1	30		N	1945	1	563	564	0.00	1945		-500	1945	0.290	0.290		84	83	0.455	42	12	
3	A	3.30		1	30		N	2085	605	605	605	0.00	2085		-500	2085	0.290	0.290		84	83	0.455	42	12	
2	B	3.30		1	10		N	1945	13	13	13	1.00	1691		-500	1191	0.011	0.072		3	2	0.652	0	206	
1	B	3.30		1	25		N	2085	141	141	141	1.00	1967		-500	1967	0.072	0.072		21	20	0.472	24	50	
5	C	3.30		1	10		N	1945	2	2	2	1.00	1691		-500	1691	0.001	0.001		0	12	0.013	0	48	

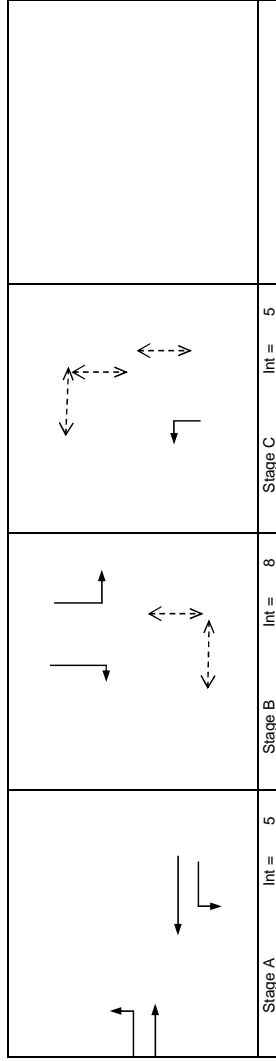
NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

TRAFFIC SIGNAL CALCULATION

PROJECT NO.: FILENAME : REFERENCE NO.:	Prepared By: Checked By: Reviewed By:
2025desPM	
J3 Hiram's Highway / Ho Chung Road 2025 Design Scenario Weekday PM Peak	
	INITIALS DATE



No. of stages per cycle Cycle time Sum(Y) Loss time Total Flow Co Cm Yult R.C.ult Cp Ymax R.C.(C)	N = 3 C = 130 sec Y = 0.307 L = 25 sec = 2390 pcu = 61.3 sec = 36.1 sec = 0.713 = 132.3 % = 37.9 sec = 0.808 = 137 %
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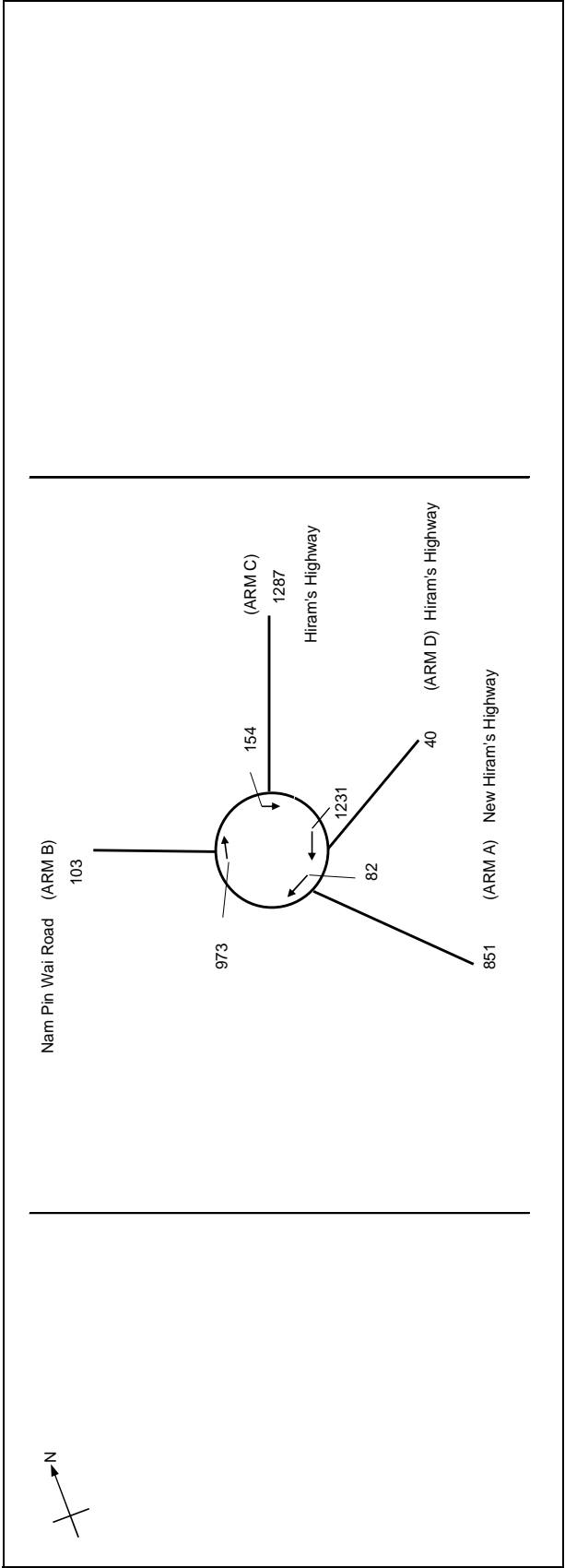
Pedestrian Phase	Stage	Width (m)	Green Time Required (s)		Green Time Provided (s)	
			SG	FG	SG	FG

Move-ment	Stage	Lane Width m.	Phase	No. of lane	Radius m.	O	N	Straight-Ahead Sat. Flow	Movement		Total Flow pcu/h	Proportion of Turning Vehicles	Sat. Flow pcu/h	Flare lane Length m.	Share Effect pcu/hr	Revised Sat. Flow pcu/h	y	Greater y	L sec	g (required) sec	G (input) sec	Degree of Saturation X	Queue Length (m / lane)	Average Delay (seconds)
									Left pcu/h	Right pcu/h														
7	A	3.30		1	10		N	1945	136	1077	136	1.00	1691		-500	1191	0.114	0.263	15	39	38	0.390	18	36
6	A	3.30		2	30		N	4170	1	510	1077	0.00	4170		-500	4170	0.258		88	87	0.384	36	9	
4,3	A	3.30		1	30		N	1945	510	548	511	0.00	1945		-500	1945	0.263		90	89	0.384	30	9	
3	A	3.30		1	30		N	2085	548	548	548	0.00	2085		-500	2085	0.263		90	89	0.384	36	9	
2	B	3.30		1	10		N	1945	33	84	33	1.00	1691		-500	1191	0.027	0.042	9	8	0.425	6	68	
1	B	3.30		1	25		N	2085	84	84	84	1.00	1967		-500	1967	0.042		15	14	0.408	12	54	
5	C	3.30		1	10		N	1945	3	3	3	1.00	1691		-500	1691	0.002	0.002	1	12	0.016	0	48	

NOTE : O - OPPOSING TRAFFIC N - NEAR SIDE LANE SG - STEADY GREEN FG - FLASHING GREEN PEDESTRIAN WALKING SPEED = 1.2m/s QUEUING LENGTH = AVERAGE QUEUE * 6m

ROUNDBABOUT CAPACITY ASSESSMENT

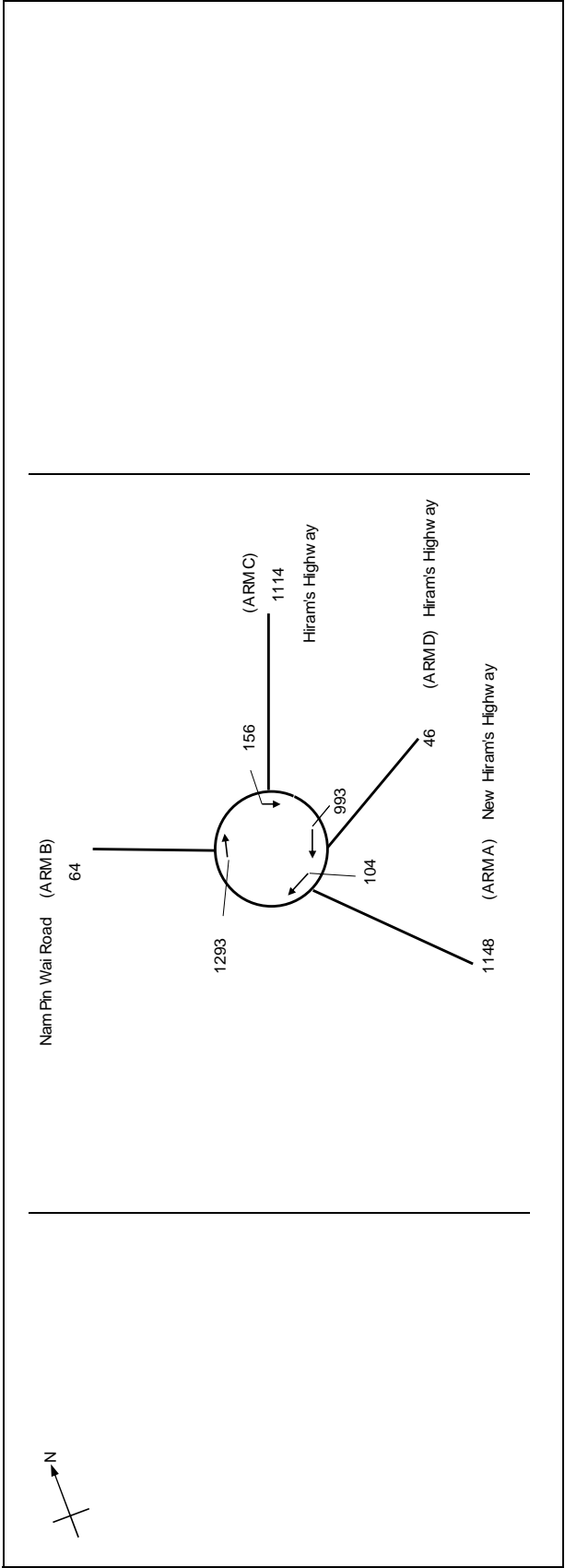
2023AM	PROJECT NO.:
J4 Hiram's Highway / New Hiram's Highway	FILENAME :
2023 Weekday AM Peak	J4_New-Hiramshighway.xls
	PREPARED BY:
	CHECKED BY:
	REVIEWED BY:
	INITIALS
	DATE



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	851	103	1287	40
Qc = Circulating flow across entry (pcu/h)	82	973	154	1231
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2297	1454	2151	848
DFC = Design flow/Capacity = Q/Qe	0.37	0.07	0.60	0.05
Total In Sum =				1429 PCU
DFC of Critical Approach =				0.60

ROUNDBOUT ABOUT CAPACITY ASSESSMENT

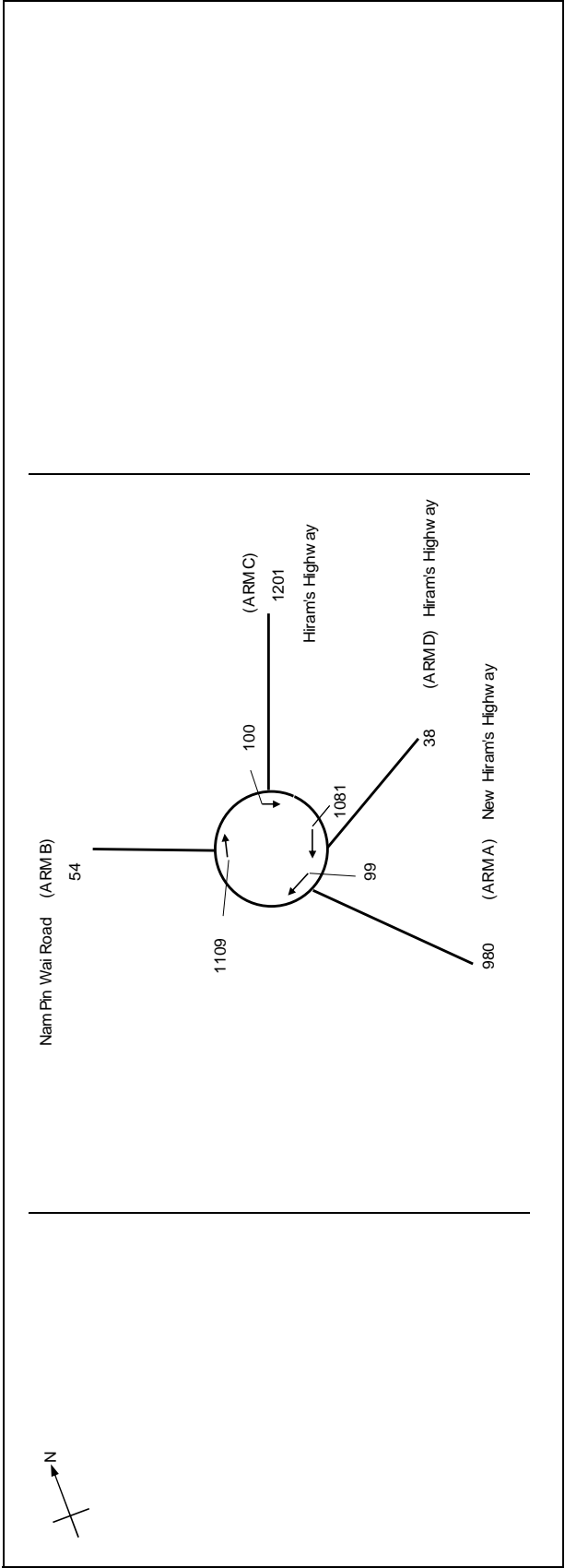
2023PM	PROJECT NO.:		
J4 Hiram's Highway / New Hiram's Highway 2023 Weekday PM Peak	FILENAME : J4_New-HiramHighway.xls		
	PREPARED BY:	INITIALS	DATE
	CHECKED BY:		
	REVIEWED BY:		



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	1148	64	1114	46
Qc = Circulating flow across entry (pcu/h)	104	1293	156	993
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2285	1292	2150	950
DFC = Design flow/Capacity = Q/Qe	0.50	0.05	0.52	0.05
Total In Sum =				1223 PCU
DFC of Critical Approach =				0.52

ROUNDBOUT ABOUT CAPACITY ASSESSMENT

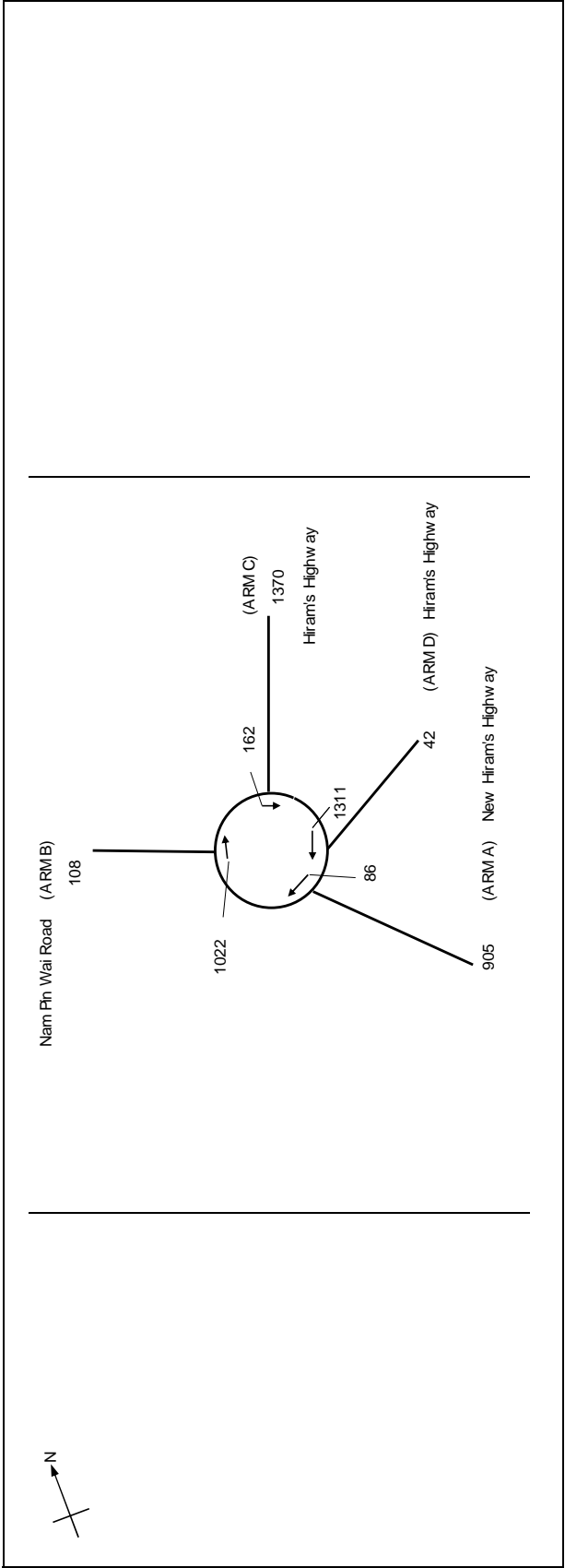
2023SUN	PROJECT NO.:
J4 Hiram's Highway / New Hiram's Highway	FILENAME : J4_New-Hiramshighway.xls
2023 Weekend PM Peak	PREPARED BY:
	CHECKED BY:
	REVIEWED BY:
	INITIALS
	DATE



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	980	54	1201	38
Qc = Circulating flow across entry (pcu/h)	99	1109	100	1081
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2288	1385	2181	912
DFC = Design flow/Capacity = Q/Qe	0.43	0.04	0.55	0.04
Total In Sum =				1293 PCU
DFC of Critical Approach =				0.55

ROUNDBOUT CAPACITY ASSESSMENT

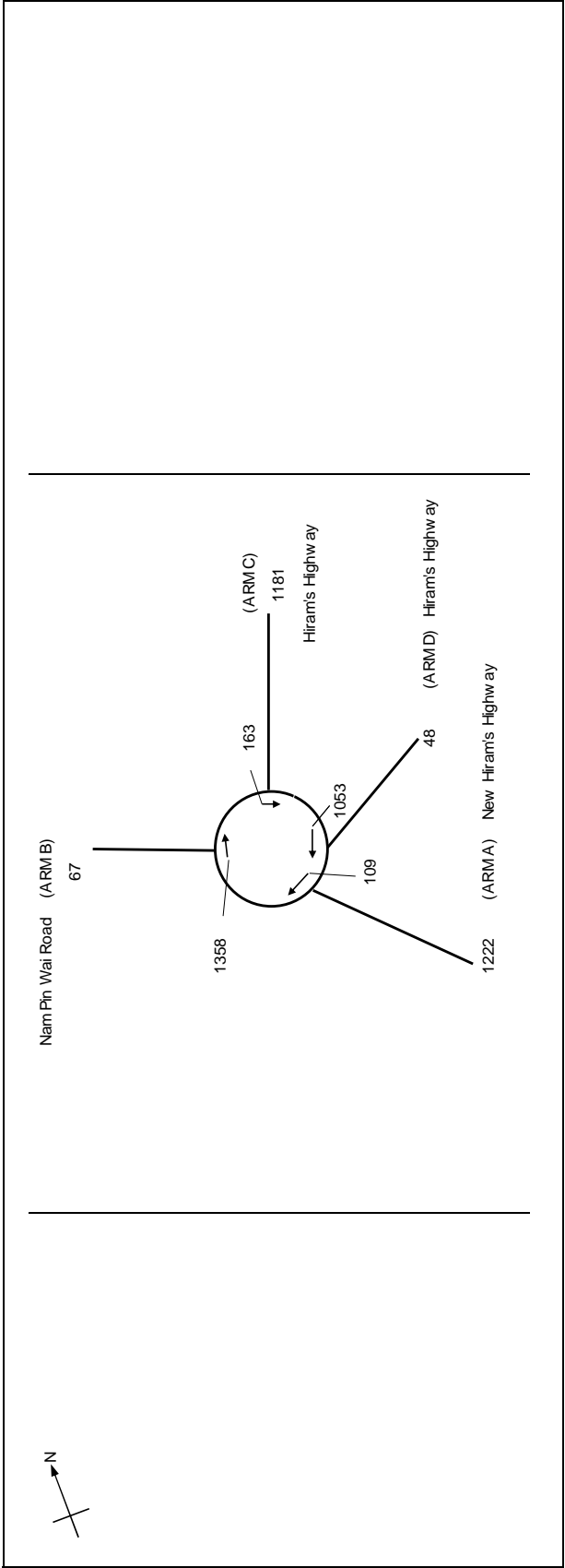
2028refAM	PROJECT NO.:	INITIALS	DATE
J4 Hiram's Highway / New Hiram's Highway	PREPARED BY:		
2028 Reference Scenario Weekday AM Peak	CHECKED BY:		
	REVIEWED BY:		
	FILENAME : J4_NewHiramHighway.xls		



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	905	108	1370	42
Qc = Circulating flow across entry (pcu/h)	86	1022	162	1311
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2295	1429	2146	814
DFC = Design flow/Capacity = Q/Qe	0.39	0.08	0.64	0.05
Total In Sum =				1519 PCU
DFC of Critical Approach =				0.64

ROUNDBOUT CAPACITY ASSESSMENT

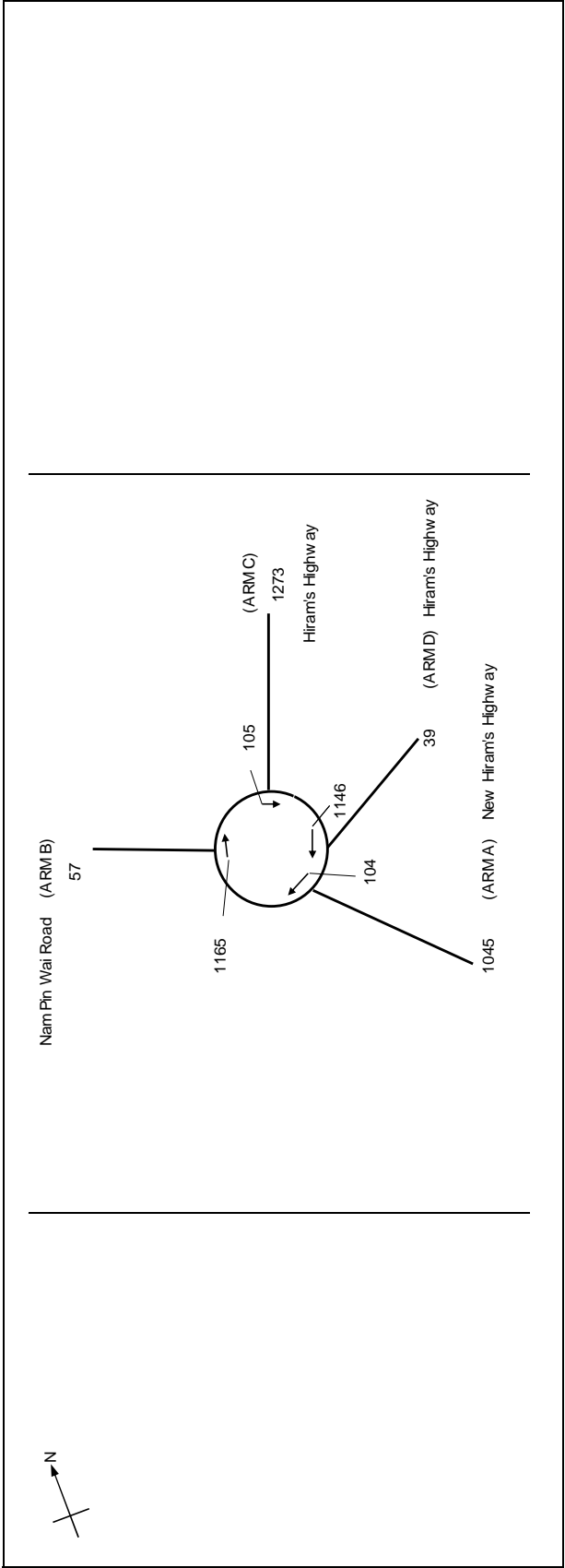
2028refPM	PROJECT NO.:	
	FILENAME :	
	J4_New-HiramHighway.xls	
J4 Hiram's Highway / New Hiram's Highway 2028 Reference Scenario Weekday PM Peak	PREPARED BY:	
	CHECKED BY:	
	REVIEWED BY:	
	INITIALS	
	DATE	



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	1222	67	1181	48
Qc = Circulating flow across entry (pcu/h)	109	1358	163	1053
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(Fc*Qc)	2282	1258	2145	924
DFC = Design flow/Capacity = Q/Qe	0.54	0.05	0.55	0.05
Total In Sum =				1295 PCU
DFC of Critical Approach =				0.55

ROUNDBOUT CAPACITY ASSESSMENT

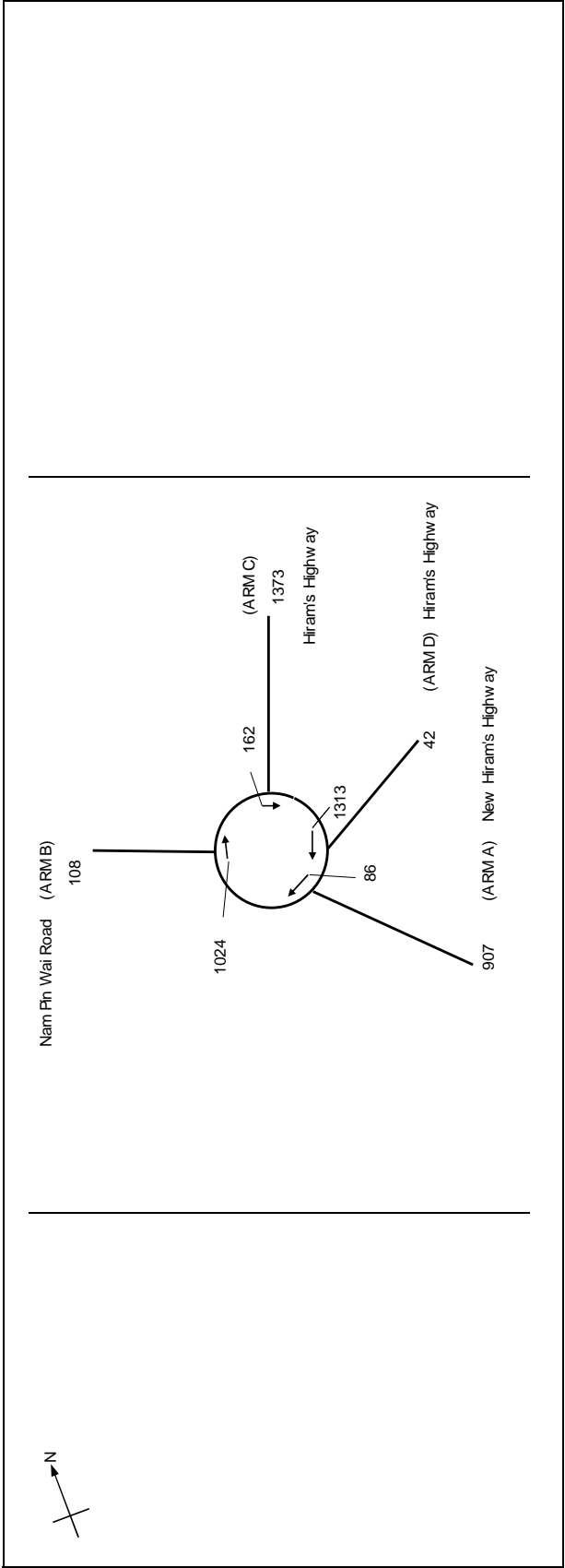
2028refSUN	PROJECT NO.:
J4 Hiram's Highway / New Hiram's Highway	PREPARED BY:
2028 Reference Scenario Weekend PM Peak	CHECKED BY:
FILENAME : J4_New-Hiramshighway.xls	REVIEWED BY:
	INITIALS
	DATE



ARM	A	B	C	D
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	1045	57	1273	39
Qc = Circulating flow across entry (pcu/h)	104	1165	105	1146
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2285	1356	2178	884
DFC = Design flow/Capacity = Q/Qe	0.46	0.04	0.58	0.04
Total In Sum =				1369 PCU
DFC of Critical Approach =				0.58

ROUNDABOUT CAPACITY ASSESSMENT

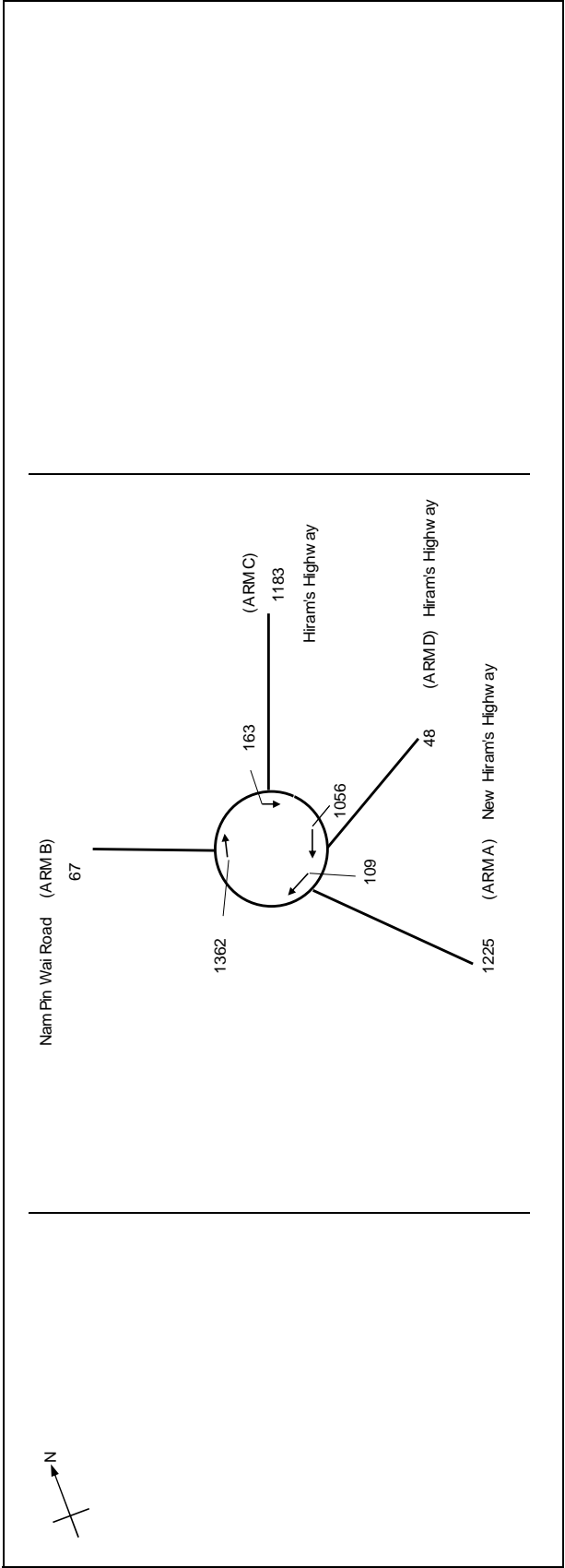
2028desAM	PROJECT NO.:
J4 Hiram's Highway / New Hiram's Highway 2028 Design Scenario Weekday AM Peak	FILENAME : J4_NewHiramHighway.xls
	PREPARED BY:
	CHECKED BY:
	REVIEWED BY:
	INITIALS
	DATE



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	907	108	1373	42
Qc = Circulating flow across entry (pcu/h)	86	1024	162	1313
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2295	1428	2146	813
DFC = Design flow/Capacity = Q/Qe	0.40	0.08	0.64	0.05
Total In Sum =				1522 PCU
DFC of Critical Approach =				0.64

ROUNDBOUT CAPACITY ASSESSMENT

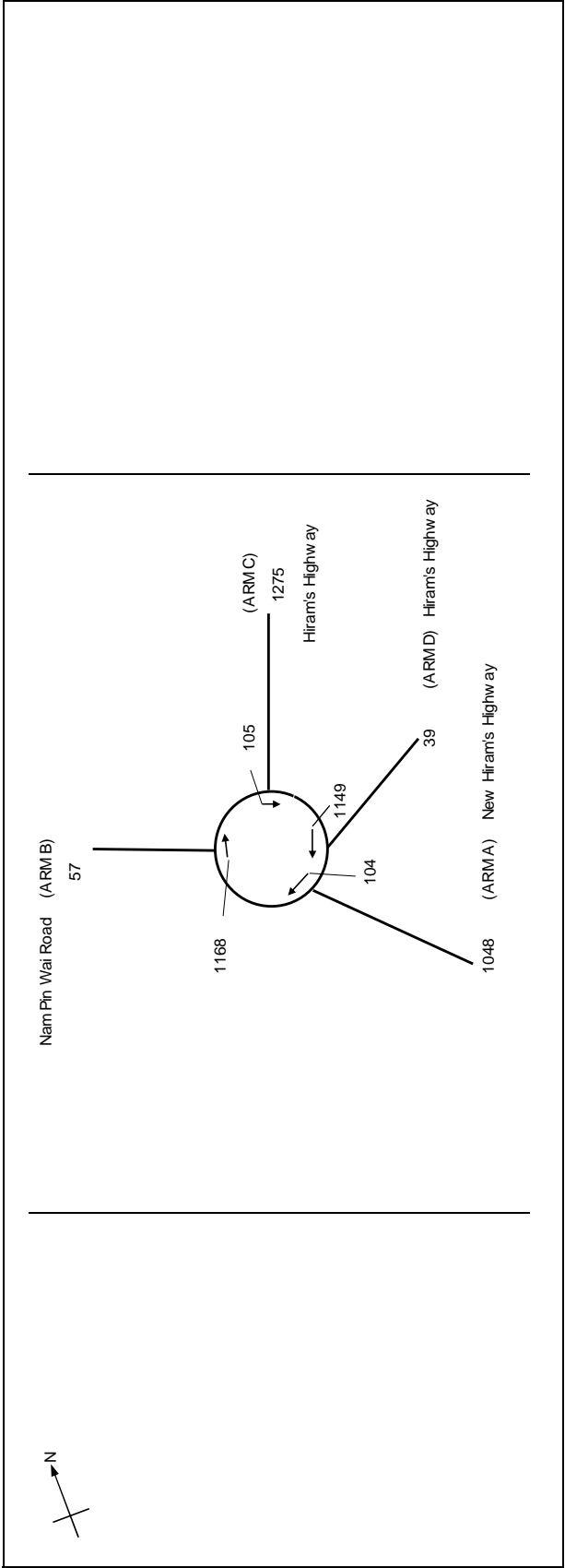
2028desPM	PROJECT NO.:		
J4 Hiram's Highway / New Hiram's Highway 2028 Design Scenario Weekday PM Peak	FILENAME : J4_New-HiramHighway.xls		
	PREPARED BY:	INITIALS	DATE
	CHECKED BY:		
	REVIEWED BY:		



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	1225	67	1183	48
Qc = Circulating flow across entry (pcu/h)	109	1362	163	1056
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2282	1257	2145	923
DFC = Design flow/Capacity = Q/Qe	0.54	0.05	0.55	0.05
Total In Sum =				1297 PCU
DFC of Critical Approach =				0.55

ROUNDAABOUT CAPACITY ASSESSMENT

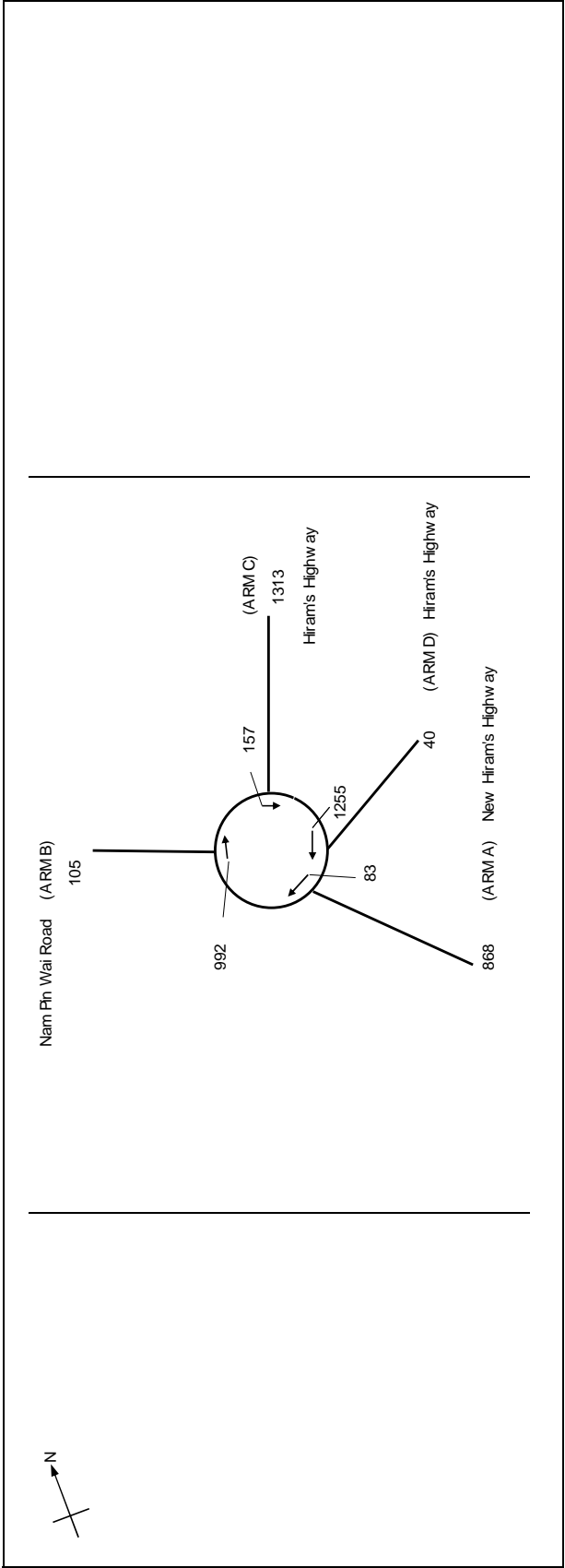
2028desSUN	PROJECT NO.:	INITIALS	DATE
J4 Hiram's Highway / New Hiram's Highway 2028 Design Scenario Weekend PM Peak	FILENAME : J4_New-Hiramshighway.xls	PREPARED BY:	
		CHECKED BY:	
		REVIEWED BY:	



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	1048	57	1275	39
Qc = Circulating flow across entry (pcu/h)	104	1168	105	1149
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2285	1355	2178	883
DFC = Design flow/Capacity = Q/Qe	0.46	0.04	0.59	0.04
Total In Sum =				1371 PCU
DFC of Critical Approach =				0.59

ROUNDBOUT CAPACITY ASSESSMENT

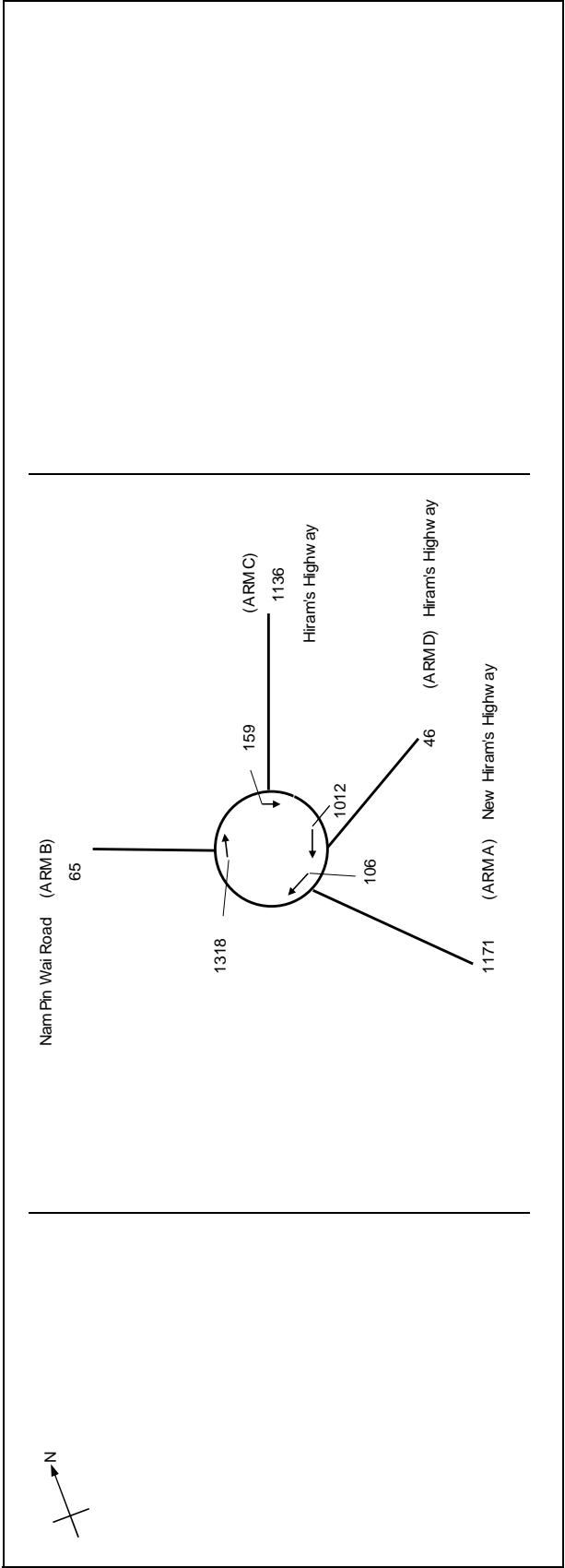
2025refAM	PROJECT NO.:
J4 Hiram's Highway / New Hiram's Highway 2025 Reference Scenario Weekday AM Peak	FILENAME : J4_NewHiramHighway.xls
	PREPARED BY:
	CHECKED BY:
	REVIEWED BY:
	INITIALS
	DATE



ARM	A	B	C	D
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	868	105	1313	40
Qc = Circulating flow across entry (pcu/h)	83	992	157	1255
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2296	1444	2149	837
DFC = Design flow/Capacity = Q/Qe	0.38	0.07	0.61	0.05
Total In Sum =				1458 PCU
DFC of Critical Approach =				0.61

ROUNDBOUT CAPACITY ASSESSMENT

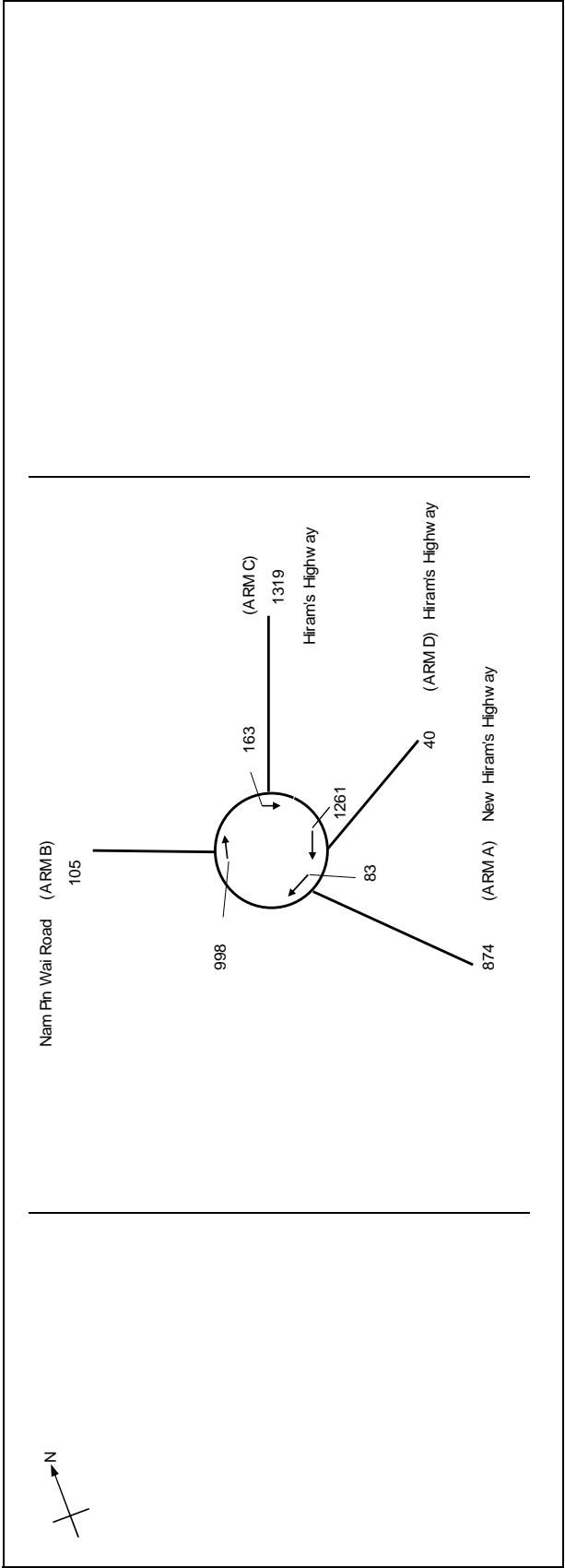
2025refPM	PROJECT NO.:	INITIALS	DATE
J4 Hiram's Highway / New Hiram's Highway 2025 Reference Scenario Weekday PM Peak	FILENAME : J4_New-HiramHighway.xls	PREPARED BY:	
		CHECKED BY:	
		REVIEWED BY:	



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	1171	65	1136	46
Qc = Circulating flow across entry (pcu/h)	106	1318	159	1012
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2284	1279	2148	941
DFC = Design flow/Capacity = Q/Qe	0.51	0.05	0.53	0.05
Total In Sum =				1247 PCU
DFC of Critical Approach =				0.53

ROUNDBOUT CAPACITY ASSESSMENT

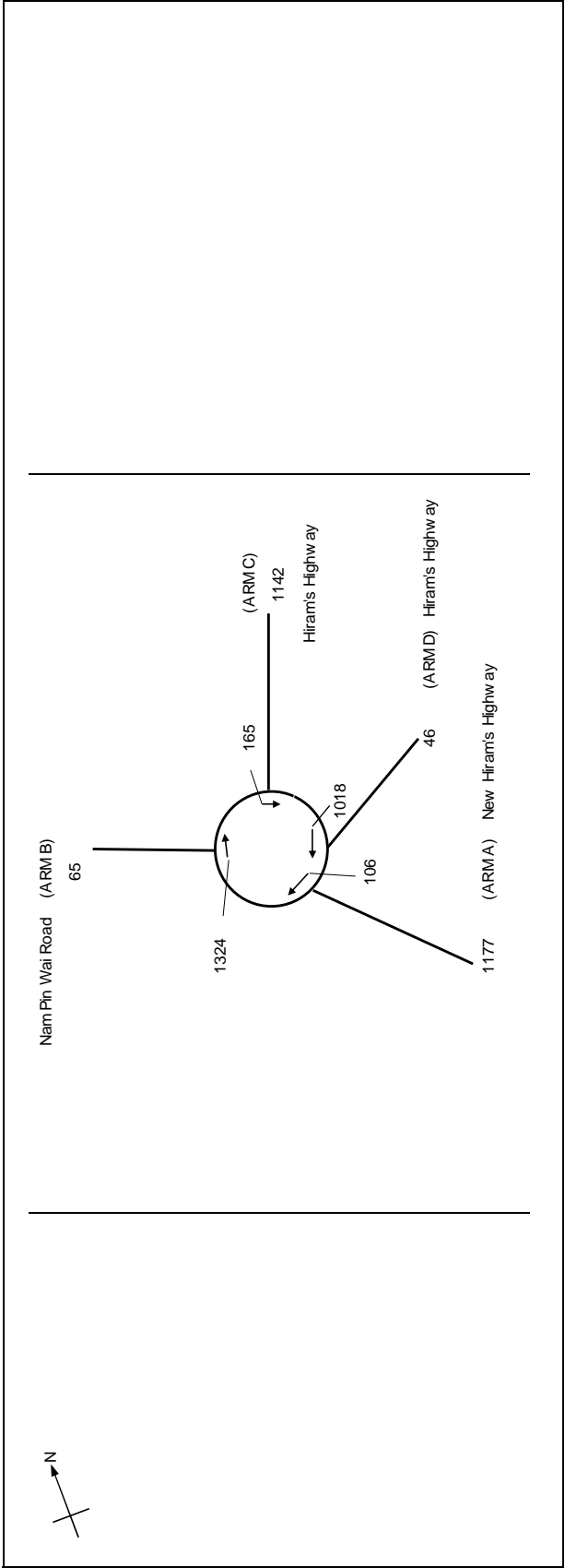
2025desAM	PROJECT NO.:
J4 Hiram's Highway / New Hiram's Highway 2025 Design Scenario Weekday AM Peak	FILENAME : J4_NewHiramHighway.xls
	PREPARED BY:
	CHECKED BY:
	REVIEWED BY:
	INITIALS
	DATE



ARM	A	B	C	D
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	874	105	1319	40
Qc = Circulating flow across entry (pcu/h)	83	998	163	1261
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2296	1441	2146	835
DFC = Design flow/Capacity = Q/Qe	0.38	0.07	0.61	0.05
Total In Sum =				1464 PCU
DFC of Critical Approach =				0.61

ROUNDAABOUT CAPACITY ASSESSMENT

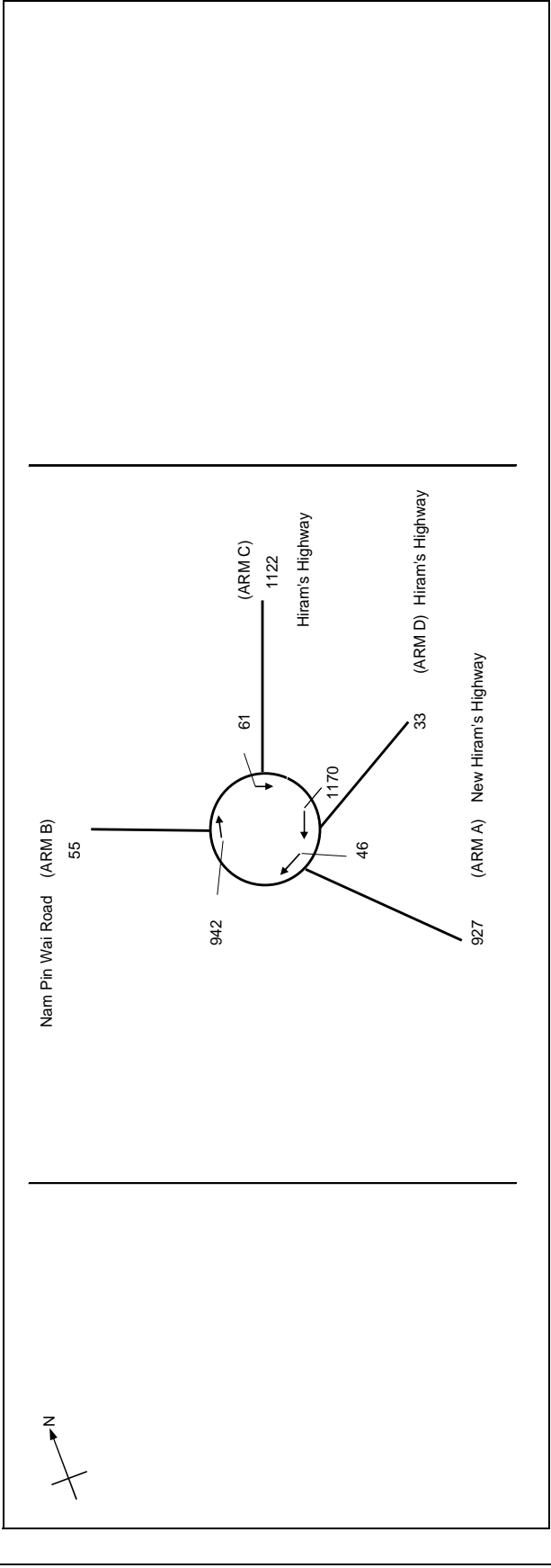
2025desPM	PROJECT NO.:		
J4 Hiram's Highway / New Hiram's Highway 2025 Design Scenario Weekday PM Peak	FILENAME : J4_New-HiramHighway.xls		
	PREPARED BY:	INITIALS	DATE
	CHECKED BY:		
	REVIEWED BY:		



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	1177	65	1142	46
Qc = Circulating flow across entry (pcu/h)	106	1324	165	1018
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2284	1276	2145	939
DFC = Design flow/Capacity = Q/Qe	0.52	0.05	0.53	0.05
Total In Sum =				1253 PCU
DFC of Critical Approach =				0.53

ROUNDBOUT ABOUT CAPACITY ASSESSMENT

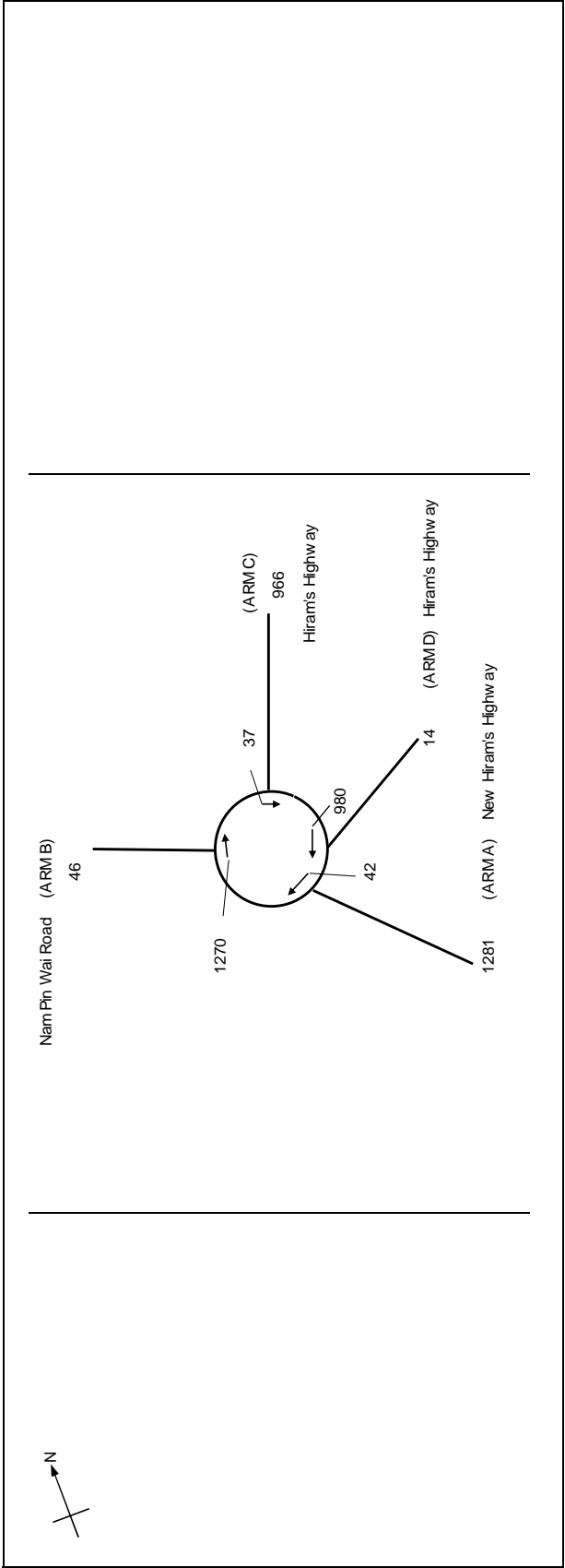
2023AM	PROJECT NO.:
J5-Hiram's-PakWai.xls	PREPARED BY:
FILENAME :	CHECKED BY:
J5-Hiram's-PakWai.xls	REVIEWED BY:
DATE	INITIALS



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	927	55	1122	33
Qc = Circulating flow across entry (pcu/h)	46	942	61	1170
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2317	1469	2202	874
DFC = Design flow/Capacity = Q/Qe	0.40	0.04	0.51	0.04
Total In Sum =				0 PCU
DFC of Critical Approach =				0.51

ROUNDBOUT ABOUT CAPACITY ASSESSMENT

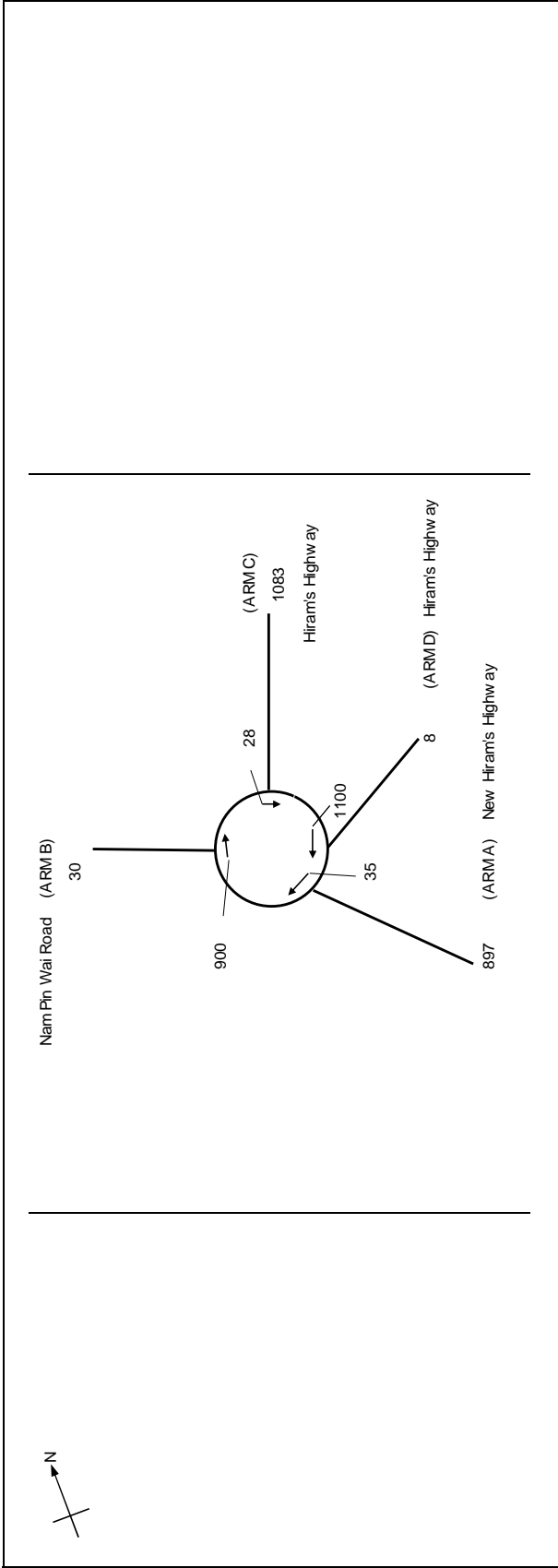
2023PM	PROJECT NO.:		
J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai 2023 Weekday PM Peak	FILENAME : J5-Hiram's-PakWai.xls		
	PREPARED BY:	INITIALS	DATE
	CHECKED BY:		
	REVIEWED BY:		



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	1281	46	966	14
Qc = Circulating flow across entry (pcu/h)	42	1270	37	980
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2320	1303	2215	955
DFC = Design flow/Capacity = Q/Qe	0.55	0.04	0.44	0.01
Total In Sum =				0 PCU
DFC of Critical Approach =				0.55

ROUNDBOUT CAPACITY ASSESSMENT

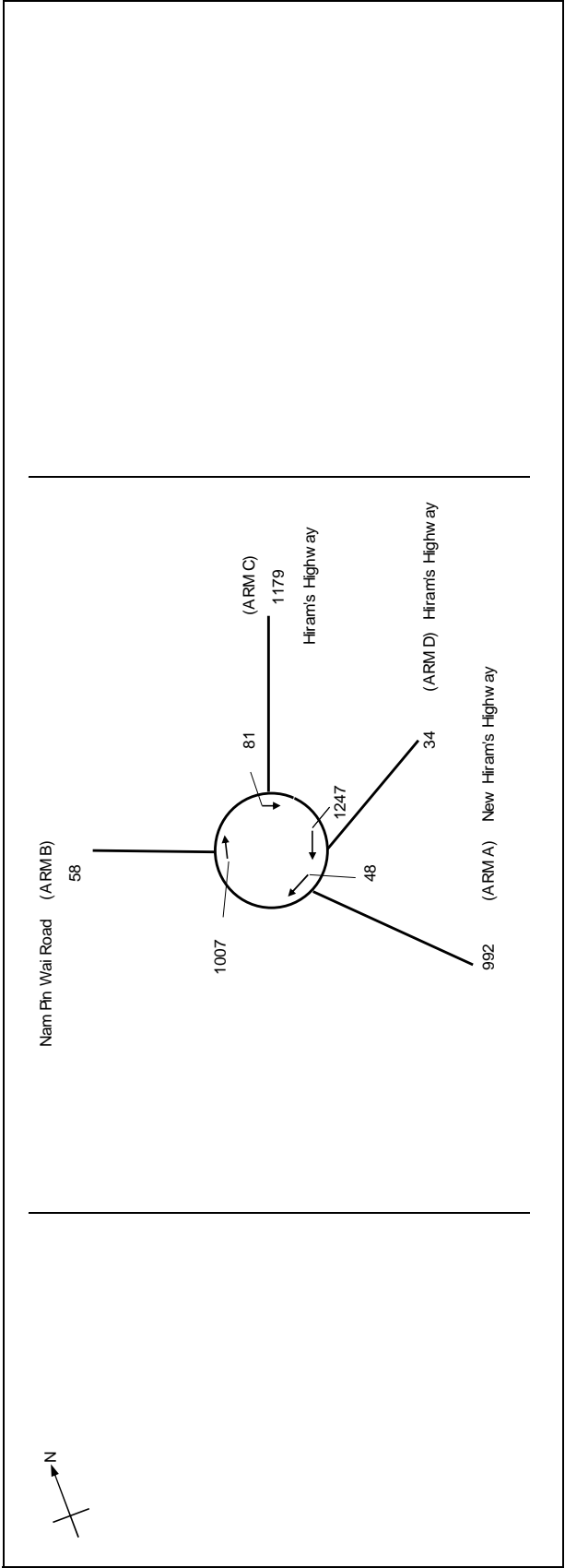
2023SUN	PROJECT NO.:
FILENAME : J5-Hiram's-PakWai.xls	PREPARED BY:
	CHECKED BY:
	REVIEWED BY:
	INITIALS
	DATE



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	897	30	1083	8
Qc = Circulating flow across entry (pcu/h)	35	900	28	1100
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2323	1490	2220	904
DFC = Design flow/Capacity = Q/Qe	0.39	0.02	0.49	0.01
Total In Sum =				0 PCU
DFC of Critical Approach =				0.49

ROUNDAABOUT CAPACITY ASSESSMENT

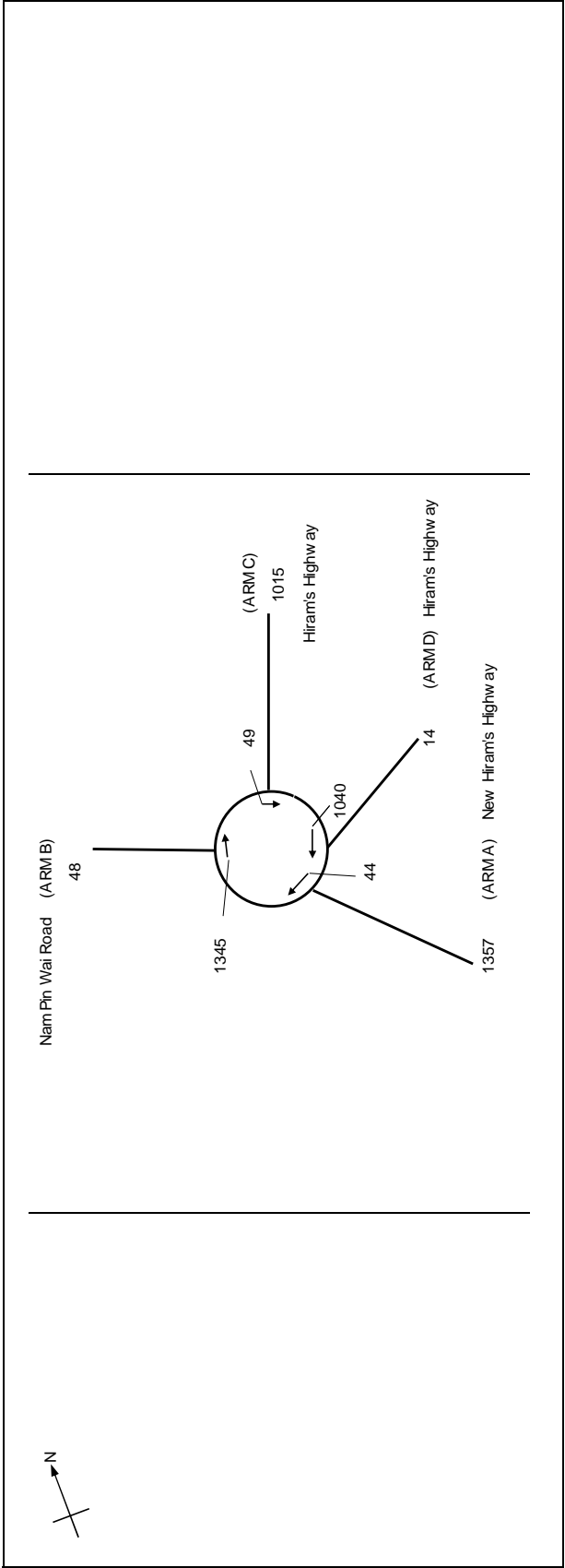
2028refAM	PROJECT NO.:
J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai 2028 Reference Scenario Weekday AM Peak	FILENAME : J5-Hiram's-PakWai.xls
	PREPARED BY:
	CHECKED BY:
	REVIEWED BY:
	INITIALS
	DATE



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	992	58	1179	34
Qc = Circulating flow across entry (pcu/h)	48	1007	81	1247
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(1/R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2316	1436	2191	841
DFC = Design flow/Capacity = Q/Qe	0.43	0.04	0.54	0.04
Total In Sum =				0 PCU
DFC of Critical Approach =				0.54

ROUNDBOUT CAPACITY ASSESSMENT

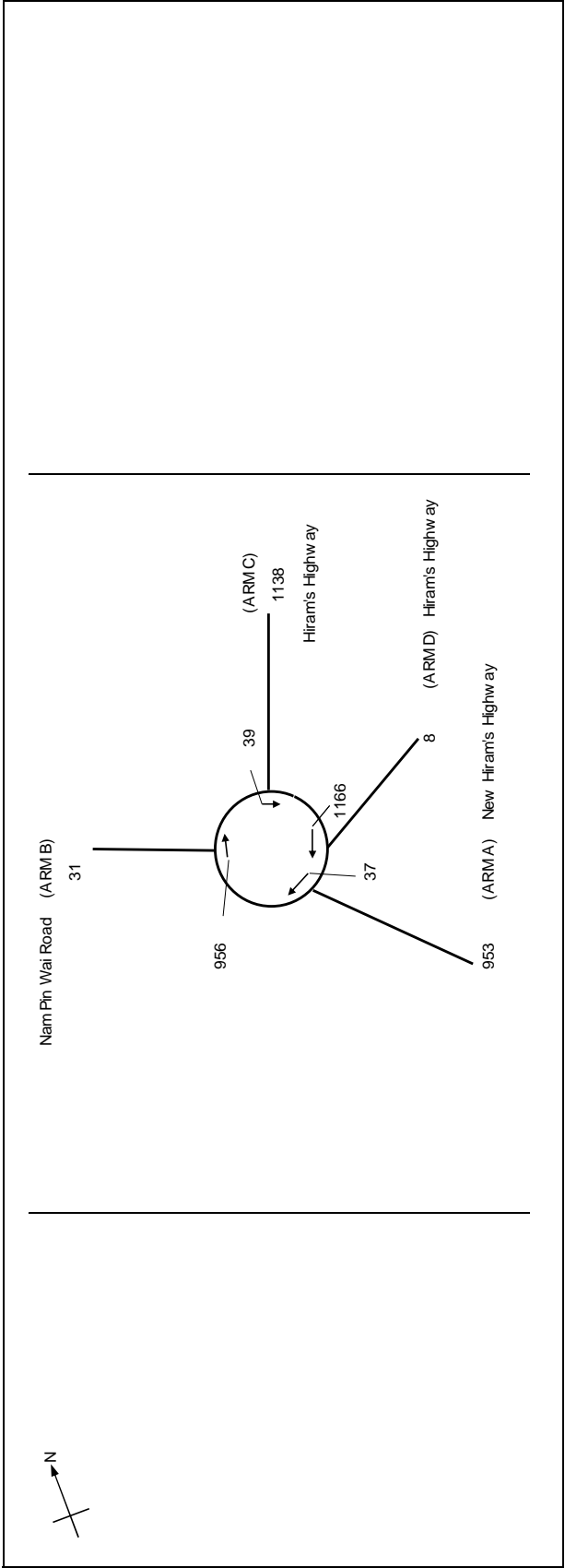
2028refPM	PROJECT NO.:	
J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai 2028 Reference Scenario Weekday PM Peak	FILENAME :	J5-Hiram's-PakWai.xls
	PREPARED BY:	
	CHECKED BY:	
	REVIEWED BY:	
	INITIALS	DATE



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	1357	48	1015	14
Qc = Circulating flow across entry (pcu/h)	44	1345	49	1040
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2318	1265	2209	929
DFC = Design flow/Capacity = Q/Qe	0.59	0.04	0.46	0.02
Total In Sum =				0 PCU
DFC of Critical Approach =				0.59

ROUNDBABOUT CAPACITY ASSESSMENT

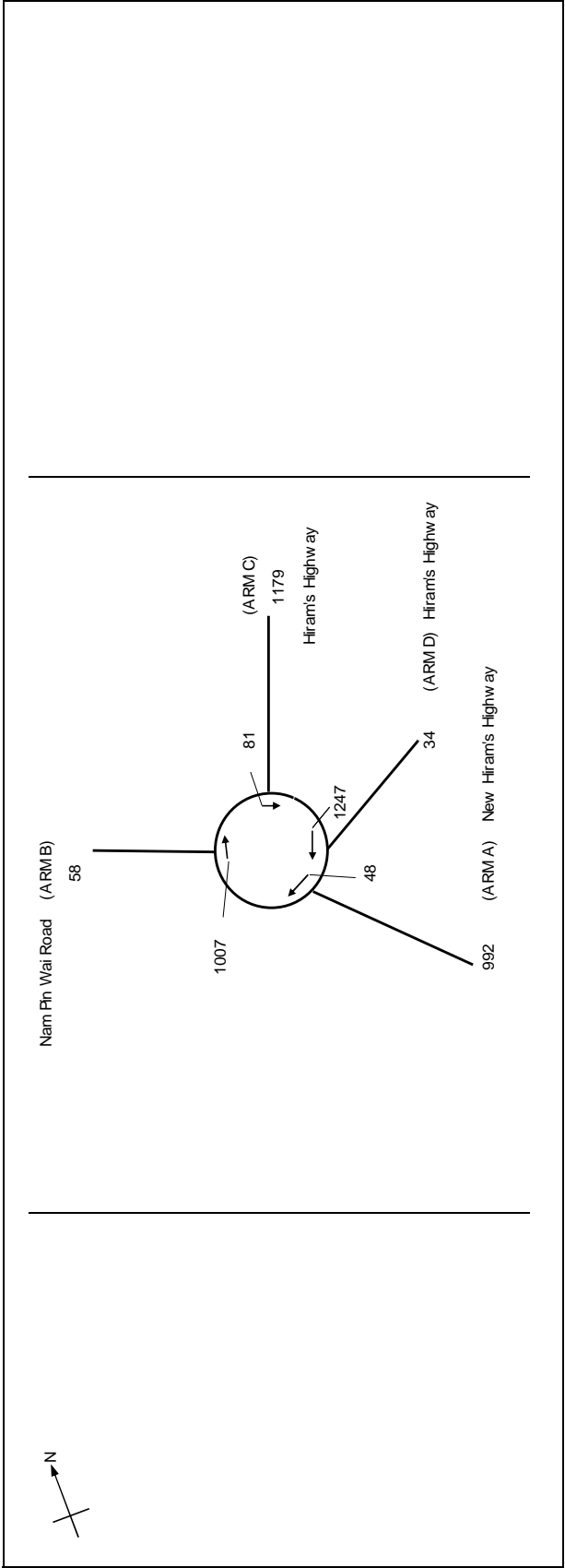
2028refSUN	PROJECT NO.:
J5-Hiram's Highway / Pak Wai	FILENAME :
2028 Reference Scenario Weekend PM Peak	J5-Hiram's PakWai.xls
	PREPARED BY:
	CHECKED BY:
	REVIEWED BY:
	INITIALS
	DATE



ARM	A	B	C	D
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	953	31	1138	8
Qc = Circulating flow across entry (pcu/h)	37	956	39	1166
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2322	1462	2214	876
DFC = Design flow/Capacity = Q/Qe	0.41	0.02	0.51	0.01
Total In Sum =				0 PCU
DFC of Critical Approach =				0.51

ROUNDBOUT CAPACITY ASSESSMENT

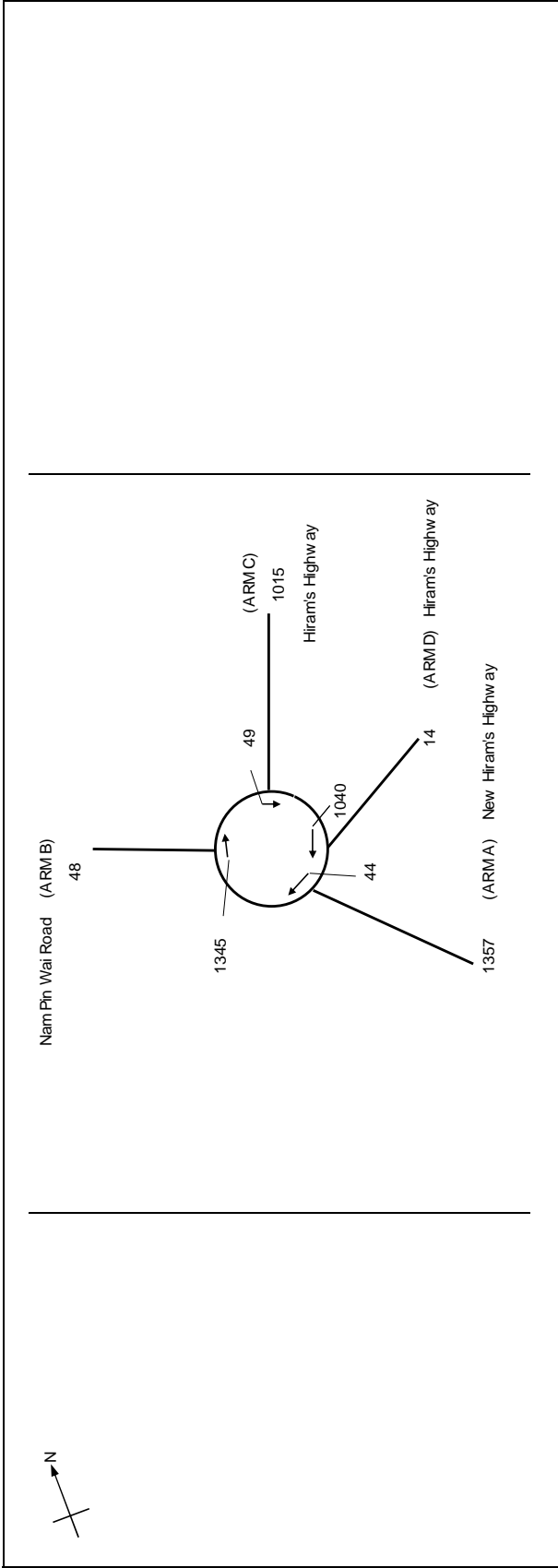
2028desAM	PROJECT NO.:
J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai 2028 Design Scenario Weekday AM Peak	FILENAME : J5-Hiram's-PakWai.xls
	PREPARED BY:
	CHECKED BY:
	REVIEWED BY:
	INITIALS
	DATE



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	992	58	1179	34
Qc = Circulating flow across entry (pcu/h)	48	1007	81	1247
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2316	1436	2191	841
DFC = Design flow/Capacity = Q/Qe	0.43	0.04	0.54	0.04
Total In Sum =				0 PCU
DFC of Critical Approach =				0.54

ROUNDBOUT CAPACITY ASSESSMENT

2028desPM	PROJECT NO.:	
J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai 2028 Design Scenario Weekday PM Peak	FILENAME :	J5-Hiram's-PakWai.xls
	PREPARED BY:	
	CHECKED BY:	
	REVIEWED BY:	
	INITIALS	DATE

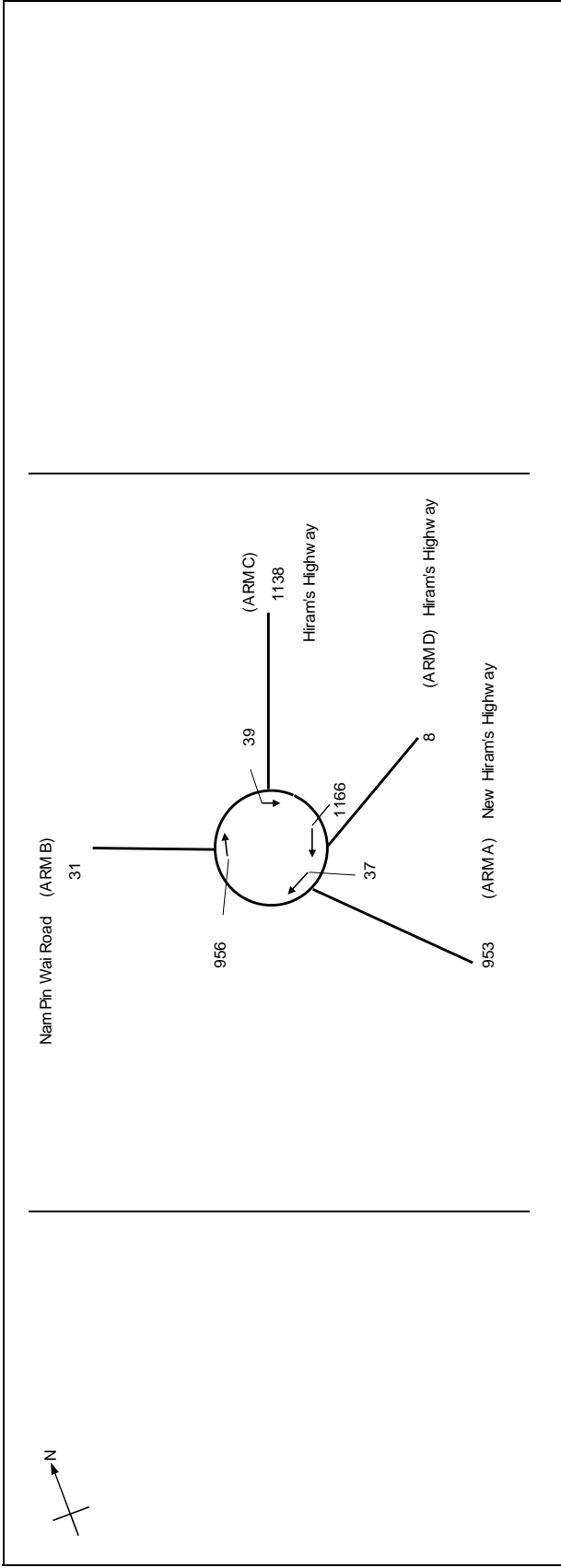


ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	1357	48	1015	14
Qc = Circulating flow across entry (pcu/h)	44	1345	49	1040
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2318	1265	2209	929
DFC = Design flow/Capacity = Q/Qe	0.59	0.04	0.46	0.02
Total In Sum =				0 PCU
DFC of Critical Approach =				0.59

ROUNDAABOUT CAPACITY ASSESSMENT

2028desSUN	PROJECT NO.:
FILENAME : J5-Hiram's-PakWai.xls	PREPARED BY:
	CHECKED BY:
	REVIEWED BY:
	INITIALS
	DATE

J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai
2028 Design Scenario Weekend PM Peak



ARM

INPUT PARAMETERS:

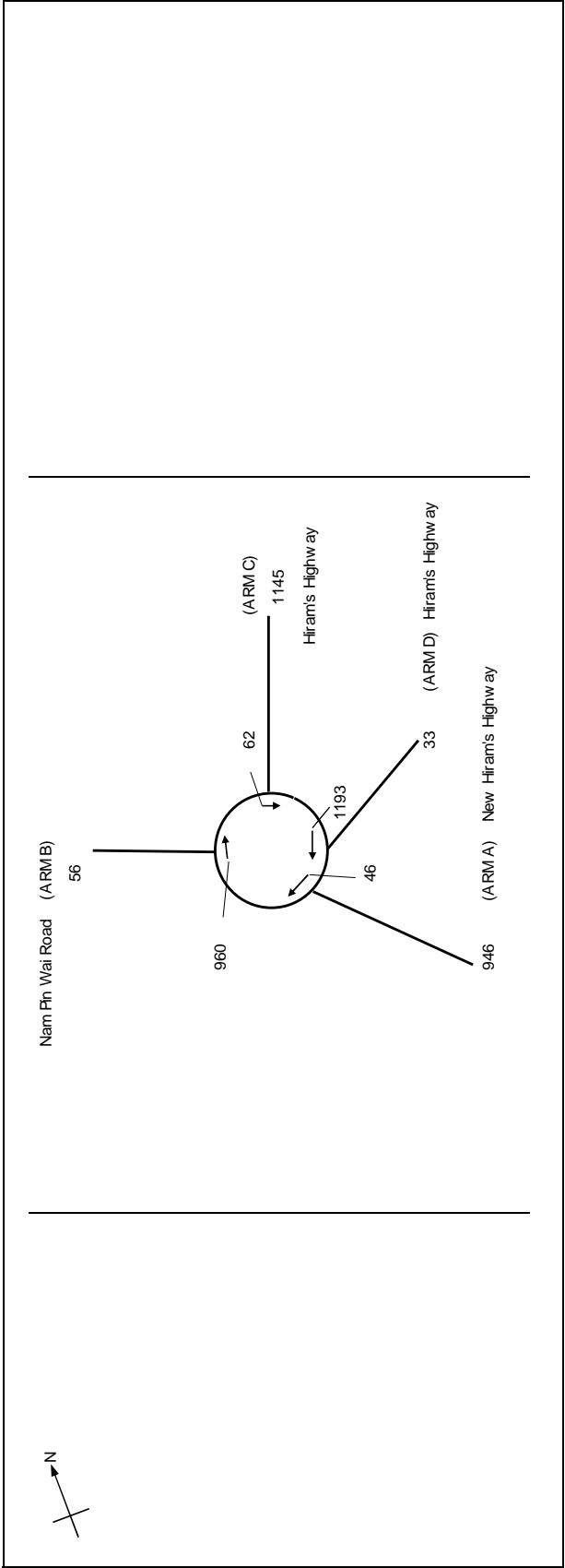
	A	B	C	D
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	953	31	1138	8
Qc = Circulating flow across entry (pcu/h)	37	956	39	1166

OUTPUT PARAMETERS:

S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2322	1462	2214	876
DFC = Design flow/Capacity = Q/Qe	0.41	0.02	0.51	0.01
Total In Sum =				0 PCU
DFC of Critical Approach =				0.51

ROUNDABOUT CAPACITY ASSESSMENT

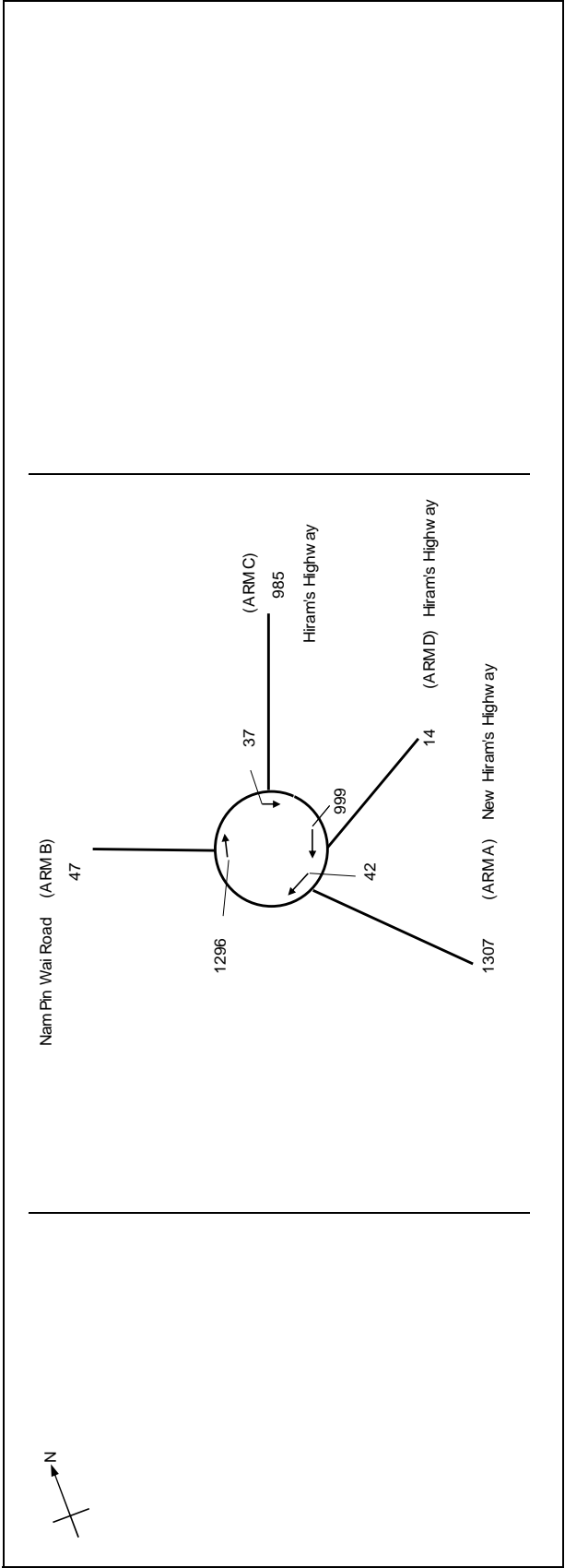
2025refAM	PROJECT NO.:
J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai 2025 Reference Scenario Weekday AM Peak	FILENAME : J5-Hiram's-PakWai.xls
	PREPARED BY:
	CHECKED BY:
	REVIEWED BY:
	INITIALS
	DATE



ARM	A	B	C	D
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	946	56	1145	33
Qc = Circulating flow across entry (pcu/h)	46	960	62	1193
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(1R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2317	1460	2201	864
DFC = Design flow/Capacity = Q/Qe	0.41	0.04	0.52	0.04
Total In Sum = 0 PCU				
DFC of Critical Approach = 0.52				

ROUNDBOUT ABOUT CAPACITY ASSESSMENT

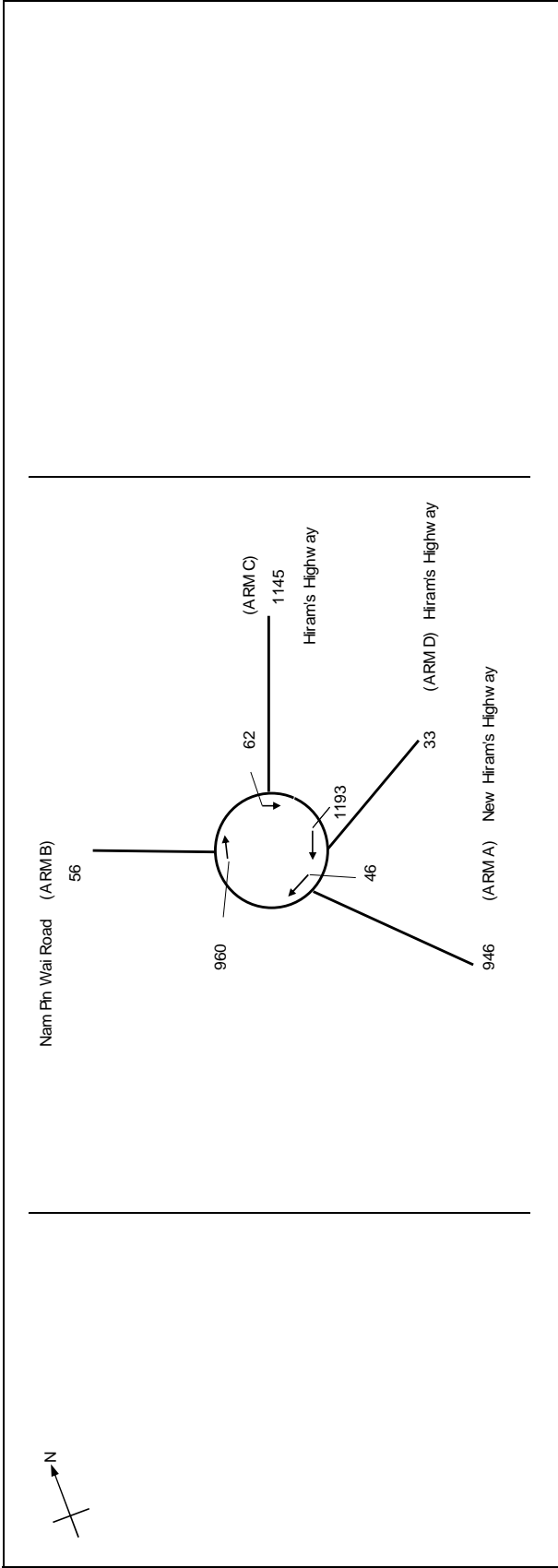
2025refPM	PROJECT NO.:
J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai 2025 Reference Scenario Weekday PM Peak	FILENAME : J5-Hiram's-PakWai.xls
	PREPARED BY:
	CHECKED BY:
	REVIEWED BY:
	INITIALS
	DATE



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	1307	47	985	14
Qc = Circulating flow across entry (pcu/h)	42	1296	37	999
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2319	1290	2215	947
DFC = Design flow/Capacity = Q/Qe	0.56	0.04	0.44	0.01
Total In Sum =				0 PCU
DFC of Critical Approach =				0.56

ROUNDABOUT CAPACITY ASSESSMENT

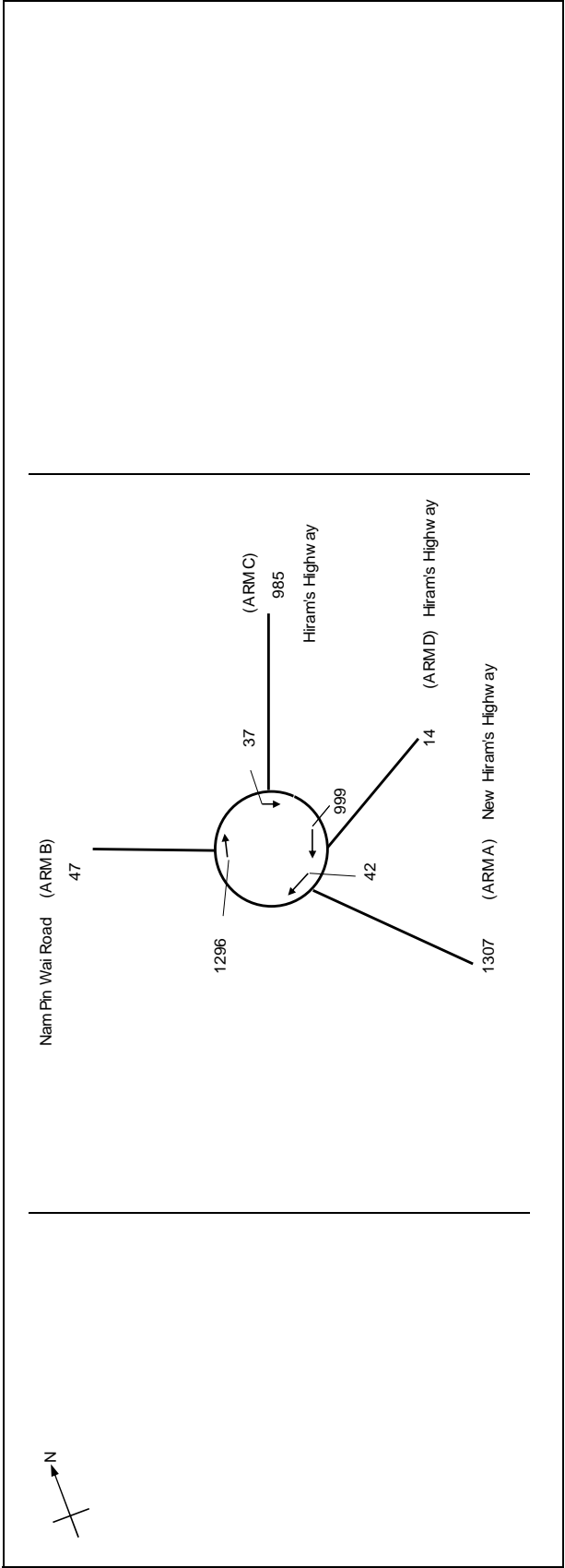
2025desAM	PROJECT NO.:	
J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai 2025 Design Scenario Weekday AM Peak	FILENAME :	J5-Hiram's-PakWai.xls
	PREPARED BY:	
	CHECKED BY:	
	REVIEWED BY:	
	INITIALS	DATE



ARM	A	B	C	D
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	946	56	1145	33
Qc = Circulating flow across entry (pcu/h)	46	960	62	1193
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978/(R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2317	1460	2201	864
DFC = Design flow/Capacity = Q/Qe	0.41	0.04	0.52	0.04
Total In Sum = 0 PCU				
DFC of Critical Approach = 0.52				

ROUNDBABOUT CAPACITY ASSESSMENT

2025desPM	PROJECT NO.:	
J5 Hiram's Highway / Hing Keng Shek Road / Pak Wai 2025 Design Scenario Weekday PM Peak	FILENAME :	J5-Hiram's-PakWai.xls
	PREPARED BY:	
	CHECKED BY:	
	REVIEWED BY:	
	INITIALS	DATE



ARM	A	B	C	D
INPUT PARAMETERS:				
V = Approach half width (m)	7.5	6.0	7.6	3.5
E = Entry width (m)	8.5	7.0	7.6	6.0
L = Effective length of flare (m)	13.5	6.0	0.0	6.0
R = Entry radius (m)	20.0	20.0	22.5	17.0
D = Inscribed circle diameter (m)	78.0	78.0	78.0	78.0
A = Entry angle (degree)	50.0	40.0	40.0	30.0
Q = Entry flow (pcu/h)	1307	47	985	14
Qc = Circulating flow across entry (pcu/h)	42	1296	37	999
OUTPUT PARAMETERS:				
S = Sharpness of flare = 1.6(E-V)/L	0.12	0.27	0.00	0.67
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.93	0.97	0.97	0.99
X2 = V + ((E-V)/(1+2S))	8.31	6.65	7.60	4.57
M = EXP((D-60)/10)	6	6	6	6
F = 303*X2	2517	2016	2303	1385
Td = 1+(0.5/(1+M))	1.07	1.07	1.07	1.07
Fc = 0.21*Td(1+0.2*X2)	0.60	0.52	0.57	0.43
Qe = K(F*Fc*Qc)	2319	1290	2215	947
DFC = Design flow/Capacity = Q/Qe	0.56	0.04	0.44	0.01
Total In Sum =				0 PCU
DFC of Critical Approach =				0.56

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Appendix 2

Visual Impact Assessment

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Visual Impact Assessment

For

Amendment of Plan to

**Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)”
 (“R(E)”) and an area shown as ‘Road’
 to “Residential (Group C)3) (“R(C)3”)**

**on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11
 at Various Lots in Demarcation District 210 and Demarcation District 244
 and Adjoining Government land
 Ho Chung, Sai Kung, New Territories, Hong Kong**

Prepared by: Prudential Surveyors International Limited
Version: C
Date: December 2023

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1. Introduction / Background

- 1.1.1 This Visual Impact Assessment (**VIA**) is prepared as part of the Section 12A Application for the amendment of plan to rezone to “Residential (Group C)3” (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 (**the Approved OZP**) at various lots in Demarcation District 210 (D.D.210) and Demarcation District 244 (D.D.244) and adjoining government land, at Ho Chung, Sai Kung, New Territories (the Site) with a Site area about 3,190 sq,m [refer to **Figure 1.1**].
- 1.1.2 The VIA is required as part of the Section 12A planning application for the Proposed Development for rezone the Subject Site from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)” and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) zoned with a maximum site coverage of 25% and a maximum building height of 12m with 3 storeys over one storey of carport PR of 0.75 on the Approved OZP.
- 1.1.3 This VIA is prepared with reference to the Town Planning Board Planning Guidelines No. 41 on Submission of Visual Impact Assessment for Planning Applications to the Town Planning Board (TPB-PG No. 41) published by the Board in July 2010. According to the Guidelines, a VIA is required if:
- e) the proposal involves modification of development parameters of a site to deviate from the statutory planning restrictions applicable to the site or the neighbourhood, and the modification will amount to pronounced increase in development scale and intensity and visual changes from key public viewing points;
- 1.1.4 This VIA evaluates the anticipated visual impacts of the Proposed Development on public viewers relevant to the Site and concludes with recommendation on mitigation measures if necessary.

2. Visual Context and Visual Element

2.1 The Site and its Surroundings

- 2.1.1 The Site is accessible with the newly completed Ho Chung North Road. To the north of the Site is some 2 and 3-storey dwellings; to the east of the Site is some vehicle repair workshops and other light industry uses in rural industrial setting, and Marine Cove and Hiram’s Highway to the further east; to the immediate south is an area zoned “Greenbelt” and further south is the former ATV Production Centre (abandoned) and Che Kung Temple; and to the west of the Site is Luk Mei Village with a mixture of traditional single-storey village dwellings and modern 3-storeys New Territories Exempted Houses (NTEHs). [refer to **Figure 2.1**]
- 2.1.2 For the planned context, to the north east of the Site are 15 planned houses with valid planning permission until 16.04.2025. [refer to **Figure 2.1**]

2.2 Visual Elements

- 2.2.1 The Visual Elements of a view comprise all the visual features of an area that shape its appearance and visual character from the perspective of prospective viewers. According to Para. 4.8 of the TPB-PG No. 41, visual elements that are currently existing or planned within the assessment area should be identified, as it may affect the overall visual outlook. The key visual elements include major physical structures, visual resources or

attractors (e.g. the harbour, natural coastline, ridgeline, mountain backdrop, woodland, streams, etc.), detractors or visual eyesores (e.g. pylons, sewage treatment plants, refuse collection points, ventilation shaft buildings, quarries, etc.). The visual elements may be enhanced, degraded or neutralised by the overall visual impact of the given development.

2.2.2 The visual outlook of an area is shaped by a combined composition of all visual elements, which come into sight of the viewers. Key visual elements in the surrounding context of the Site are included in **Figure 2.1** and summarised below:

- i. To the immediate east of the Site are warehouses and vehicle repair workshops, which are witnessed to have trucks coming in and out;
- ii. To the further east is Marina Cove and the harbour, which are the major visual resource and attractor of the area, attracting numerous local residents and visitors;
- iii. To the immediate north of the Site, there are some 2-3 storeys rural dwelling houses and there is a public toilet situated immediately outside the Site boundary to the north;
- iv. To the further north is the mountain backdrop of Ma On Shan Country Park, which is a visual resource of the area;
- v. To the immediate south of the Site is an area zoned “Greenbelt” (“GB”) under the OZP and there is a vacant land within the “GB” zone;
- vi. To the further south of the Site, there is the former ATV Production Centre (abandoned), which might be considered as an eyesore of the area, as it is abandoned and bulky;
- vii. To the immediate west of the Site is Luk Mei Village with a mixture of traditional single-storey village dwellings and modern 3-storeys NTEHs; and
- viii. To the further West of the Site is the mountain backdrop of Ma On Shan Country Park, which is a visual resource of the area.

3. Development Proposal

3.1 The Proposed Development

3.1.1 The Proposed Development is a low-density and low-rise residential development including 8 no. of 3 storeys over one storey of carport. The proposed PRs is 0.75. The building height are about 12m. Green noise barriers are proposed along Ho Chung North Road for Parcel B and Parcel C of the Site to reduce noise pollution might be caused as well as strengthening the privacy of the proposed development [refer to **Figure 3.1**]

3.1.2 The intent of the Proposed Development is to better utilise the land resource, facilitating upgrading the surrounding areas and phasing out existing industrial uses with high-quality residential development. The Proposed Development aims to provide the much-needed housings while bringing public gains to the locality through provision of vehicular access with newly constructed footpath.

4. Assessment Area & Visual Envelope

4.1 Assessment Area

- 4.1.1 In accordance with Para 4.3 of TPB-PG No.41, *“the assessment area is expected to cover the area of visual influence within which the proposed development is pronouncedly visible from key sensitive viewers. The extent of the assessment area varies case by case depending on the size of development, the site context and the distance and location of sensitive viewers”*.
- 4.1.2 In this connection, a radius of three times the height of the proposed development is used as an extent of this initial assessment area. Since the maximum actual building height of the proposed development is 12m absolute height, the assessment area covers a radial area of 36m (i.e. 3H) from the façade of the proposed development.

4.2 Visual Envelope

- 4.2.1 The visual envelope is the actual assessment area defined by the TPG PG-No. 41 as, *“determined having regard to the size of the proposed development, the distance of the development and its potential visibility from the selected viewing points, and the actual site and surrounding topographical conditions by ground inspection.”* The visual envelope “is expected to cover the fields of view from all sensitive viewers in direct sight of the proposed development.”
- 4.2.2 Due to the topography of the Site, the visual envelope covers only the immediate surroundings of the Site: a few rural dwelling houses and the public toilet to the north, the warehouse and car repair workshops to the east, the vacant land within “GB” zone to the south-east, a few temporary structures to the east, part of Ho Chung North Road to the south-west and part of Luk Mei Tsuen Road to the south-east.
- 4.2.3 An initial assessment boundary and a visual envelope is delineated for the VIA in accordance with TPB-PG No. 41 based on ground inspection as shown in **Figure 4.1**.

5. Viewing Points

- 5.1.1 With reference to Para. 4.5 of TPG PG-No. 41, visual impact should take into account views from key strategic and popular local vantage points. In the interest of the public, it is important to protect public views, particularly those easily accessible and popular to the public or tourists. According to the TPG PG-No. 41, these points include *“key pedestrian nodes, popular areas used by the public or tourists for outdoor activities, recreation, rest, sitting-out, leisure, walking, sight-seeing, and prominent travel routes where travellers’ visual attention may be caught by the proposed development.”* The Visually Sensitive Receivers (VSRs) will also assess the impact on sensitive public viewers from the most influenced viewing points.
- 5.1.2 Assessment of the visual impact of the proposed development on the VSRs is determined in part by the sensitivity to change. This sensitivity can be graded as High, Medium or Low, taking into account the duration and distance over which the proposed development would remain visible and the public perception of value attached to the views being assessed.

5.1.3 The visual sensitivity of the public viewers from the viewing points are qualitatively graded as high, medium or low, taking into account the activity of the viewers, the duration and distance over which the proposed development would remain visible, and the public perception of value attached to the views being assessed. The public viewers and their sensitivity can be broadly categorised as follows:

High: The viewers are highly sensitive to any changes in the viewing experience - e.g. formalised public viewpoints or designed landscape vistas where the principle view is of the development site.

Medium: The viewers are moderately sensitive to any changes in the viewing experience - e.g. outdoor workers, office workers, recreational users, where the secondary view is of the development.

Low: The viewers are slightly sensitive to any changes in the viewing experience - e.g. people travelling through the landscape (by private / public motorised transport), people engaged in active recreational activities (e.g. sporting activities).

5.1.4 A total of 4 Viewing Points (VPs) have been selected. The VPs selected include the popular congregation points at vicinity or point along prominent travel route near the Site, which are easily accessible by the public. [refer to **Figure 4.1**]

Viewing Point 1 – The Public Toilet on Luk Mei Lane

5.1.5 This short-range VP is located outside the newly constructed public toilet on Luk Mei Lane, which is approximate 30m to the north of the Site. The VSRs of this VP are mainly users of the public toilet, pedestrian passers-by, vehicle drivers and local residents of transient nature. It is observed that though this VP is located close to the Site, only limited no. of users, pedestrians, vehicle drivers and local residents were witnessed at this VP, as Luk Mei Lane is a dead-end road serving limited no. of houses and population. In this connection, the visual sensitivity of VP-1 is regarded as **Medium**.

Viewing Point 2- Crossroad of Luk Mei Tsuen Road and Hiram’s Highway

5.1.6 This long-range VP is located at the intersection of Luk Mei Tsuen Road and Hiram’s Highway, which is approximate 160m southeast of the Site. This VP represents pedestrian passers-by, local residents, vehicle drivers and users of public transport of transient nature. The VSRs of this VP are mainly local residents, visitors, students the Woodland Sai Kung Pre-School, and visitors to Marina Cove Shopping Centre. Though this VP represents the most popular congregation point at the vicinity, the visual sensitivity is regarded as **Low** due to the topography and visual obstruction by existing structures along Luk Mei Tsuen and roadside vegetation in the foreground Road.

Viewing Point 3 – Car Park of Che Kung Temple

5.1.7 This long-range VP is located at the Car Park of Che Kung Temple, adjacent to the abandoned ATV Production Centre, approximate 160m (direct-line distance) south of the Site. This VP is witnessed to be one of the main attractions to both visitors and local residents at the vicinity. The VSRs of this VP are visitors and local residents visiting the temple. In consideration of the far distance to the Site, the topography, and the visual obstruction by the rich vegetation within the area zoned “GB” in the foreground, the visual sensitivity of this VP is regarded as **Low**.

Viewing Point 4 – Ho Chung North Road (Main Road)

5.1.8 This medium-range VP is located approximately 60m west of the Site, which is located on the pedestrian walkway of Ho Chung North Road (main road), the prominent travel route of the Site. The VSRs of this VP are mainly vehicle drivers, pedestrian passers-by and local residents of transient nature. Though this VP captures Parcel A, B and C of the Site, this VP is situated at a higher level than the Site as Ho Chung North Road is elevated. In this connection, the visual sensitivity is regarded as **Low** due to the topography and visual obstruction by existing structures and vegetations in the foreground.

Viewing Points	Direct Line Distance from the Site	Visual Sensitive Receivers	Visual Sensitivity
VP-1 The Public Toilet on Luk Mei Lane	About 30m	Users of the Public Toilet, pedestrian passers-by, local residents, and vehicle drivers	Medium
VP-2 Crossroad of Luk Mei Tsuen Road and Hiram’s Highway	About 160m	Pedestrian passers-by, local residents, vehicle drivers, visitors and users of public transport	Low
VP-3 Car Park of Che Kung Temple	About 160m	Visitors, and local residents visiting Che Kong Temple	Low
VP-4 Ho Chung North Road (Main Road)	About 60m	Vehicle drivers, pedestrian passers-by and local residents	Low

Table 5.1- Details of the selected Viewing Points

6. Measure and Evaluation of Visual Impacts

6.1 Measure of Visual Changes

6.1.1 With reference to Para 4.10 of TPB PG-No. 41, to appraise the effects of visual changes on the assessment area and sensitive public viewers, the following aspects should be considered:

a) Visual Composition

“Visual composition is the total visual effects of all the visual elements due to their variation in locations, massing, heights, dispositions, scales, forms, proportions and characters vis-a-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”.

b) Visual Obstruction

“A development may 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 as far as possible. In particular with regard to impact on prominent ridgelines, the harbour, natural coastlines, open sea horizon, skyline, scenic areas, valued landscape, special landmark, heritage features are to be preserved”.

c) Effect on Public Viewers

“The effects of visual changes from key public viewing points with direct sightlines to the proposed development should be assessed and demonstrated in the VIA. The changes in views to the existing and future public viewers should be compared before and after the proposed development. The cumulative impact with any known planned developments as permitted by the statutory plans should be taken into account where possible. The appraisal should take into account the public perception of value attached to the views currently enjoyed, and any likely visual concerns from the general public. The effects of the visual changes can be graded qualitatively in terms of magnitude as substantial, moderate, slight or negligible”.

d) Effect on Visual Resources

“The condition, quality and character of the assessment area may change positively or negatively as a result of a development. The applicant should appraise if the proposed development may improve or degrade the condition, visual quality and character of the assessment area and any on-site and off-site visual impact such as that on the visual resources, visual amenities, area of special character, natural and built heritage, sky view, streetscape, townscape and public realm related to the development”.

6.2 Evaluate the Visual Impacts

6.2.1 With reference to Para 4.11 TPB PG-No. 41, the overall visual impacts are concluded and classified within a range of threshold:

a) Enhanced

“if the proposed development in overall term will improve the visual quality and complement the visual character of its setting from most of the identified key public viewing points”;

b) Partly Enhanced/Partly Adverse

"if the proposed development will exhibit enhanced visual effects to some of the identified key public viewing points and at the same time, with or without mitigation measures, exhibit adverse visual effects to some other key public viewing points";

c) Negligible

"if the proposed development will, with or without mitigation measures, in overall term have insignificant visual effects to most of the identified key public viewing points, or the visual effects would be screened or filtered by other distracting visual elements in the assessment area";

d) Slightly Adverse

"if the proposed development will, with or without mitigation measures, result in overall term some negative visual effects to most of the identified key public viewing points";

e) Moderately Adverse

"if the proposed development will, with or without mitigation measures, result in overall term negative visual effects to most of the identified key public viewing points"; and

f) Significantly Adverse

"if the proposed development will in overall term cause serious and detrimental visual effects to most of the identified key public viewing points even with mitigation measures."

6.3 Mitigation Measures

6.3.1 To address or minimise possible visual impact, the sources of impact need to be identified and suitable mitigation measures are proposed as appropriate so that the significance of impacts is reduced. Mitigation measures could relate to the building design itself (e.g. location, design, colour and façade features) or could involve the overall project design (e.g. landscaping, such as tree planting to screen a development and enhance views).

7. Assessment of Visual Impacts

7.1 Assessment of the Viewing Points

7.1.1 This section assesses the visual changes in visual quality for each viewing point comparing the Previous Approved Scheme (Previous Approved Scheme) and the Proposed Development (Proposed Development). The Previous Approved Scheme and Proposed Development are both for residential use. The Previous Approved Scheme have a Plot Ratio 0.37 and a height restriction of 6 to 9 meters and the Proposed Development have a Plot Ratio 0.75 and a height restriction of 12 meters.

7.1.2 This section assesses the visual changes in visual quality for each viewing point comparing the Previous Approved Scheme and Proposed Development.

7.1.3 Photomontages of viewing points are used to assess the visual impact of the Proposed Development and Previous Approved Scheme. For easy comparison, the Existing Condition without the Proposed Development, the Previous Approved Scheme and with the Proposed Development is shown. Please refer to **Figures 7.1-7.4** for the photomontages of the assessments.

7.2 Viewing Point 1- The Public Toilet on Luk Mei Lane

Visual Composition

7.2.1 VP-1 is located to the immediate north of the Site and it represents the view from the users of the public toilet, pedestrian passers-by, local residents, and vehicle drivers reaching the main roads through Luk Mei Lane. This VP captures the view of the existing refuse collection point, temporary structures, roadside vegetation, and car repair workshops in the foreground, and a 3-storey dwelling house, ATV Production Centre and the mountain backdrop in the background. As illustrated in **Figure 7.1**, a portion of the Proposed Development and Previous Approved Scheme will be screened off by the existing trees and vegetation. The screened effect of the Proposed Development and Previous Approved Scheme is similar, however the Proposed Development has a slightly larger effect. In this connection, the Proposed Development and Previous Approved Scheme will merge into the existing visual composition with minimal negative effect on the visual balance, compatibility, harmony, unity or contrast. Therefore, the visual composition would be **low for the Proposed Development**.

Visual Obstruction

7.2.2 From this VP, VSRs are currently enjoying an open view towards the Site with the mountain backdrop in the background. As demonstrated in **Figure 7.1**, comparing to the existing condition affecting the openness of VSR's views, the Proposed Development and the Previous Approved Scheme with a low building height would not form a visual obstruction and therefore the current openness of the sky view and the view of the mountain backdrop at this VP will be unaffected. With the proposed landscape and trees, the Proposed Development and the Previous Approved Scheme will alternatively provide positive visual resources to VSRs at this VP. Therefore, the visual obstruction would be **low for the Proposed Development**.

Effect on Public Viewers

7.2.3 Due to the close proximity to the Site, VSRs at VP-1 will be inevitably affected, yet in a good way. The existing view of the public viewers from VP-1 consists of a refuse collection point, unorganised space occupied by temporary structures and vehicles, and the abandoned ATV Production Centre. With well-designed layout of buildings, landscape elements, the visual effect on public viewers at this VP brought by the Proposed Development and the Previous Approved Scheme at VP-1 will be **enhanced**.

Effect of Visual Resources

- 7.2.4 The existing refuse collection point, roadside vegetation, and temporary structures in the foreground, the abandoned ATV Production Centre, sky view and mountain backdrop in the background are the major visual resources for VSRs at VP-1. **The Proposed Development and the Previous Approved Scheme** will inevitably impact the existing visual resources, as temporary structures will be removed. However, the **Proposed Development and the Previous Approved Scheme will not significantly degrade** the condition, visual quality and character of the assessment area, as **sky view and mountain backdrop would be maintained**. **Alternatively, the Proposed Development and the Previous Approved Scheme** will remove and partly screen off some of the existing undesirable visual resources. Therefore, the visual resources would be **partly enhanced/partly adverse**.
- 7.2.5 In summary, with varied design merits, the resultant visual impact of **any developments including the Proposed Development and the Previous Approved Scheme** viewed from VP-1 is assessed to be **partly enhanced/partly adverse**.

7.3 Viewing Point 2- Crossroad of Luk Mei Tsuen Road and Hiram’s Highway

Visual Composition

- 7.3.1 The existing view comprises the junction of Luk Mei Tsuen Road and Hiram’s Highway, the retaining wall along Hiram’s Highway, a big warehouse of the Kin Hing Group, Limited, the area zoned “GB” with rich vegetation and roadside trees along Luk Mei Tsuen Road in the foreground and, mountain backdrop in the background. It is observed that the Proposed Development is located at a ground level higher than VP-2, and the view towards the Proposed Development is mostly blocked by retaining wall along Hiram’s Highway and the roadside vegetation. **The Proposed Development and the Previous Approved Scheme** would therefore have **no impact to the visual composition** at this VP.

Visual Obstruction

- 7.3.2 From VP-2, the view is dominated by junction of Luk Mei Tsuen Road and Hiram’s Highway, the retaining wall along Hiram’s Highway, area zoned “GB” with rich vegetation and roadside vegetation. The Photomontage **Figure 7.2** illustrates that **the Proposed Development and the Previous Approved Scheme** cannot be seen at this VP, in this connection, the **Proposed Development and the Previous Approved Scheme will not cause** visual obstruction or block the openness of this VP, resulting in **no impact**.

Effect on Public Viewers

- 7.3.3 The Proposed Development with a maximum building height of 12m (+26.70 mPD (Parcel A and B) and +25.97mPD (Parcel C)) and the Previous Approved Scheme with a maximum building height of 12m (+23.70 mPD (Parcel A and B) and +22.97mPD (Parcel C)) is located at a ground level higher than this VP, however due to the rich roadside vegetation and existing structures, the Proposed Development and the Previous Approved Scheme will be shielded in a great extent. In this connection, the views of public viewers at this VP will not be affected. Moreover, given the transient nature of this VP, the visual sensitivity of VSRs at this VP would be **low**. The visual change brought about by Proposed Development and the Previous Approved Scheme therefore would be **negligible**.

Effect of Visual Resources

- 7.3.4 The existing visual resources, such as the sky view, streetscape, and mountain backdrop would not be affected and no change to the quality and character of the assessment area will be caused by the Proposed Development and the Previous Approved Scheme, due to the proposed building heights and topography. This would result in **no impact** to the visual resources.
- 7.3.5 In summary, the visual impact of the Proposed Development and the Previous Approved Scheme viewed from VP-2 is assessed to be **Negligible**.

7.4 Viewing Point 3- Car Park of Che Kung Temple

Visual Composition

- 7.4.1 The existing view of VP-3 comprises the rich vegetation within the area zoned “GB” and open sky view. The Proposed Development will have a maximum building height is 12m (+26.70 mPD (Parcel A and B) and +25.97mPD (Parcel C)) and the Previously Approved Scheme will have a maximum building height is 12m (+23.70 mPD (Parcel A and B) and +22.97mPD (Parcel C)), which will be entirely screened off by the existing trees. In this connection, Proposed Development and the Previous Approved Scheme will not form any new visual element or cause any impact on the existing visual composition as shown in **Figure 7.3**, resulting in **no impact** to the visual composition from this VP.

Visual Obstruction

- 7.4.2 The only visual resources viewing from this VP are the mature trees within the area zoned “GB” and the open sky view. As the Proposed Development and the Previous Approved Scheme is situated to the north of the area zoned “GB”, the presence of the Proposed Development and the Previous Approved Scheme will not result in any visual obstruction to the existing visual resources with no loss of views or visual openness, resulting in **no impact** on the visual obstruction

Effect on Public Viewers

- 7.4.3 The public viewers of this VP are mostly visitors to Che Kung Temple. These public viewers will continue to enjoy the open sky and rich vegetation as the Proposed Development and the Previous Approved Scheme cannot be seen at this VP. Hence, the visual sensitivity would be low and the visual change caused by the Proposed Development and the Previous Approved Scheme at this VP would be **negligible**.

Effect of Visual Resources

- 7.4.4 The major visual resources for VSRs at this VP are the mature trees within the area zoned “GB” and the open sky view. As stated above, **Proposed Development and the Previous Approved Scheme** cannot be seen at this VP. In this connection, **Proposed Development and the Previous Approved Scheme** will neither bring any adverse impact to the condition, visual quality and character of the assessment area nor any on-site and off-site visual impact. There will be **no impact** on the visual resources from this VP
- 7.4.5 In summary, the visual impact of the **Proposed Development and the Previous Approved Scheme** viewed from VP-3 is assessed to be **Negligible**.

7.5 Viewing Point 4- Ho Chung North Road (Main Road)

Visual Composition

- 7.5.1 VP-4 is located to the west of the Site, capturing the partial view of the Site with Ho Chung North Road, some temporary structures, the open-air vehicle park and roadside vegetation in the foreground, and the open sky view as backdrop. The existing visual composition is messy and unpleasant, having all the undermaintained temporary structures and cars weltered together. The **Proposed Development and the Previous Approved Scheme** would **enhance** the visual composition by replacing the temporary structures on Site with well-designed permanent housings as well as additional landscape elements. Therefore the visual composition would **be enhanced**. [refer to **Figure 7.4**].

Visual Obstruction

- 7.5.2 From this VP, VSRs are currently facing Ho Chung North Road with some temporary structures, open-air vehicle park and roadside vegetation along both sides of the road in the foreground, and the open sky view as backdrop. No significant visual feature is available at this VP, in particularly in terms of coastline, open sea horizon, scenic areas, valued landscape, special landmark and heritage. As illustrated in **Figure 7.4**, the **Proposed Development and the Previous Approved Scheme**, would form **partial visual obstruction** and **partial loss of visual openness of VSRs** due to its building heights and mass. This would result in **partly enhanced/partly adverse** to the visual obstruction.

Effect on Public Viewers

- 7.5.3 The effect of the **Proposed Development and the Previous Approved Scheme** on the public viewers would be **partly enhanced** when viewing from this VP, since the **Proposed Development and the Previous Approved Scheme** would replace the temporary structures and open-air vehicle park at the Parcel C with well-designed permanent house with landscape. The **Proposed Development and the Previous Approved Scheme** within the Parcel A and B of the Site would be partly shielded off by the existing and proposed roadside trees and structures. Additionally, with consideration of the transient nature of this VP, where VSRs are mainly pedestrian passers-by and vehicle drivers, the visual sensitivity at this VP will be **low**. The visual change caused by the **Proposed Development and the Previous Approved Scheme** will be **similar resulting in a partly enhanced/partly adverse** effect on the public views.

Effect of Visual Resources

7.5.4 The existing visual resources at VP-4 are Luk Mei Tsuen Road, temporary structures, open-air vehicle park, roadside vegetation and sky view at backdrop. The Proposed Development and the Previous Approved Scheme will replace the existing undesirable visual resources with permanent houses with landscapes which would be more visually appealing. Overall, the condition, quality and character of the assessment area would be **enhanced** as a result of the Proposed Development and the Previous Approved Scheme, the streetscape would be improved through provision of well-designed buildings, more trees and landscapes, given the effect is similar for both schemes.

7.5.5 In summary, the resultant visual impact of the Proposed Development and Previous Approved Scheme viewed from VP-4 is assessed to be **enhanced**.

8. Conclusion

8.1.1 The Proposed Development for a low-density and low-rise residential development with a rezone of the Subject Site from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) and is similar to the Previously Approved Scheme. Considering the marginal difference from the Previously Approved Scheme to the Proposed Development and given that low building height and its surrounding building height profile, the proposed rezone of site is considered reasonable.

8.1.2 Based on the analysis on the appraisal of visual impact on Visual Composition, Visual Obstruction, Effect on Public Views and Effect on Visual Resources, Table 8.1 below presents the overall visual impact caused by the Proposed Development to the VSRs of each VP.

Viewing Point	Distance from the site	Visual Sensitive Receivers	Visual Sensitivity	Visual Impact of the Previous Approved Scheme	Visual Impact of the Proposed Development
VP1 The Public Toilet on Luk Mei Lane	Short-range	Users of the Public Toilet, pedestrian passers-by, local residents, and vehicle drivers	Medium	Partly Enhanced / Partly Adverse	Partly Enhanced / Partly Adverse
VP2 Crossroad of Luk Mei Tsuen Road and Hiram’s Highway	Long-range	Pedestrian passers-by, local residents, vehicle drivers, visitors and users of public transport	Low	Negligible	Negligible
VP3 Car Park of Che Kung Temple	Long-range	Visitors, and local residents visiting Che Kong Temple	Low	Negligible	Negligible

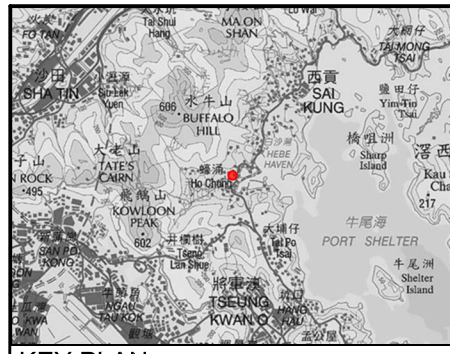
Viewing Point	Distance from the site	Visual Sensitive Receivers	Visual Sensitivity	Visual Impact of the Previous Approved Scheme	Visual Impact of the Proposed Development
VP4 Ho Chung North Road (Main Road)	Medium-range	Vehicle drivers, pedestrian passers-by and local residents	Low	Partly Enhanced / Partly Adverse	Partly Enhanced / Partly Adverse

Table 8.1 Summary of Assessment of Visual Impact at the Viewing Points

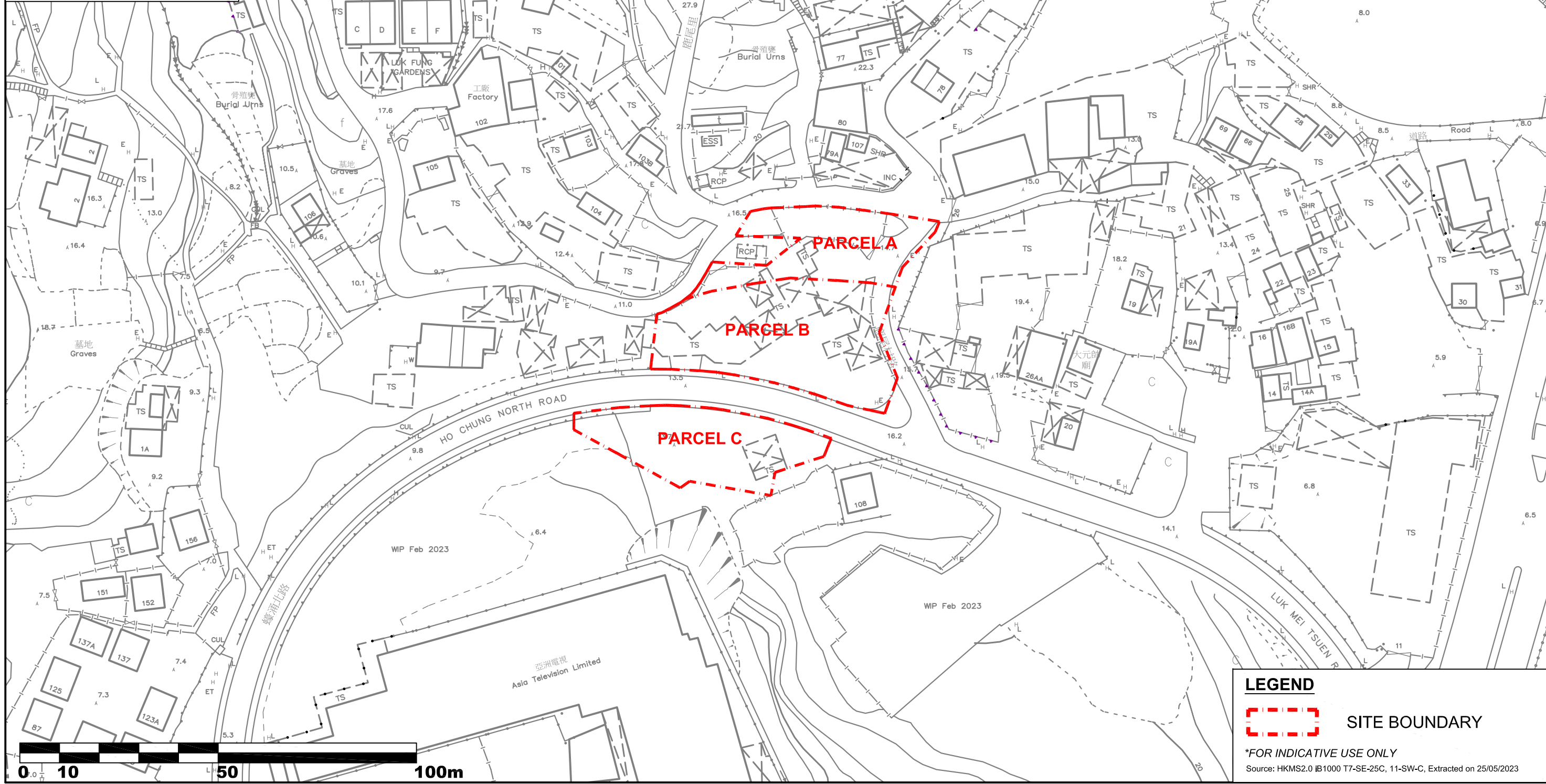
- 8.1.3 While the visual change to VSRs at VP-2 and VP-3 are negligible, the visual impact at VP-1 and VP-4 would be enhanced by both the **Previously Approved Scheme** and the Proposed Development.
- 8.1.4 This VIA therefore concludes that overall visual impact of **the Proposed Development and the Previous Approved Scheme** at the Site to its surroundings would be **partly enhanced/partly adverse**. The Proposed Development **and the Previous Approved Scheme** will have minimal visual effects to VSRs at a few identified key public viewing points in a positive way, as the both **the Proposed Development and the Previous Approved Scheme** will remove some of the existing visual obstructions and provide new visual resources through provision of greenery elements.

Figures


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KEY PLAN



LEGEND

 SITE BOUNDARY

**FOR INDICATIVE USE ONLY*

Source: HKMS2.0 IB1000 T7-SE-25C, 11-SW-C, Extracted on 25/05/2023

File Name :
Source :

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SURVEYING · LAND ADVISORY · VALUATION 行

ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 8333
FAX: 2598 6576

JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
LOCATION PLAN

Drawn	CN	Date	19/07/2023	Drawing No.	
Checked	RT	Approved	RT	Figure 1.1	
Scale	1:1000 @ A3			Rev.	-
Rev	Description	Date			



LEGEND

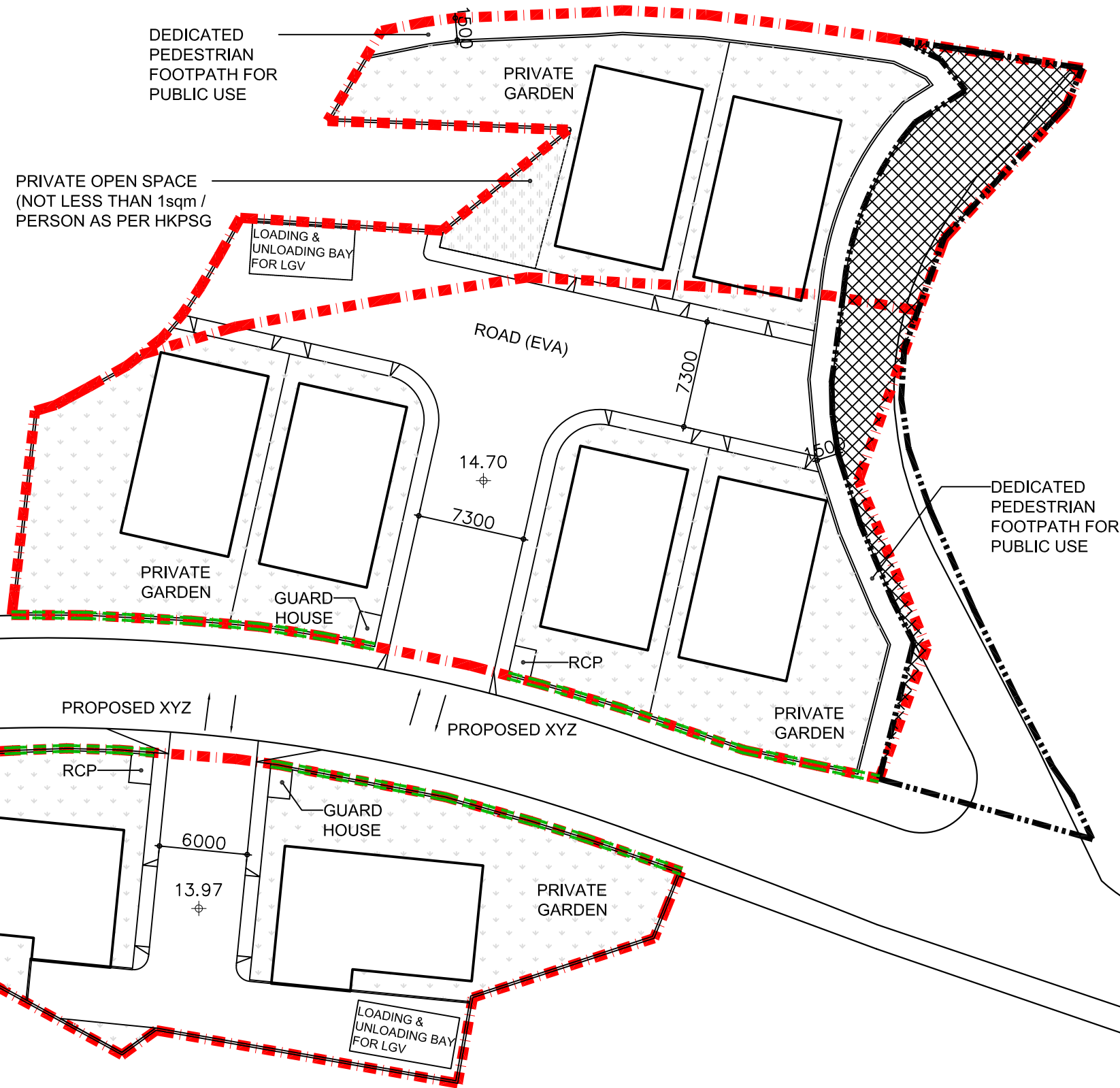
SITE BOUNDARY

PLANNED DEVELOPMENT

Source: HKMS 2.0 Aerial Photo E154298C 6000' (9 Mar 2022)

File Name :
Source :
**For Indicative Use Only*

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title THE SITE AND ITS SURROUNDINGS				
			Drawn CN	Date 08/08/2023	Drawing No. FIGURE 2.1		
				Checked RT	Approved RT		
				Scale N.T.S.	Rev.		
Rev	Description	Date					



LEGEND

- SITE BOUNDARY
- AREA TO BE DEDICATED AS RIGHT OF WAY
- GREEN NOISE BARRIER
- PRIVATE GARDEN
- BUILDING FOOTPRINT
- PRIVATE OPEN SPACE

File Name :
Source :

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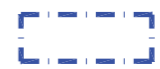






JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
BLOCK PLAN

1	Road Layout Update	18/12/23	Drawn	CN	Date	18/12/2023	Drawing No.
			Checked	RT	Approved	RT	Fig. 3.1
Rev	Description	Date	Scale	1:350 @ A3			Rev.
							1



LEGEND

-  SITE BOUNDARY
-  ASSESSMENT AREA BOUNDARY
-  VISUAL ENVELOPE
-  VIEWING POINTS
-  1 THE PUBLIC TOILET ON LUK MEI LANE
-  2 CROSS ROAD OF LUK MEI TSUEN ROAD AND HIRAM'S HIGHWAY
-  3 CAR PARK OF CHE KUNG TEMPLE
-  4 HO CHUNG NORTH ROAD (MAIN ROAD)

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Source: HKMS2.0 IB1000 T7-SE-25C, 11-SW-C, Extracted on 25/05/2023

File Name :
Source :



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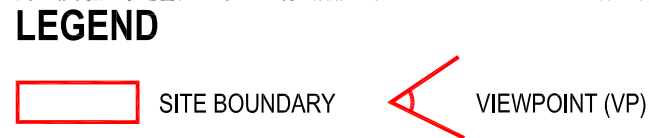
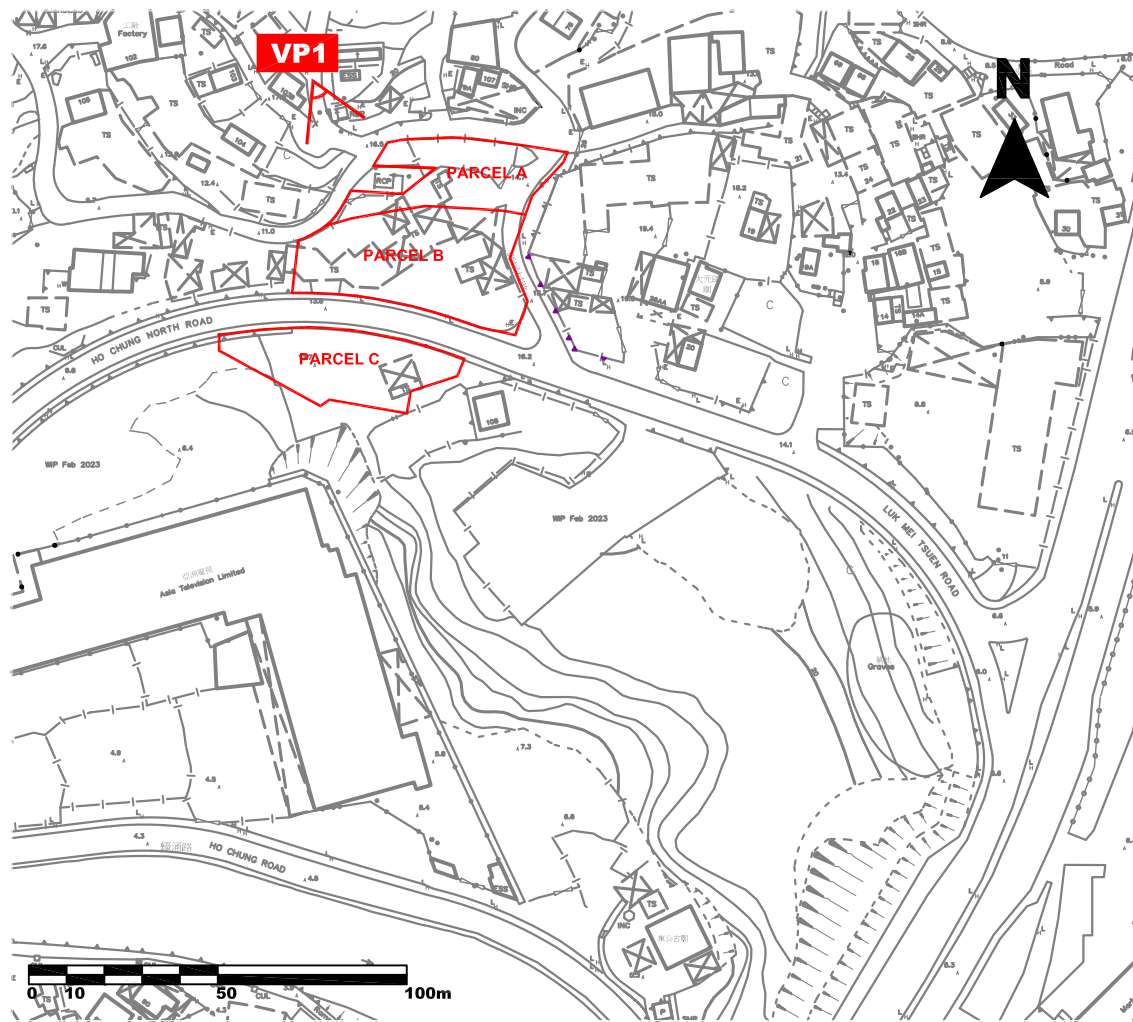
JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as 'Road' to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
ASSESSMENT AREA, VISUAL ENVELOPE AND VIEWING POINTS

Rev	Description	Date

Drawn	CN	Date	26/07/2023
Checked	RT	Approved	RT
Scale	1:1500 @ A3		

Drawing No.	Figure 4.1
Rev.	-



A. EXISTING CONDITION WITHOUT PROPOSED DEVELOPMENT



B. PHOTOMONTAGE WITH PREVIOUS APPROVED SCHEME



C. PHOTOMONTAGE WITH PROPOSED DEVELOPMENT



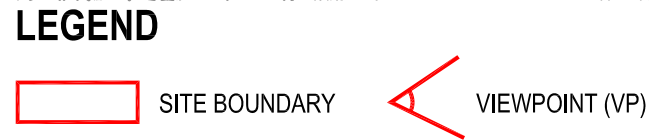
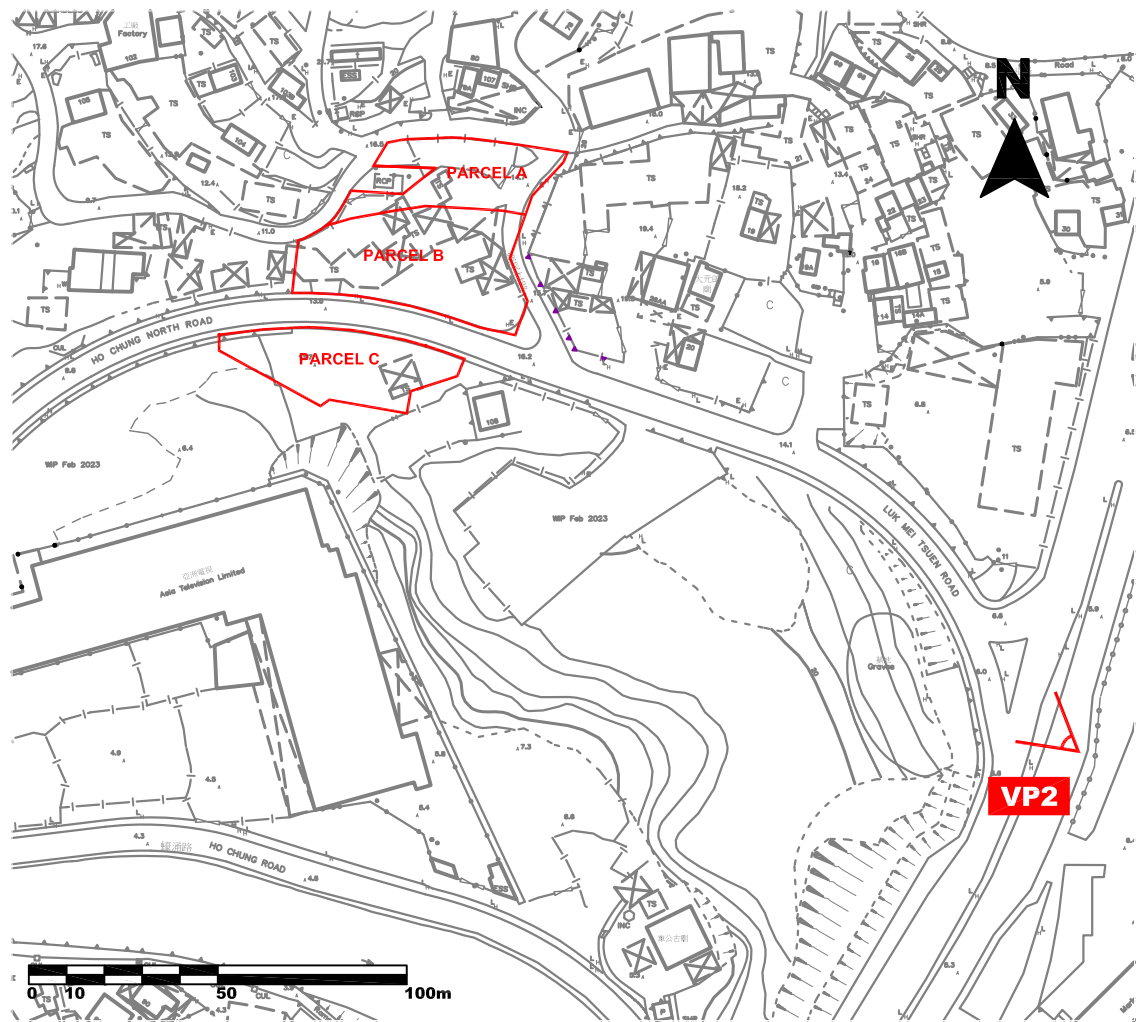
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Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title PHOTOMONTAGE OF VIEWPOINT 1		1 Photomontage Updated 21/12/23	Drawn CN Date 21/12/2023	Drawing No. Figure 7.1
			Rev Description Date	Checked RT Approved RT	Scale N.T.S.	Rev. 1	

B. PHOTOMONTAGE WITH PREVIOUS APPROVED SCHEME



C. PHOTOMONTAGE WITH PROPOSED DEVELOPMENT

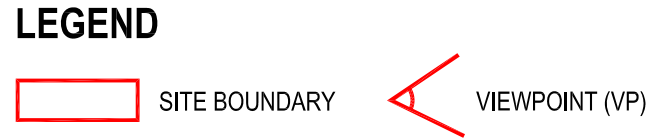
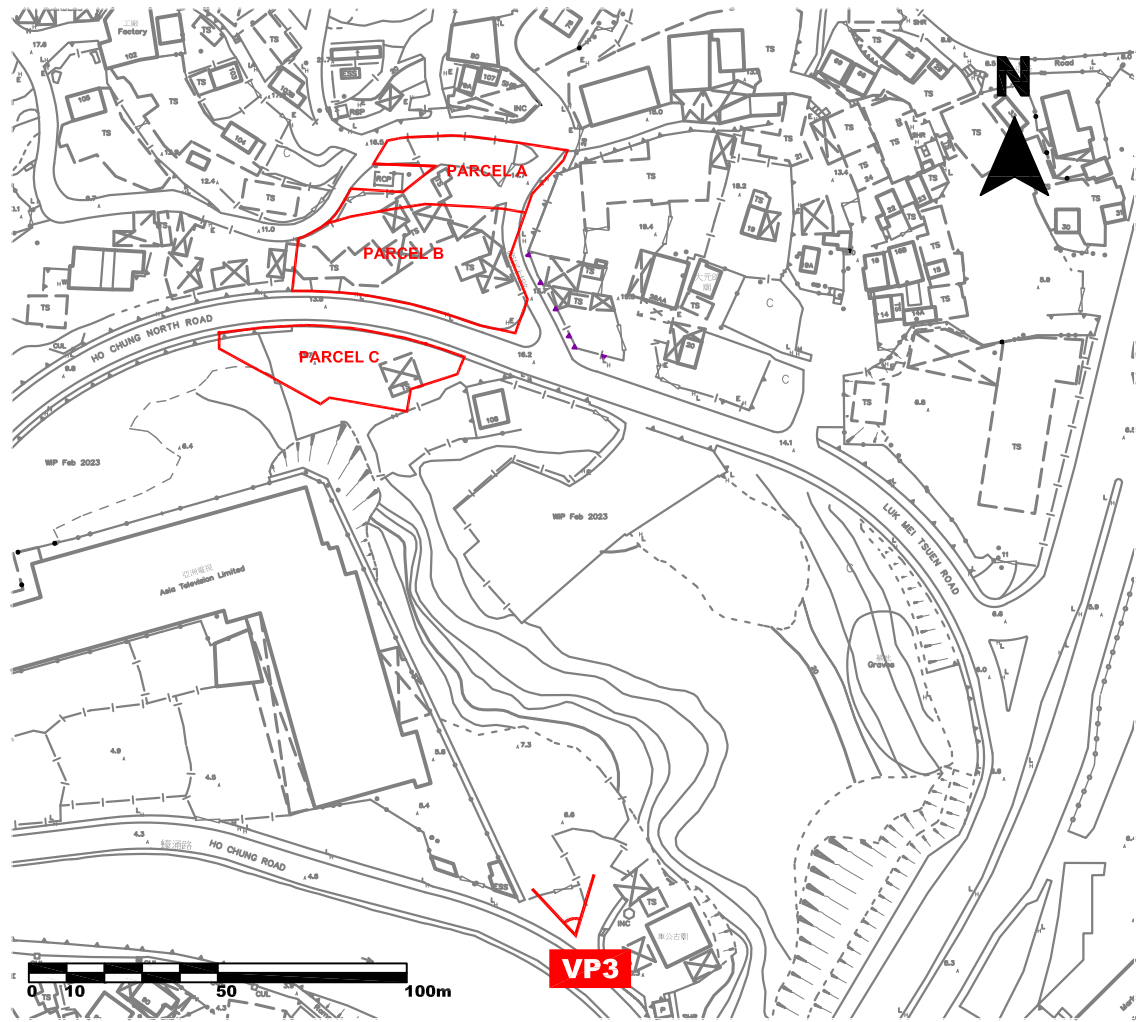


A. EXISTING CONDITION WITHOUT PROPOSED DEVELOPMENT



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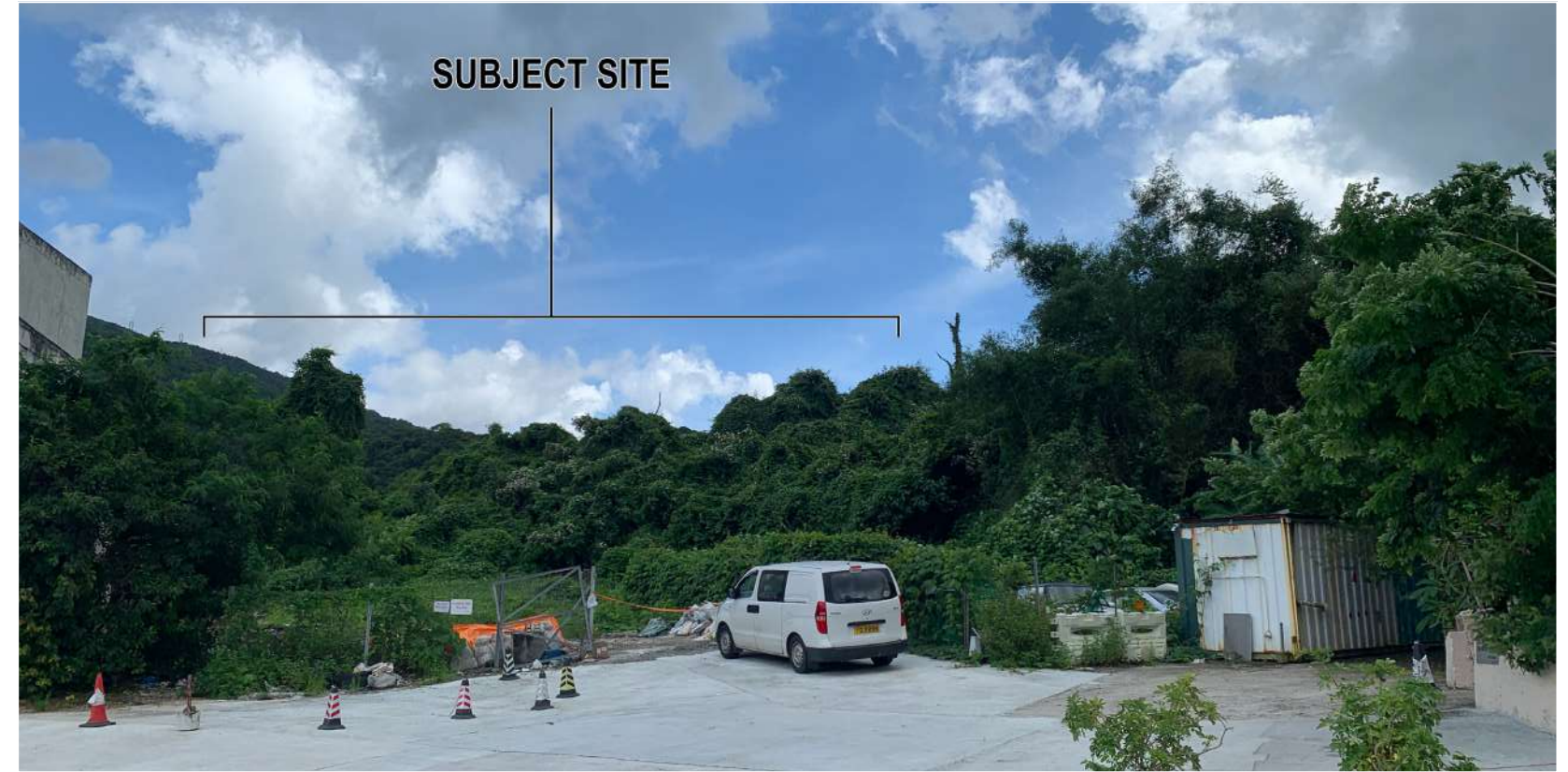
	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title		19/12/23		Date		Drawing No.		
			PHOTOMONTAGE OF VIEWPOINT 2		19/12/23		19/12/2023		Figure 7.2		
				Checked		RT		Approved		RT	
				Scale		N.T.S.		Rev.		1	
				Rev		Description		Date			



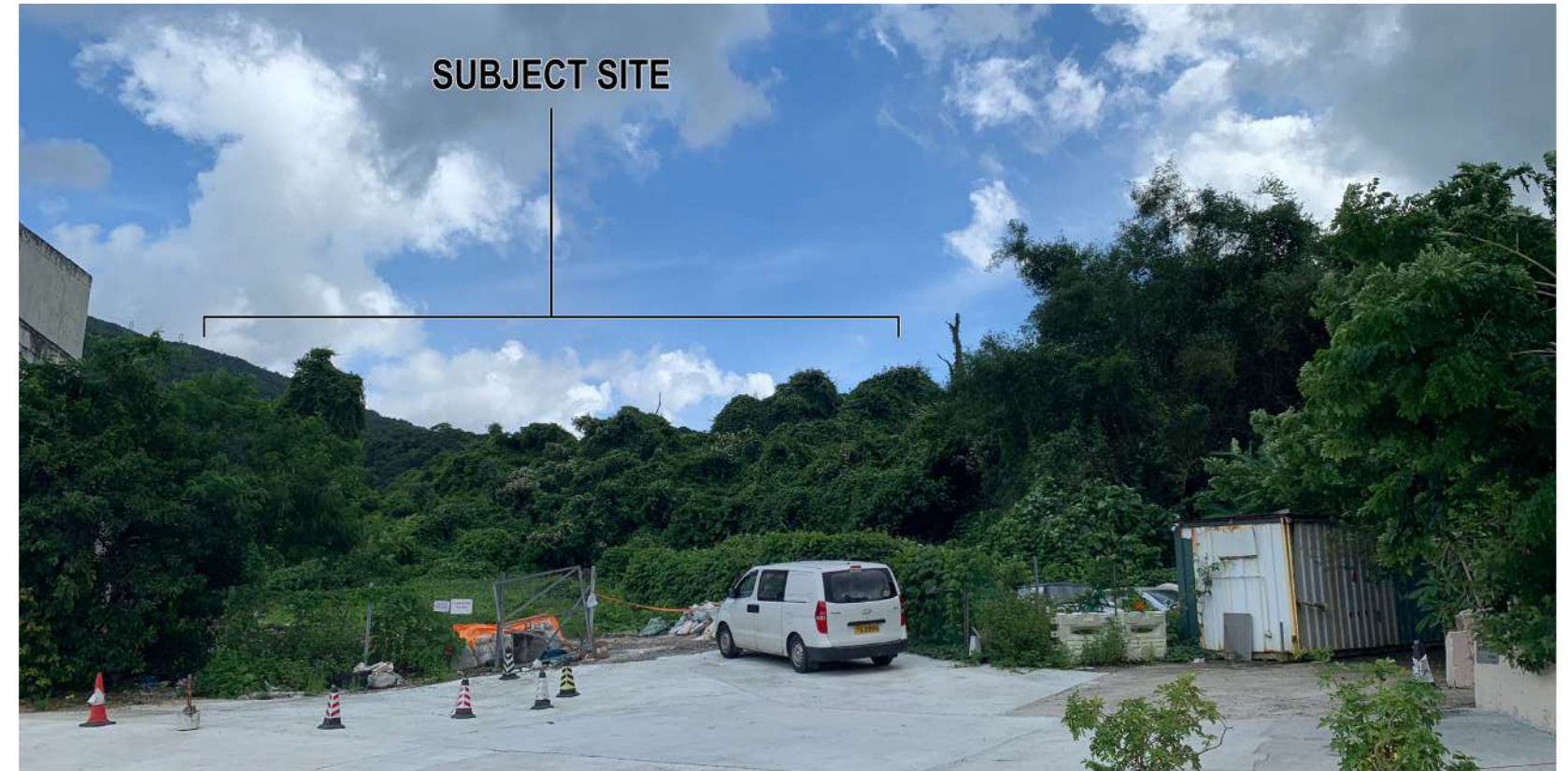
A. EXISTING CONDITION WITHOUT PROPOSED DEVELOPMENT



B. PHOTOMONTAGE WITH PREVIOUS APPROVED SCHEME



C. PHOTOMONTAGE WITH PROPOSED DEVELOPMENT



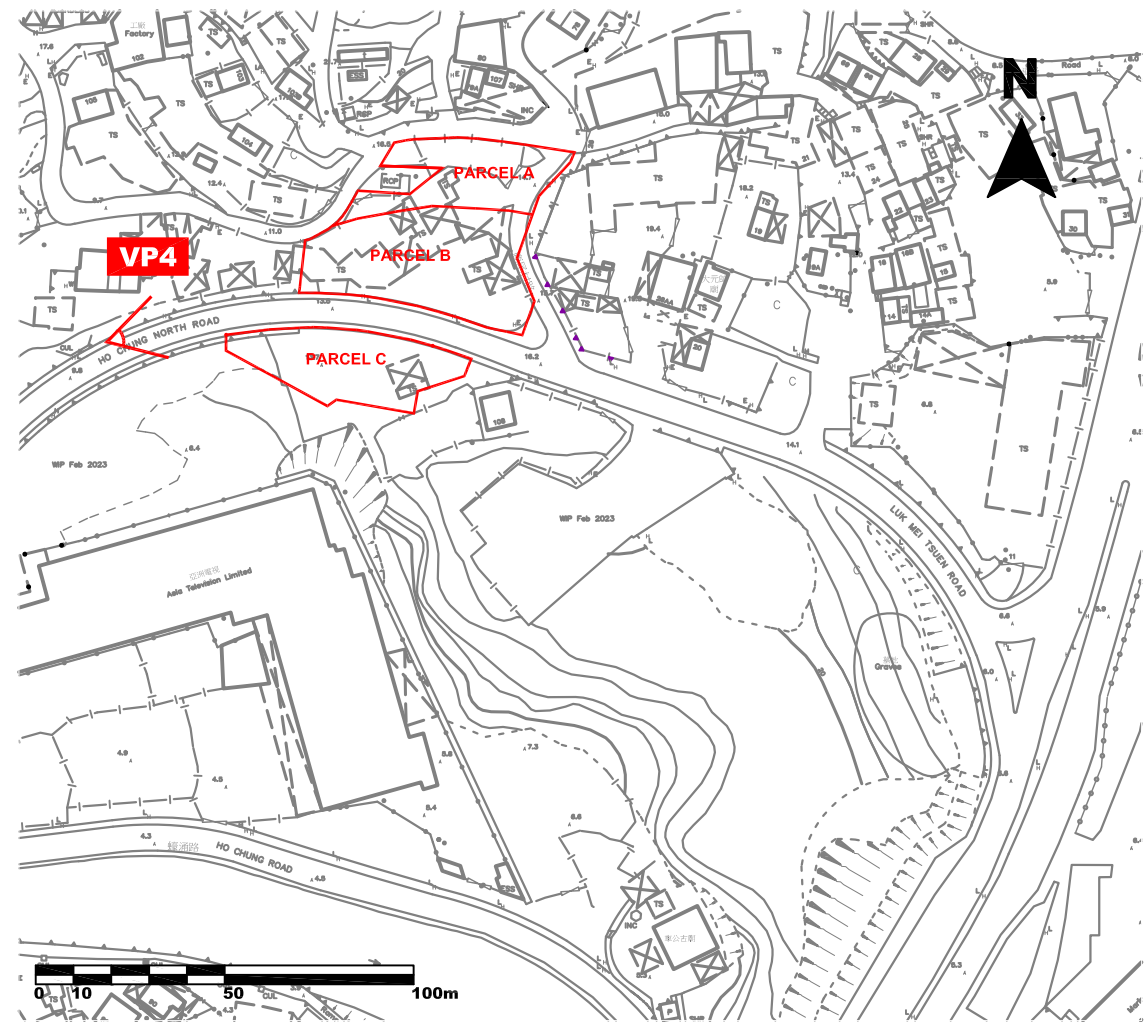
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			Rev Description Date	Checked RT Approved RT	Scale N.T.S.	Rev. 1	

B. PHOTOMONTAGE WITH PREVIOUS APPROVED SCHEME



C. PHOTOMONTAGE WITH PROPOSED DEVELOPMENT



LEGEND

SITE BOUNDARY
 < VIEWPOINT (VP)

A. EXISTING CONDITION WITHOUT PROPOSED DEVELOPMENT



File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOUEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title PHOTOMONTAGE OF VIEWPOINT 4		1 Photomontage Updated 21/12/23	Drawn CN Date 21/12/2023	Drawing No. Figure 7.4
			Checked RT	Approved RT	Scale N.T.S.	Rev. 1	

Appendix 3

Sewerage and Drainage Impact Appraisal

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Sewerage and Drainage Impact Appraisal

For
Amendment of Plan to
Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)”
 (“R(E)”) and an area shown as ‘Road’
to “Residential (Group C)3” (“R(C)3”
on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11
at Various Lots in Demarcation District 210 and Demarcation District 244
and Adjoining Government land
Ho Chung, Sai Kung, New Territories, Hong Kong

Prepared by: Prudential Surveyors International Limited
Version: B C
Date: November December 2023

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Table 2.1	Calculation of Septic Tank
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1. Introduction

1.1 Background

1.1.1 This Sewerage and Drainage Appraisal is to support a planning permission from the Town Planning Board (TPB) under Section 12A of the Town Planning Ordinance (CAP. 131) for a proposed rezone of the Subject Site from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)” and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) within various lots within DD210 and DD244 and adjoining government land in Ho Chung, Sai Kung, New Territories. The application Site (**the Site**) is composed of 3 parcels, namely Parcel A, B and C. [refer to **Figure 1.1**]

1.1.2 The owner of the application Site has the intention to construct six individual houses with twelve car parking spaces in Parcels A and B of the Site and two individual house with four car parking spaces in Parcel C of the Site.

1.2 Site and its Surroundings

1.1.3 A site visit was carried out on 6 July 2023. Per the observations from the site visit, it was observed that the Site is situated in rural environs with a mixture of residential, industrial and storage uses with dwellings. [refer to **Figure 1.2**] The details of the surrounding are that:

- to the north of the Site is some 2 and 3-storey rural housing;
- to the east of the Site are some car repair workshops and to the further east are residential blocks of Marina Cove;
- to the south of the Site is the former Production Centre of Asia Television Limited (abandoned); and
- to the west of the Site is Luk Mei Village with a mixture of traditional single-storey village-type developments and modern 3-storey New Territories Exempted Houses (NTEHs).

1.1.4 Apart from residential buildings, there are scattered structures in the vicinity of the Site intended primarily for industrial uses including an unnamed warehouse, a motor repair workshop (Bayview Motors Company), a food factory under Koon Yick Food Manufacturing Company (冠益華記食品廠) (“Koon Yick”).

1.3 Proposed Development

1.1.5 The Proposed Development is to erect six individual houses in Parcel A and B of the Site and two individual houses in Parcel C of the Site. The proposed gross floor area (GFA) of the houses are summarised in Table 1.1

Propose House	Gross Floor Area (GFA) (sqm) (about)
House 1	283.35
House 2	283.35
House 3	283.35
House 4	283.35
House 5	283.35
House 6	283.35
House 7	345.75
House 8	345.75
Total	2,391.6
Average	298.95

Table 1.1 Proposed GFA of Houses

2. Sewerage Impact Appraisal

2.1 Scope of Works

The objective of this Sewerage Impact Appraisal (SIA) is to assess whether the capacity of the sewerage networking is sufficient to cope with the peak sewerage flow arising from the proposed comprehensive residential development.

Existing drainage record plan from the Drainage Services Department (DSD) is shown in **Figure 2.1**.

2.2 Existing Sewerage Facilities

According to the drainage record plan, there is no existing public sewerage network serving the Site. [refer to **Figure 2.1**]. Hence, the Site is an unsewered area at present.

2.3 Proposed Sewerage Treatment

In consideration that the Site is unsewered area, it is necessary to consider the provision of an on-site underground Sewerage Treatment Plant, which will be used for treatment of sewerage generated from the Proposed Development.

The applicant will be responsible for the construction, operation and maintenance of the on-site underground Sewerage Treatment Plant and all inter-connecting sewerage pipework (polyethylene pipes) within the Site. The sewerage collected from each house will be discharged to septic tank and soil soakaway pit.

The design, operation and maintenance of the proposed underground Sewerage Treatment Plant are in compliance with EPD’s Practice Note for Professional Person (ProPECC) PN 5/93. It is proposed to construct eight entire underground Sewerage Treatment Plant (involve inlet trap, septic tank, outlet trap, inter-connecting pipes and soil soakaway pit) for proposed houses. The proposed capacity of the each septic tank is 15.98 cu.m and it is greater than the estimated daily water consumption of each proposed house. A reference septic tank is illustrated in **Figure 2.2** and the calculation of septic tank are shown in Table 2. For the proposed soil soakaway pit, its size should be determined basing on soil absorption rate and therefore it should be determined in detail design stage.

		(mm)
Proposed Septic Tank Capacity	$(L-t) \times B \times D$	$(5700-150)1600 \times 1800 = 15.98 \text{ cu.m}$
The proposed septic tank System aims to serve one house with 4 Nos. of Person.		
Estimate Ultimate per capita daily water consumption	Design Flow Rate x Peak Factor	$0.37 \times 6 = 2.22 \text{ cu.m/person/day}$
Required Septic Tank Capacity	Nos of Person Per House x estimated daily water consumption	$4 \times 2.22 = 8.88$ is less Septic Tank Capacity (15.98 cu.m)

Tank to be desludged every 6 months		
The soil soakaway pit to be designed in accordance with PROPECC PN5/93 and its size shall be determined base on absorption capacity of soil and ultimate consumption rate.		

Table 2.1 - Calculation of Septic Tank

In addition, the proposed septic tank would be inspected at least once every 6 months by the applicant. If there is any flooding / overflow from the Septic Tank or foul smell become noticeable, immediate inspection would be carried out. Desludging the Septic Tank when thickness of sludge exceeds 30cm or ¼ of overall water depth or clogging of the septic tank outlet pipe or the soakaway pit or soil is suspected. Last, disposing the sludge would be carried out properly. Sludge removed would be transported by specialist contractors to sewerage treatment works for disposal.

The location of the proposed underground Sewerage Treatment Plant for the Site is illustrated in **Figure 2.3**.

Once the concerned public sewerage system is available in the vicinity, the Septic Tank System will be abandoned and replaced with a pump pit and a connection terminal manhole. All sewerage generated from the Proposed Development will be conveyed to the public sewerage system.

2.4 Assessment Criteria, Methodology and Assumptions

The adopted unit flow factor and global peaking factors will adopt the figures stipulated in the Guidelines for Estimating Sewerage Flows for Sewerage Infrastructure Planning (GESF) (Version 1.0) issued by the Environmental Protection Department (EPD) in March 2005 to estimate the sewerage flow generated from the Proposed Development.

With reference to Table T-1: Unit Flow Factors for Domestic Flows in the GESF (Version 1.0), the unit flow factors for private housing R4 domestic flow is 0.37cu.m/person/day.

2.5 Estimation of Sewerage Flow

The primary source of contaminants arising from the Site will be from bathrooms, toilets and kitchens from residential houses.

Table 2.2 shows the estimated peak sewerage flow for the Proposed Development.

Calculation for Sewerage Flow Generation Rate of the Site			
1a. Total number of units	=	8	units
1b. Total number of residents	=	32	people
1c. Design flow	=	0.37	cu.m/person/day – refer to Private R4 in Table T-1 of GESF
1d. Sewerage generation rate	=	9.25	cu.m/day
1e. Peak factor	=	6	refer to Section 3.3 from EPD’s Guidelines for Design of Small Sewerage Treatment Plant
1f. Estimated total peak flow	=	6 x 9.25 =55.5	cu.m/day
Sewerage to be discharge to Septic Tank			
2a. Number of septic tank proposed for the development	=	8	units
2b. Number of persons served by each septic tank	=	32 / 8 = 4	people
2c. Required capacity of each septic tank	=	4x 0.37 x 6 = 8.88	cu.m/day
2d. Design capacity of each septic tank	=	15.984 > 8.88	cu.m/day – refer to Table 2.1

Table 2.2 - Estimated Sewerage Flow from the Site

As shown in Table 2.2 above, the estimated total peak flow for the Proposed Development is 55.5 cu.m/day and the capacity of each proposed septic tank (15.984 cu.m/day) is greater than required capacity (8.88 cu.m/day).

2.6 Discussion

According to the drainage record plans obtained from DSD, there is no existing public sewerage network serving the Site. Sewerage from the Site is proposed to be discharged to the proposed underground Sewerage Treatment Plant.

The applicant shall take the maintenance responsibility of the septic tank and soil soakaway pit in order to maintain the operation of the proposed underground Sewerage Treatment Plant.

According to the design of the septic tank for the Proposed Development presented in Table 2 and estimated sewerage generation, it is anticipated that the proposed underground Sewerage Treatment Plants shown in **Figure 2.3** will have sufficient capacity to cater for sewerage generated from the proposed residential development.

2.7 Conclusion

Based on the sewerage generated and the capacity of the septic tank, it is anticipated that there will be no serious adverse sewerage impact to the area after the implementation of the development.

3. Drainage Impact Appraisal

3.1 Scope of Works

The objective of this Drainage Impact Appraisal (DIA) is to assess whether the Proposed Development may cause adverse impacts on drainage and flooding. These impacts will be identified and mitigation measures will be proposed in order to demonstrate that the Proposed Development will not cause an unacceptable increase in the risk of flooding in areas upstream of, adjacent to or downstream of the development.

~~Existing drainage record plan from the Drainage Services Department (DSD) was attached in **Figure 2.1**.~~

3.2 Existing and Planned Drainage Facilities

~~According to the drainage record plan, there is no existing public drainage network serving the Site [refer to **Figure 2.1**].~~

According to the existing drainage record plan from the Drainage Services Department (DSD) there are no drainage maintained by the DSD in the vicinity. This is shown in **Figure 2.1**.

Upon a site investigation carried out on July 6 2023, a series of unnamed stormwater manholes were located along Ho Chung North Road and Luk Mei Tsuen Road (main road) and a series of U-channels were identified along Luk Mei Tsuen Road of the **Parcel B and Parcel C Parcel A and Parcel B** of the Site. It is most likely these U-channels /pipes are connected to the drainages along Ho Chung North Road / Luk Mei Tsuen Road. These non-documented drainages are shown in **Figure 3.1**.

According to the information provided by the Contractor of Highways Department's Hiram's Highway Improvement Stage 1 Project [refer to **Figure 3.1A and 3.1B**], there is an existing nominal diameter (DN) 300 storm drain located under Ho Chung North Road and 450-525 storm drains located under Luk Mei Tsuen Road in the vicinity of the Site. The storm drains were completed in February 2021¹. The U-channels identified along Luk Mei Tsuen Road were recently built in 2023.

¹ Highways Department's web site (2023) Hiram's Highway Improvement Stage 1

A drainage layout plan comprising the mentioned drainage information is presented in **Figure 3.2**.

3.3 Drainage Catchment Area

The drainage catchment areas included upstream catchment area and the Site. **Figure 3.3** illustrates the estimated overall upstream catchment area. The catchment area within the Site includes the open area and the roof of the buildings.

The surface runoff discharged from the upstream catchment area would be collected by the existing perimeter U-channel surrounding the Site along Luk Mei Tsuen Road.

3.4 Drainage Calculations for the Proposed Provision of Drainage Facilities

The Rational Method has been adopted for hydraulic analysis and the peak runoff is given by the following expression:

$$Q = 0.278 C i A$$

where

Q = peak runoff in m³/s

C = runoff coefficient

i = rainfall intensity in mm/hr

A = catchment area in km²

The Rainfall Increase due to Climate Change at the end of 21st Century of 16% and the Rainfall Increase for Design Allowance of 12.1% would be included to the rainfall intensity in accordance with Table 28 and Table 31 of the Stormwater Drainage Corrigendum No. 1/2022. The average rainfall intensity (i) is estimated on the basis of the design rainfall duration and 50 years return period according to Chapter 4 and Table 3a of the Stormwater Drainage Manual (fifth edition, Jan). The design rainfall duration is taken as the time of concentration (t_c):

$$t_c = 0.14465L/(A^{0.1} H^{0.2})$$

where

A = catchment area (m²)

H = average catchment slope (m/100m)

L = catchment Length (m)

The Site is divided into 3 catchment areas for drainage calculation, in which Parcel A and B are redefined as catchment A1 and A2, while Parcel C is redefined as catchment A3. The catchment area refers to **Figure 3.4**.

Assuming that:

- i. The area of Catchment:
A1 = 678.22 m² (0.0006 km²);
A2 = 1265.38 m² (0.0012 km²); and
A3 = 922.58 m² (0.0009 km²).
- ii. The catchment is almost paved and therefore the value of runoff coefficient (C) is taken as 0.95.

The time of concentration of catchment A1, A2 and A3 are: 7.8609 mins, 15.5561 mins, and 15.2357 mins respectively. The average adjusted rainfall intensity due to climate change for catchment A1, A2 and A3 would then be 205.5142 mm/hr 263.2637 mm/hr, 170.3364 mm/hr 218.2010 mm/hr and 171.3696 mm/hr 219.5244 mm/hr respectively. Therefore, the total peak runoff from Parcel A and B is 0.0865 m³/s 0.1109 m³/s, while the total peak runoff from Parcel C is 0.0407 m³/s 0.0522 m³/s.

The detailed design calculations of proposed drainage system are provided in **Figure 3.5**. In accordance with the Chart for the Rapid Design of Channels in "Geotechnical Manual for Slopes", 300mm surface U-channel in 1:100 gradient is considered adequate to dissipate all the stormwater accrued by the Site. The intercepted stormwater will then be discharged to the proposed 300 mm surface U-channel and connect to the existing storm drain outside the Site along Ho Chung North Road.

However, there is no official data on the existing U-channels and associated pipes. The previous U-channels and catchment capacity will be assumed from previous Planning Application No. A/SK/HC/326. To err on the side of caution, the previous larger 525mm dia. drain pipes will be used to accommodate the surface runoff from the upstream catchment.

3.5 Proposed Drainage System

For Parcel A and B of the Site, the surface runoff discharged from the Site will gravitate to lower grounds and be collected by the proposed 300mm U-channel surrounding the Site and the proposed 300mm U-channel located across the Site. The storm water collected from the U-channel would flow into the 300mm 525mm precast concrete pipes to a proposed new manhole. The new manhole will be connected to the existing unnamed stormwater manhole along Ho Chung North Road.

For Parcel C of the Site, the surface runoff discharged from the Site will be collected by the proposed 300mm U-channel surrounding the Site. The storm water collected from the U-channel would flow into the 300mm 525mm precast concrete pipes to a proposed new manhole. The new manhole will be connected to the existing unnamed stormwater manhole along Ho Chung North Road.

The indicative drainage connection is shown in **Figure 3.4**.

3.6 Discussion

According to the drainage record plans obtained from DSD, there is no existing public drainage network serving the Site. A series of unnamed drainage pipes on Ho Chung North Road are have been built for the Highways Department's Hiram's Highway Improvement Stage 1 Project. These drainage pipes are capable to collect the surface runoff from the Site.

The surface runoff from the Site will be collected by the proposed perimeter U-channel and discharged to the unnamed storm water manholes along Ho Chung Road/Luk Mei Tsuen Road.

The estimated flow rate of surface runoff discharge from the Site to public 300 dia. drainage pipe on Ho Chung North Road is about 0.13m³/s 0.16m³/s and the public pipe is capable to collect the runoff.

Therefore, the proposed drainage connection is feasible for the Proposed Development.

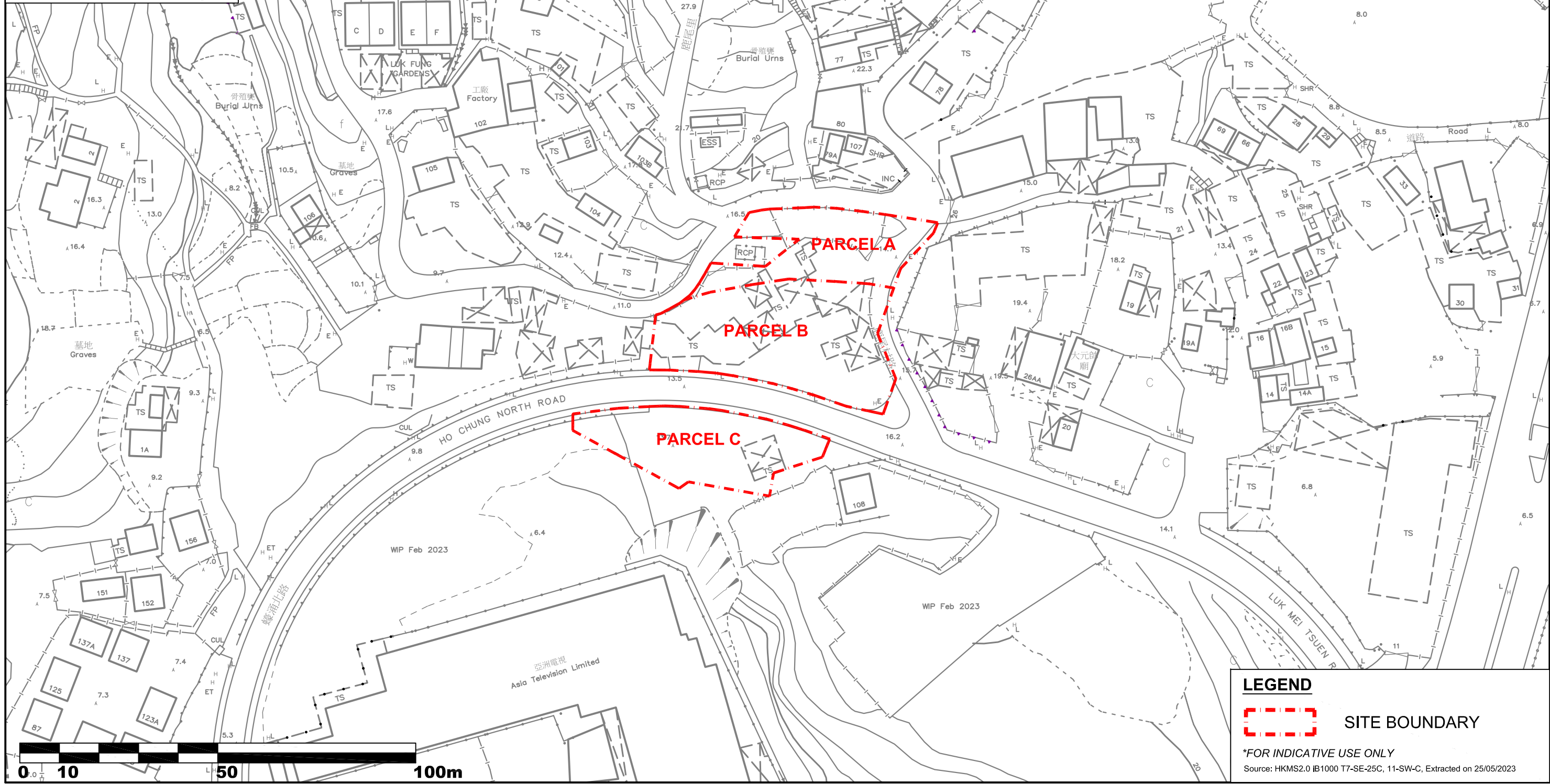
3.7 Conclusion

Based on the proposed drainage system, **it** is anticipated that there will be no serious adverse drainage impact to the existing drainage system after the implementation of the development.


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Figures

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LEGEND

 SITE BOUNDARY

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Source: HKMS2.0 IB1000 T7-SE-25C, 11-SW-C, Extracted on 25/05/2023

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TEL: 2507 8333
FAX: 2598 6576

JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
LOCATION PLAN

Rev	Description	Date

Drawn	CN	Date	19/07/2023
Checked	RT	Approved	RT
Scale	1:1000 @ A3		

Drawing No.
Figure 1.1

Rev. -



LEGEND

SITE BOUNDARY

PLANNED DEVELOPMENT

Source: HKMS 2.0 Aerial Photo E154298C 6000' (9 Mar 2022)

File Name :
Source :

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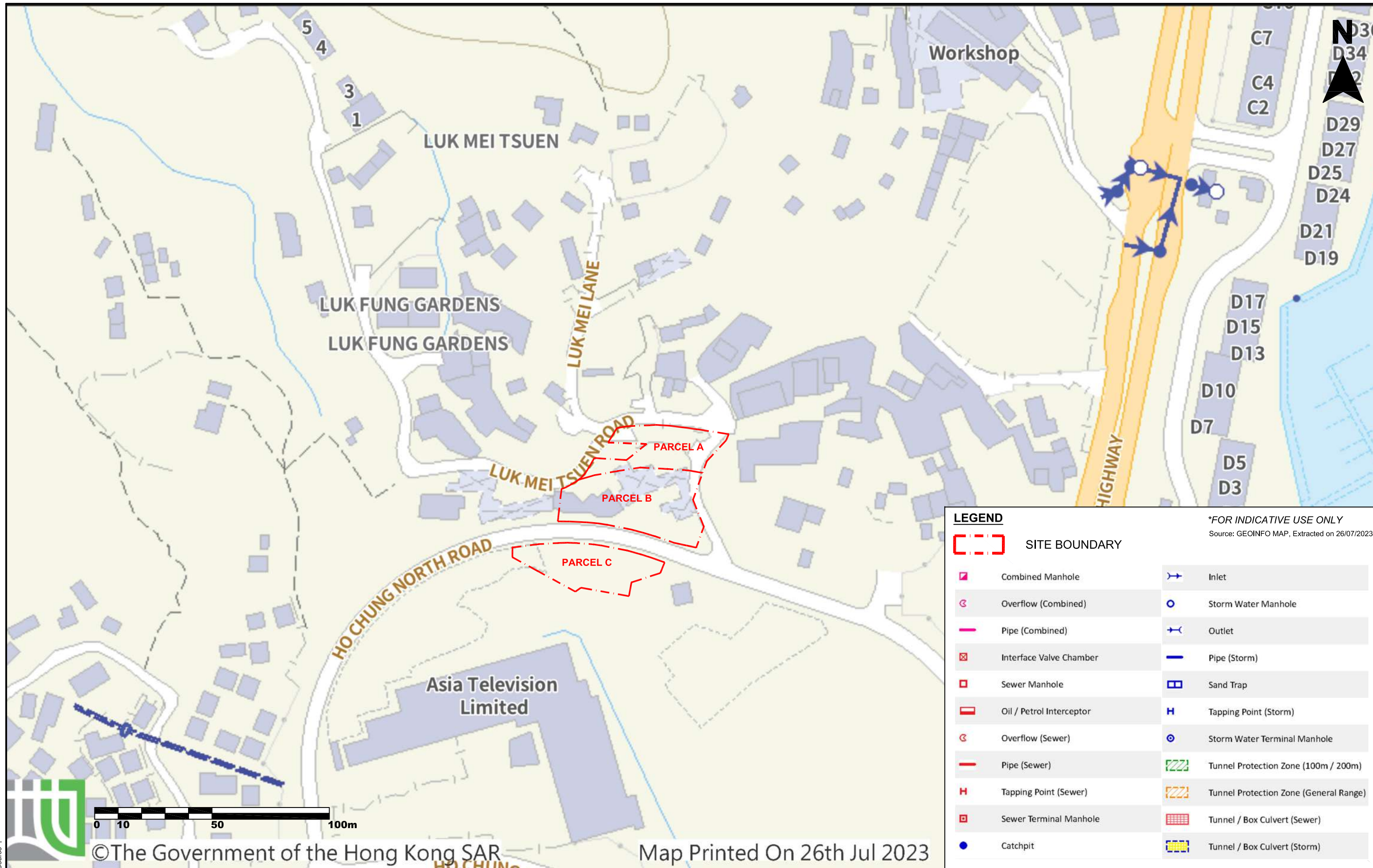
JOB TITLE:
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Drawing Title
THE SITE AND ITS SURROUNDINGS

Rev	Description	Date

Drawn	CN	Date	08/08/2023
Checked	RT	Approved	RT
Scale	N.T.S.		

Drawing No.	FIGURE 1.2
Rev.	



File Name :
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Drawing Title
EXISTING DSD UTILITY RECORD PLAN

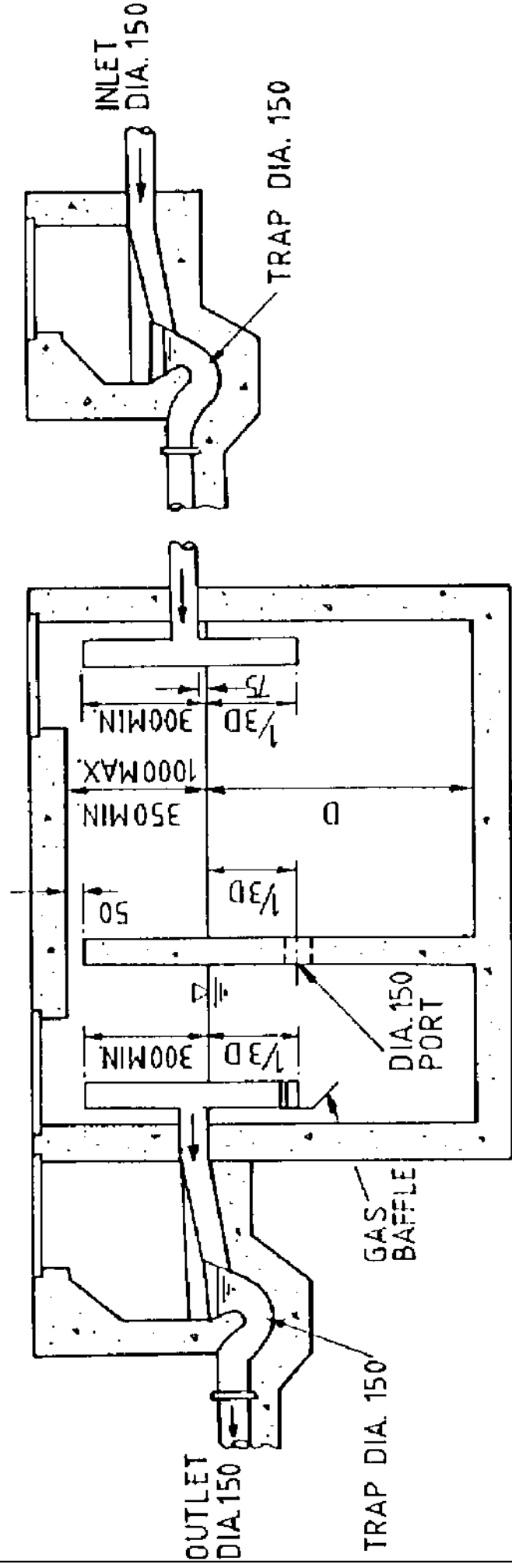
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Checked	RT	Approved	RT
Scale	1:1500 @ A3		

Drawing No.
Figure 2.1

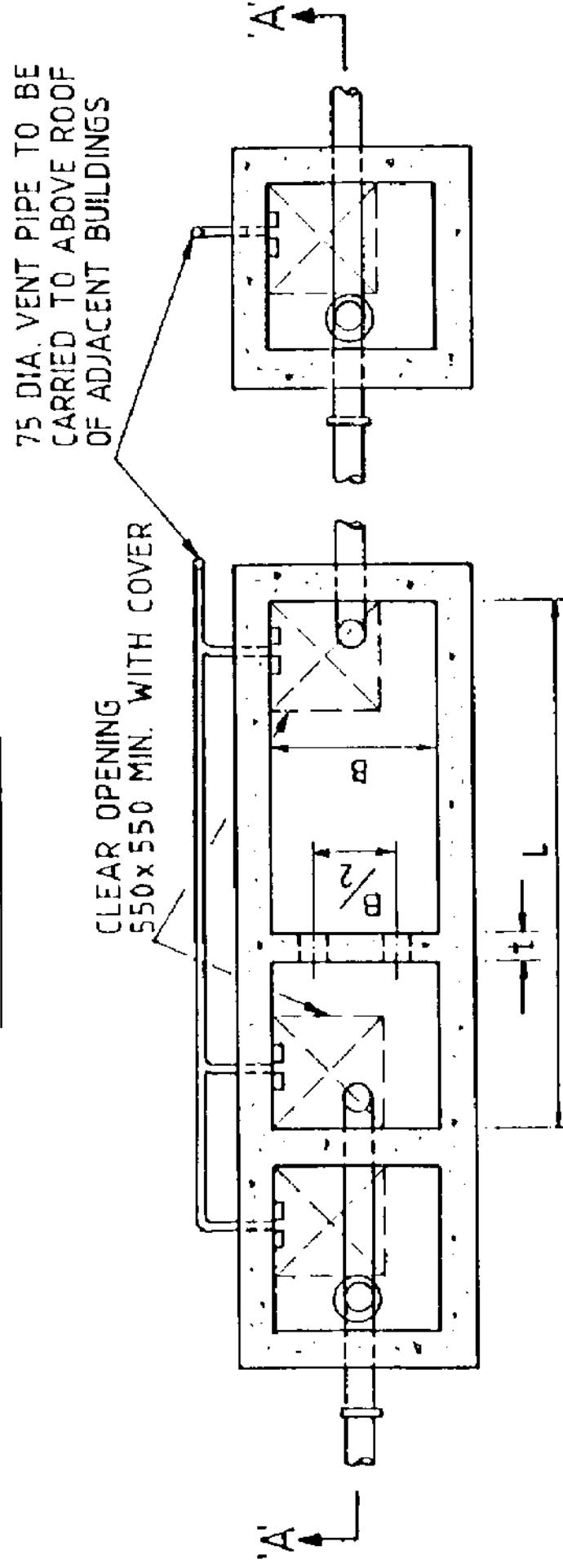
Rev. -

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Map Printed On 26th Jul 2023



SECTION A-A



NOTES:-

1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.
2. SIZE
 - a. $4B \geq L > 3B$
 - b. $1800 \text{ mm} \geq D > 1200 \text{ mm}$
3. RATIO OF VOLUMES OF FIRST AND SECOND CHAMBERS = 2 : 1
4. CAPACITY (SUBJECT TO NOTE 2)
 - a. CAPACITY $C = (L-t) \times B \times D$
 - b. NOT LESS THAN 2.3 m^3 BUT NOT MORE THAN 41 m^3
5. NOT LESS THAN QN WHERE N IS THE NUMBER OF PERSONS SERVED AND Q IS THE ESTIMATED ULTIMATE PER CAPITA DAILY WATER CONSUMPTION
6. SURFACE WATER MUST NOT BE CONNECTED TO THE TANK
7. TANK TO BE DESLUDGED EVERY 6 MONTHS
8. NO OVERFLOW OR BYPASS PIPE IS ALLOWED.
9. PLEASE REFER TO THE BOOKLET "GUIDANCE NOTES ON DISCHARGES FROM VILLAGE HOUSES" PUBLISHED BY EPD FOR FURTHER GUIDELINES ON OPERATION AND MAINTENANCE OF SEPTIC TANK SYSTEM.

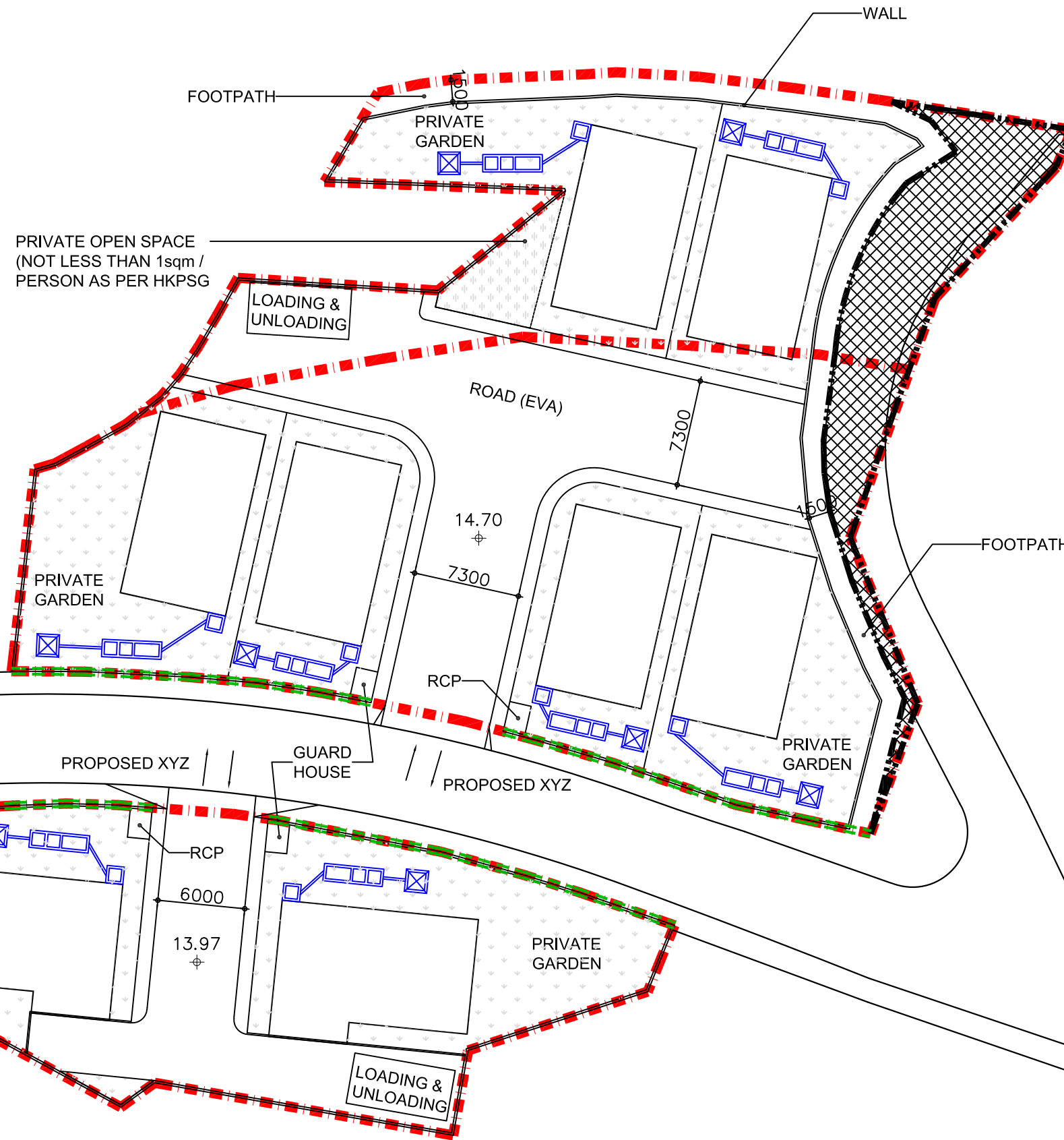
*FOR INDICATIVE USE ONLY
Source: EDP ProFECC PN 5/93 Appendix D



JOB TITLE:
Amendment of Plan to Remove from "Residential (Group D)" (RD1), "Residential (Group E)" (RE1) and "Residential (Group C)" (RC1) on the Approved Ho Chung Outline Zoning Plan No. SSK/CH/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjacent Government Land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
REFERENCE SEPTIC TANK

Rev	Description	Date	Drawn	Date	Drawing No.
			CN	07/08/23	
			Checked	Approved	Fig. 2.2
			RT	RT	
			Scale	N.T.S.	
			Rev.		



LEGEND

- SITE BOUNDARY
- AREA TO BE DEDICATED AS RIGHT OF WAY
- GREEN NOISE BARRIER
- PRIVATE GARDEN
- BUILDING FOOTPRINT
- PRIVATE OPEN SPACE
- INLET TRAP
- SEPTIC TANK & OUTLET TRAP
- 150 DIA. POLYETHYLENE PIPES
- SOIL SOAKAWAY PIPES (SIZE TO BE DETERMINED IN DETAILED DESIGN)

File Name :
Source :

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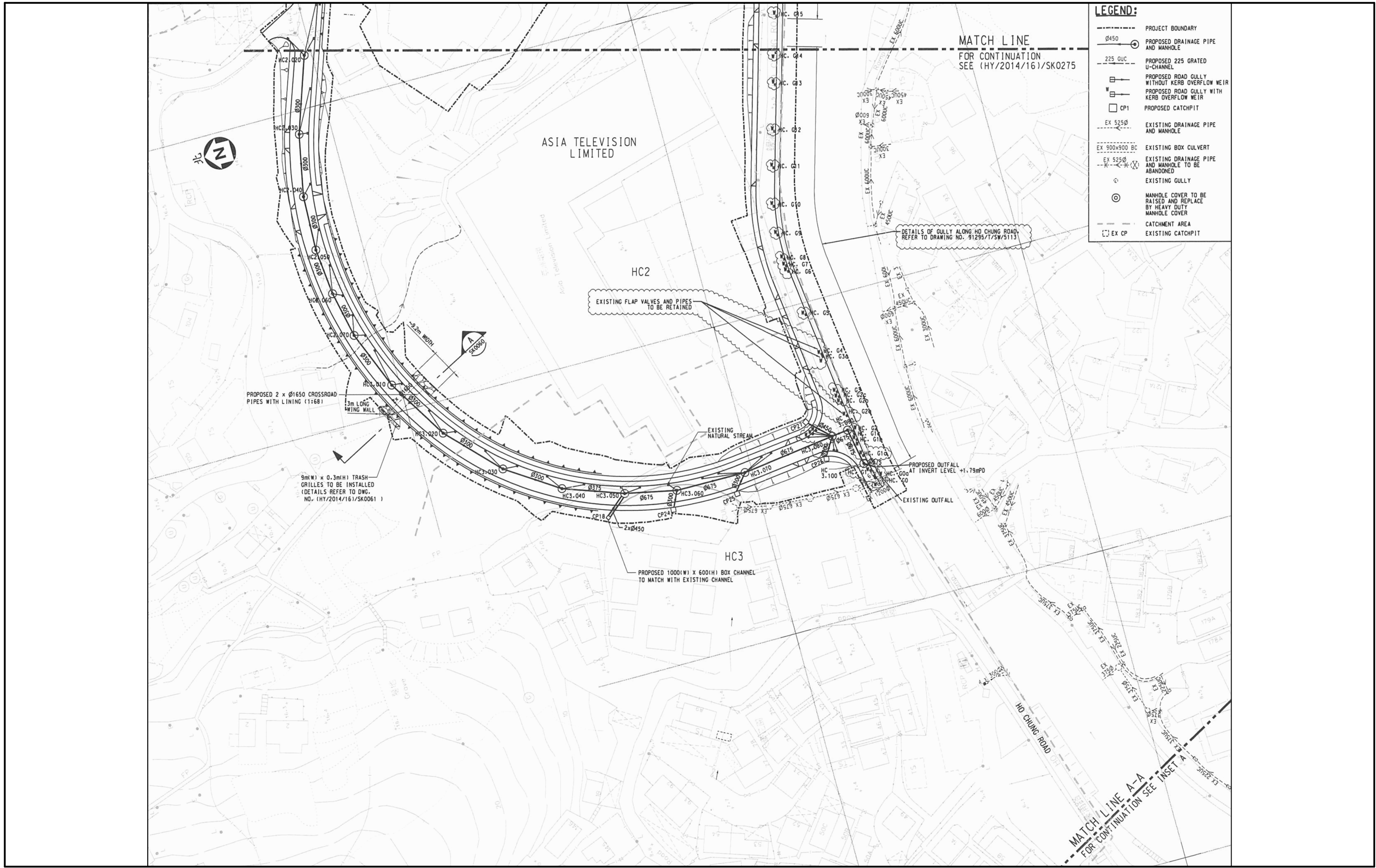
JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
PROPOSED SEWERAGE LAYOUT PLAN

1	Sewerage Layout Update	16/08/23	Drawn	CN	Date	19/12/2023
2	Layout Update	19/12/23	Checked	RT	Approved	RT
Rev	Description	Date	Scale	1:350 @ A3		

Drawing No.
Figure 2.3

Rev. **2**

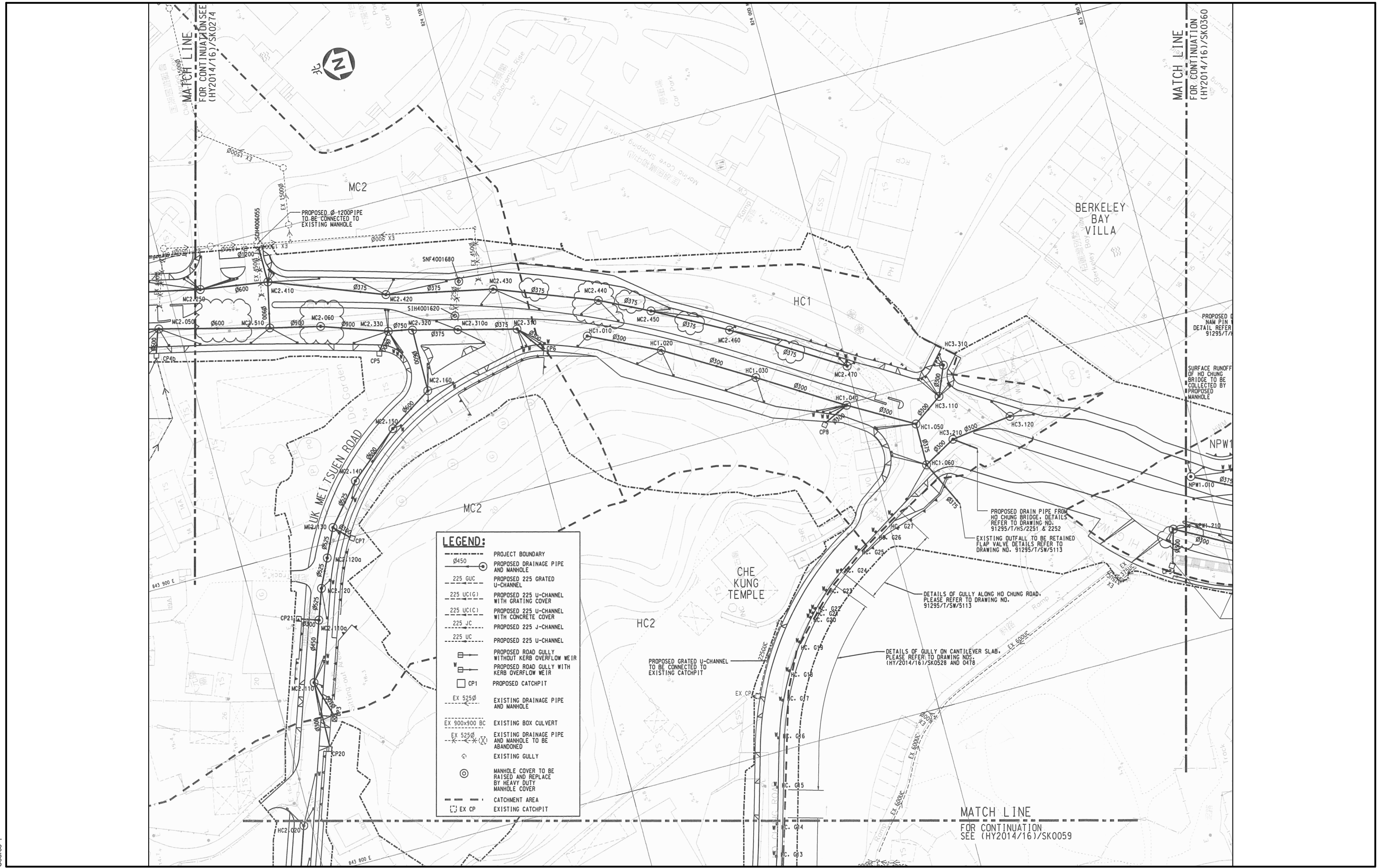


LEGEND:

- PROJECT BOUNDARY
- Ø450 (M) PROPOSED DRAINAGE PIPE AND MANHOLE
- 225 GUC PROPOSED 225 GRATED U-CHANNEL
- (M) PROPOSED ROAD GULLY WITHOUT KERB OVERFLOW WEIR
- (M) PROPOSED ROAD GULLY WITH KERB OVERFLOW WEIR
- CP1 PROPOSED CATCHPIT
- EX 525Ø EXISTING DRAINAGE PIPE AND MANHOLE
- EX 900x900 BC EXISTING BOX CULVERT
- EX 525Ø (X) EXISTING DRAINAGE PIPE AND MANHOLE TO BE ABANDONED
- (G) EXISTING GULLY
- (M) MANHOLE COVER TO BE RAISED AND REPLACE BY HEAVY DUTY MANHOLE COVER
- CATCHMENT AREA
- (M) EX CP EXISTING CATCHPIT

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title: PROPOSED DRAINAGE LAYOUT FROM THE HIRAM'S HIGHWAY IMPROVEMENT STAGE 1 PROJECT	Drawn: CN Checked: RT Date: 07/08/2023 Approved: RT	Drawing No.: Fig. 3.1A
	Rev: Description Date	Scale: N.T.S.	Date:	Rev:	



File Name :
Source :



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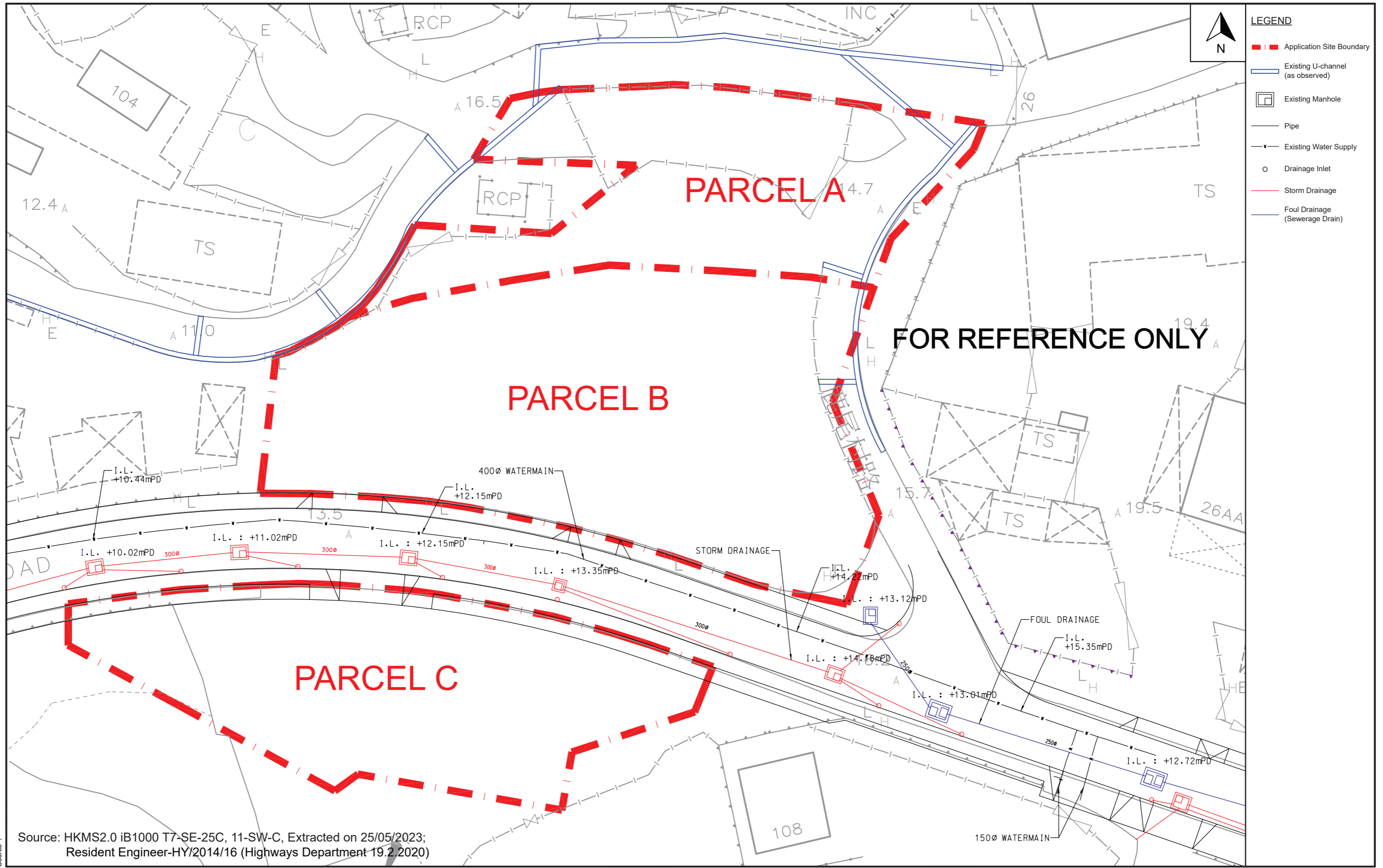
JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
PROPOSED DRAINAGE LAYOUT FROM THE HIRAM'S HIGHWAY IMPROVEMENT STAGE 1 PROJECT

Rev	Description	Date

Drawn	CN	Date	07/08/2023
Checked	RT	Approved	RT
Scale	N.T.S.		

Drawing No.	Fig. 3.1B
Rev.	-



File Name :
Source :

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			1	Drainage Layout Updated	30/10/23	Checked	RT	Approved	RT	Figure 3.2
Rev	Description	Date	Scale	N.T.S.		Rev.	1			

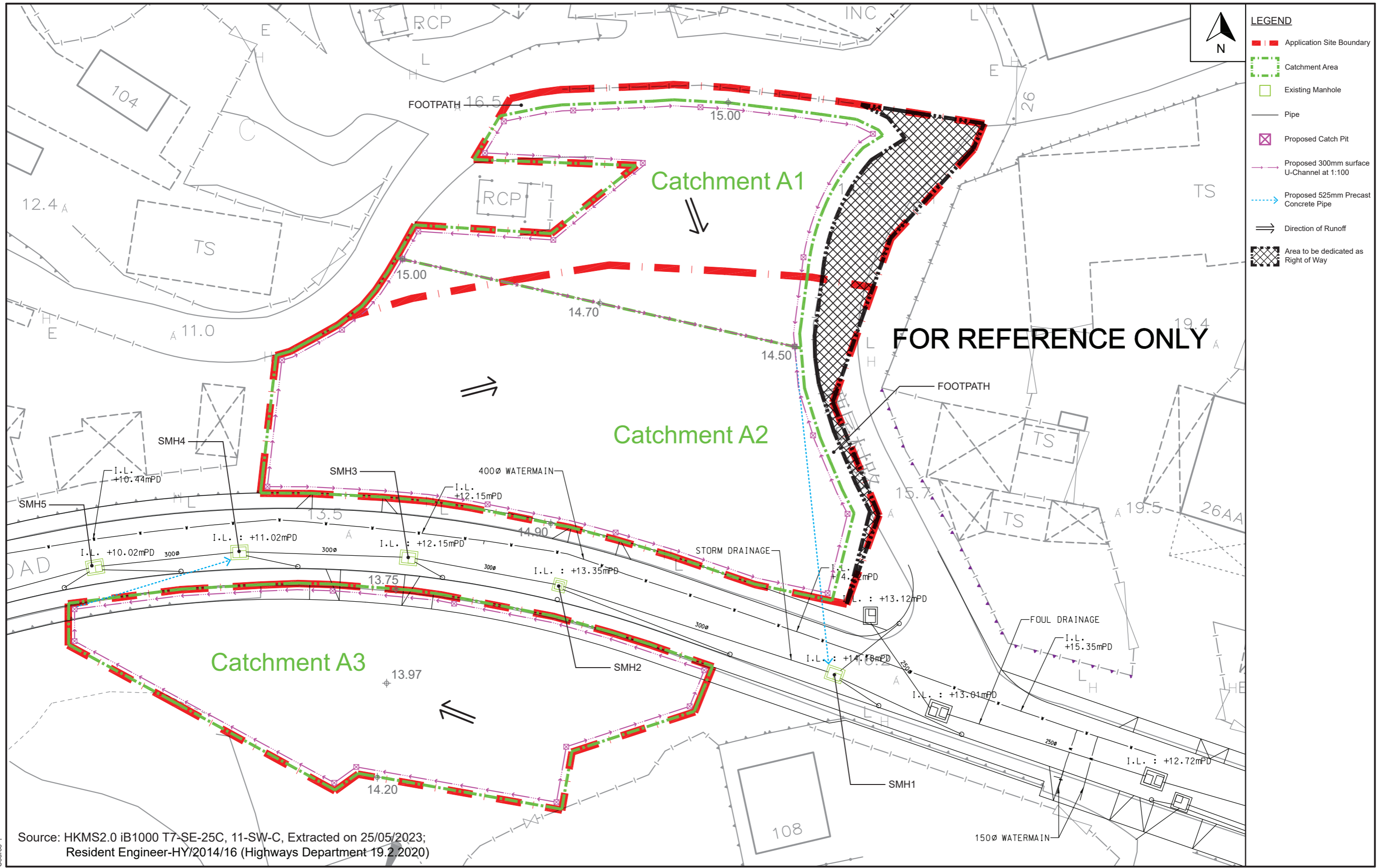


LEGEND

- - - Application Site Boundary
- Direction of Water Flow
- Upstream Catchment Area
- Catchment Area of the Site
- Existing U-channel (as observed)

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title CATCHMENT AREA PLAN	Drawn CN	Date 09/08/2023	Drawing No. Figure 3.3
				Checked RT	Approved RT	
Rev	Description	Date	Date	Date	Date	Date



File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title PROPOSED DRAINAGE CONNECTION		07/08/23 Drawn	Date 21/12/2023	Drawing No.
			1 Drainage Layout Update	06/11/23 Checked	CN Approved	RT	Figure 3.4
2 Legend Update	21/12/23 Checked	RT	RT	Scale N.T.S.	Rev.	2	

Formula Used

Time of Concentration

$$t_c = 0.14465L / (A^{0.1} H^{0.2})$$

$$\text{Intensity } I = \frac{a}{(tc + b)^c}$$

Runoff

$$Q = 0.278 C i A$$

Runoff Calculation after Proposed Development

Runoff Coeff. for Unpaved Area [C]	Runoff Coeff. for Paved Area [C]	a	b	c
0.35	0.95	451.3	2.46	0.337

Intensity Coeff. (taken from Table 3a of Stormwater Design Manual, 1 in 50 return)

Catchment	Area [A] (km ²)	Unpaved Area [A] (km ²)	Paved Area [A] (km ²)	Average Slope [H] (m per 100m)	Longest Path [L] (m)	Time of Conc. [tc] (min.)	Intensity (mm/hr)	Adjusted Intensity due to Climate Change [i] (mm/hr)	Designed Runoff [Q] (m ³ /s)
A1	0.0006	0	0.0006	1	25.8804	7.8609	205.5142	263.2637	0.0417
A2	0.0012	0	0.0012	1	54.8909	15.5561	170.3364	218.2010	0.0692
Total Peak Runoff from Parcel A and Parcel B (m³/s)									0.1109

Catchment	Area [A] (km ²)	Unpaved Area [A] (km ²)	Paved Area [A] (km ²)	Average Slope [H] (m per 100m)	Longest Path [L] (m)	Time of Conc. [tc] (min.)	Intensity (mm/hr)	Adjusted Intensity due to Climate Change [i] (mm/hr)	Designed Runoff [Q] (m ³ /s)
A3	0.0009	0	0.0009	1	52.2359	15.2357	171.3696	219.5244	0.0522
Total Peak Runoff from Parcel C (m³/s)									0.0522
Total Peak Runoff from the Site (m³/s)									0.1630

Drainage Capacity Check after Proposed Development

Section	Catchment	Open Circular Channel Size [D] (mm)	Roughness Factor [n]	Length [L] (m)	I.L. (mPD)		Gradient [S]	Wetted Cross-Sectional Area [A] (m ²)	Wetted Perimeter [P] (m)	Hydraulic Radius R=A/P (m)	Velocity $V=R^{2/3} S^{1/2} / h$ (m/s)	Capacity Q=AV (m ³ /s)
					Upstream	Downstream						
SMH1 to SMH2	A1+A2	300	0.015	22	14.18	13.35	0.04	0.07	0.94	0.08	2.30	0.16
SMH4 to SMH5	A3	300	0.015	12.5	11.02	10.02	0.08	0.07	0.94	0.08	3.35	0.24

OK*
OK*

* Including the Catchment from Previous Application No. A/SK/HC/326, a pipe size of 525mm would be adapted to err on the side of caution.

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Appendix 4

Water Supply Appraisal

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Water Supply Appraisal

For

Amendment of Plan to

**Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)”
 (“R(E)” and an area shown as ‘Road’
 to “Residential (Group C)3) (“R(C)3”**

**on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11
 at Various Lots in Demarcation District 210 and Demarcation District 244
 and Adjoining Government land
 Ho Chung, Sai Kung, New Territories, Hong Kong**

Prepared by: Prudential Surveyors International Limited
Version: B C
Date: November December 2023

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3. Water Supply Appraisal.....	3
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Figure 2.1	Utility Plan
Figure 3.1	Copy of the Fresh Water Mains Record Plan
Figure 3.2	Proposed Water Supply Connection

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Table 3.1	Estimated Fresh Water and Salt Water Demand from the Proposed Development
Table 3.2	Water Supply Estimation

1. Introduction

- 1.1.1 This Water Supply Appraisal is to support a planning permission from the Town Planning Board (TPB) under Section 12A of the Town Planning Ordinance (CAP. 131) for a proposed rezone of the Subject Site from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)” and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3” within various lots within DD210 and DD244 and adjoining government land in Ho Chung, Sai Kung, New Territories. The application Site (**the Site**) is composed of 3 parcels, namely Parcel A, B and C. [refer to **Figure 1.1**]
- 1.1.2 The owner of the application site has the intention to construct six individual houses with twelve car parking spaces in Parcels A and B of the Site and two individual houses with four car parking spaces in Parcel C of the Site.

2. Proposed Development

- 2.1.1 The proposed development (the Proposed Development) is to erect six individual houses in Parcel A and B of the Site and two individual houses in Parcel C of the Site. The proposed gross floor area (GFA) of the houses are summarised in Table 1.1.

Propose House	Gross Floor Area (GFA) (sqm) (about)
House 1	283.35
House 2	283.35
House 3	283.35
House 4	283.35
House 5	283.35
House 6	283.35
House 7	345.75
House 8	345.75
Total	2,391.6
Average	298.95

Table 1.1 Proposed GFA of Houses

3. Water Supply Appraisal

3.1 Methodology

- 3.1.1 The waterworks impacts arising from the proposed development are assessed with reference to the following information:
- WSD Departmental Instruction (DI) No. 1309
 - EPD Guidelines for Estimating Sewage Flows (GESF) for Sewage Infrastructure Planning No.: EPD/TP 1/05.
- 3.1.2 The fresh water system is modelled under the following condition:
- Design peak flow of fresh water distribution main = 3 x MDD (Mean Daily Demand)

3.1.3 The salt water system is modelled under the following condition:

- Design peak flow of salt water distribution main (sub-main) = 2 x MDD (Mean Daily Demand)

3.2 Existing Water Supply

3.2.1 According to the utility plan provided by the Highways Department Contractor for the Hiram’s Highway Improvement Stage 1 Project, there is an existing nominal diameter (DN)400 fresh water main located under Luk Mei Tsuen Road/ Ho Chung North Road in the vicinity of the Site. The existing water system is shown in **Figure 2.1**. The fresh water main was completed in February 2021¹.

3.2.2 According to the existing water mains record plan provided by Water Supplies Department, there are existing water mains within the Site and would be affected by the proposed development [refer to **Figure 3.1**].

3.2.3 According to the existing water mains record plan extracted from the Water Services Department (WSD) and **Figure 2.1**, there are no existing salt water mains in the vicinity of the Site [refer to **Figure 3.1**].

3.2.4 Based on the existing water mains record extracted from Water Supplies Department (WSD), the site is not within WSD gathering grounds. [refer to **Figure 3.1**]

3.3 Proposed Water Supply Connection

3.3.1 Estimation for peak fresh water and salt water consumption for the Proposed Development is presented in Table 3.1. As discussed in paragraph 3.2.3, there is no existing salt water mains in the vicinity of the Site and no available flushing water supplies near the Site. Thus, fresh water shall be used for flushing purpose.

Description	Daily Water Demand of Proposed Development (m ³ /day)	Peaking Factor	Peak Demand (m ³ /day)
Fresh Water + Flushing Water	11.84	3	35.52
Total Fresh Water Demand			35.52

Unit Flow Factors (UFF) for private housing R4 domestic flow	=	0.370	m ³ /person/day		
Average per-person flushing water consumption	=	0.063	m ³ /person/day		
Average per-person fresh water consumption	=	0.370 - 0.063	=	0.307	m ³ /person/day
Total number of units	=	8	units		
Number of residents per unit	=	4	people		
Total number of residents	=	8 x 4	=	32	people

¹ Highways Department’s web site (2023) Hiram's Highway Improvement Stage 1

Daily Fresh Water Demand	=	0.307 x 32	=	9.824	m ³ /day
Daily Flushing Water Demand	=	0.063 x 32	=	0.019	m ³ /day
Description	Daily Water Demand of Proposed Development (m³/day)			Peaking Factor	Peak Demand (m³/day)
Fresh Water	9.824			3	29.472
Flushing Water	0.019			2	0.039
Total Fresh Water Demand					29.511

Table 3.1 Estimated Fresh Water and Salt Water Demand from the Proposed Development

3.3.2 The water supply to Parcel A and B of the Site could be supplied with a connection to the existing DN400 fresh water main (water supply) that is located along Ho Chung North Road. The water supply to Parcel C of the site could also be connected to this fresh water main. The proposed connections are shown in **Figure 3.2**.

3.3.3 The existing water mains affected by the proposed development would be diverted.

3.3.4 As discussed in paragraph 3.2.2, there are existing fresh water main along Ho Chung North Road. Assuming the fresh water and flushing water for the Site will be sourced from that existing fresh water main – 400mm nominal diameter ductile iron pipe (DI400) and velocity is ranging $1-3\text{m/s}$ $0.9-2\text{m/s}$, the capacity and utilization ratio of each is estimated in Table 3.2:

Description	Peak Demand (m ³ /day)	Total Peak Demand (m ³ /s)	Fresh Water Supply Main Nominal Diameter (mm)	Internal Diameter for Fresh Water Main Pipes (mm)	Assume Velocity (m/s)	Pipe Capacity (m ³ /s)	Utilisation Ratio
Total Fresh Water Demand	35.52	0.0004	400	382	3 (upper limit)	0.3438	0.12%
					1 (lower limit)	0.1146	0.35%

Description	Total Fresh Water Demand			
Peak Demand	=		=	29.511 m ³ /day
Total Peak Demand	=	29.511/86400	=	0.0003 m ³ /s
Fresh Water Supply Main Nominal Diameter	=		=	400 mm
Internal Diameter for Fresh Water Main Pipes	=		=	382 mm
Wetted Cross-Sectional Area [A]	=	$\pi(382/1000/2)^2$	=	0.1146 m ²
Assume Velocity [v] (m/s)		v=Q/A		
Upper Limit	Lower Limit	where		
2	0.9	v = velocity (m/s)		
		Q = volumetric flow rate (m ³ /s)		
		A = wetted cross-sectional area of the pipe (m ²)		

Pipe Capacity [Q]	Upper Limit	=	0.1146 x 2	=	0.2292	m ³ /s
	Lower Limit	=	0.1146 x 0.9	=	0.1031	m ³ /s
Utilisation Ratio	Upper Limit	=	0.0003/0.2292	=	0.15%	
	Lower Limit	=	0.0003/0.1031	=	0.33%	

Table 3.2 Water Supply Estimation

3.3.5 As indicated in Table 3.2, the estimated total peak fresh water demand would be about ~~0.12 – 0.35%~~ 0.15 – 0.33% of the fresh water main capacity². This means the Proposed Development would take up less than ~~0.35%~~ 0.33% of the fresh water capacity which is an insignificant of the total capacity. Therefore, no strong adverse impact on the water supply is anticipated due to the Proposed Development.

4. Conclusion

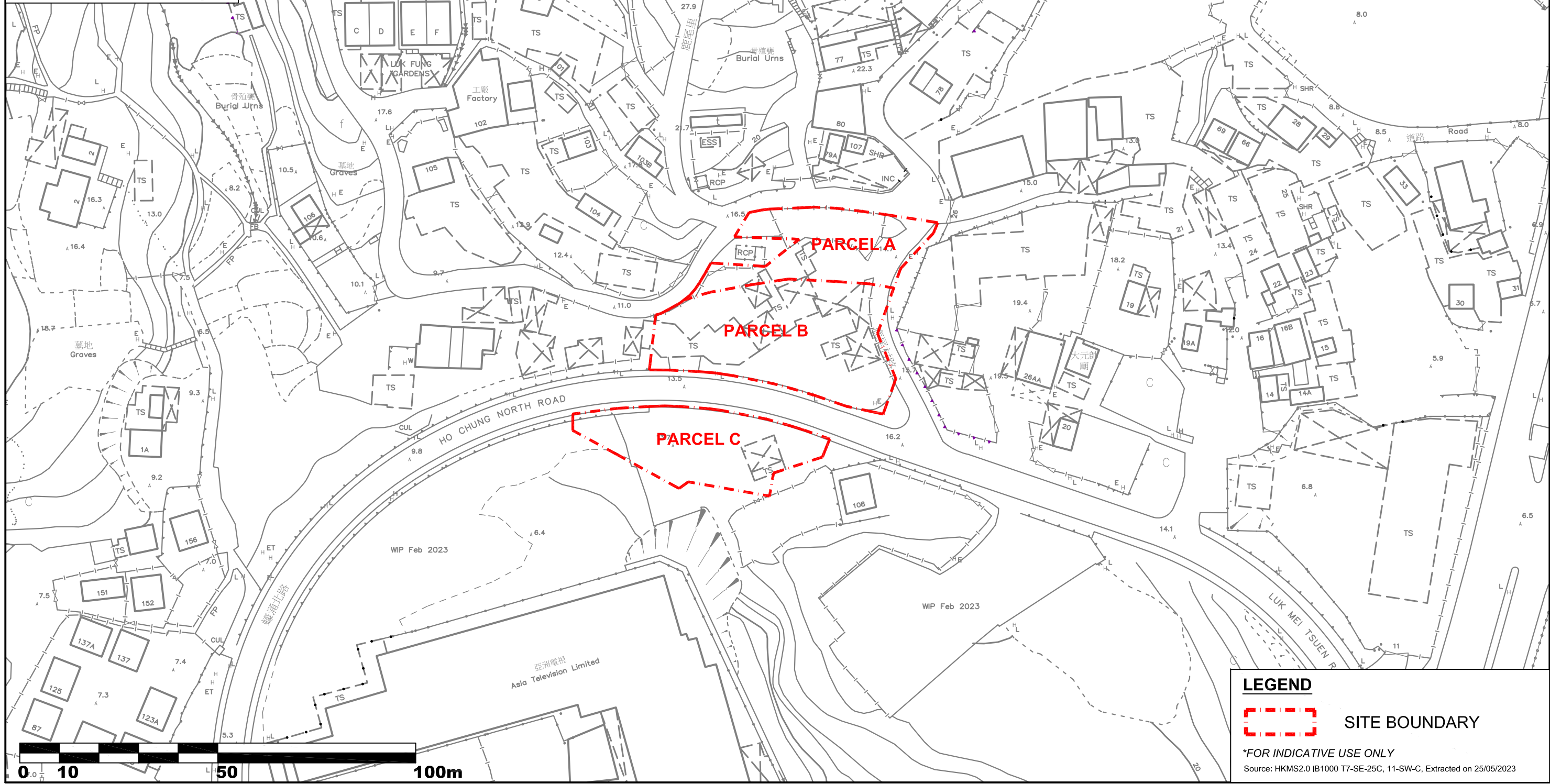
4.1.1 In general, fresh water supply could be provided to the Site. This could be achieved by connecting the existing fresh water mains located on Ho Chung North Road for the Proposed Development.

4.1.2 The peak estimated fresh water and flushing water demand from the Proposed Development are about ~~35.52 m³/day~~ 29.511 m³/day. Since there are no existing salt water mains in the vicinity of the Site, fresh water shall be used for flushing purpose. The total estimated peak fresh water demand is about ~~0.12 – 0.35%~~ 0.15 – 0.33% of the fresh water main capacity. The results indicate that the Proposed Development would take up less than ~~0.35%~~ 0.33% of the fresh water capacity which is an insignificant of the total capacity. Therefore, no strong adverse impact on the existing water supply system due to the Proposed Development.


² It is noted the water mains of the WSD have been designed with pressure of 15 to 30m for freshwater pipelines. (WSD Performance Pledge 2022/23, <https://www.wsd.gov.hk/en/about-us/performance-targets-and-achievements/index.html>)

Figures

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 SITE BOUNDARY

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244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 8333
FAX: 2598 6576

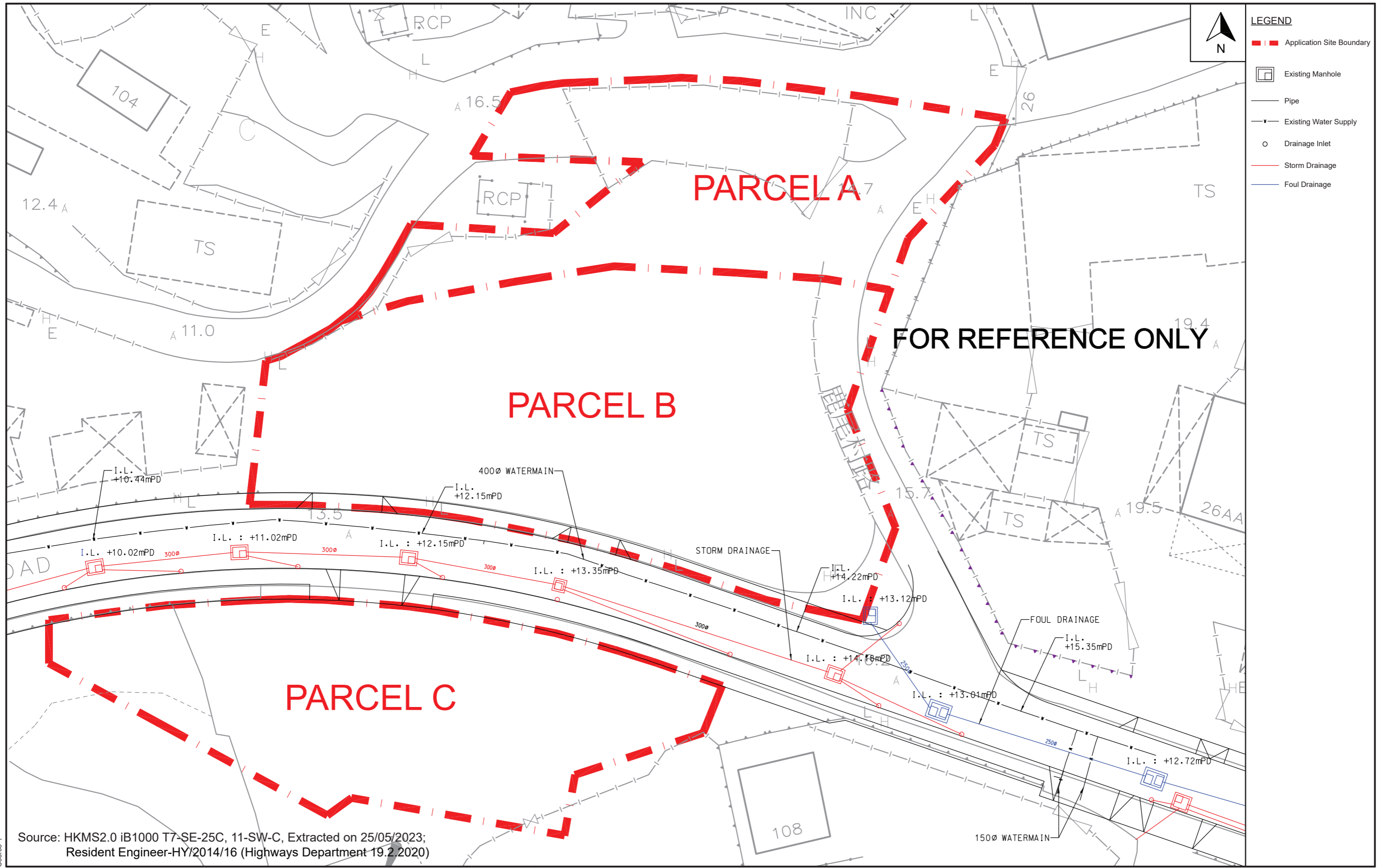
JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
LOCATION PLAN

Rev	Description	Date

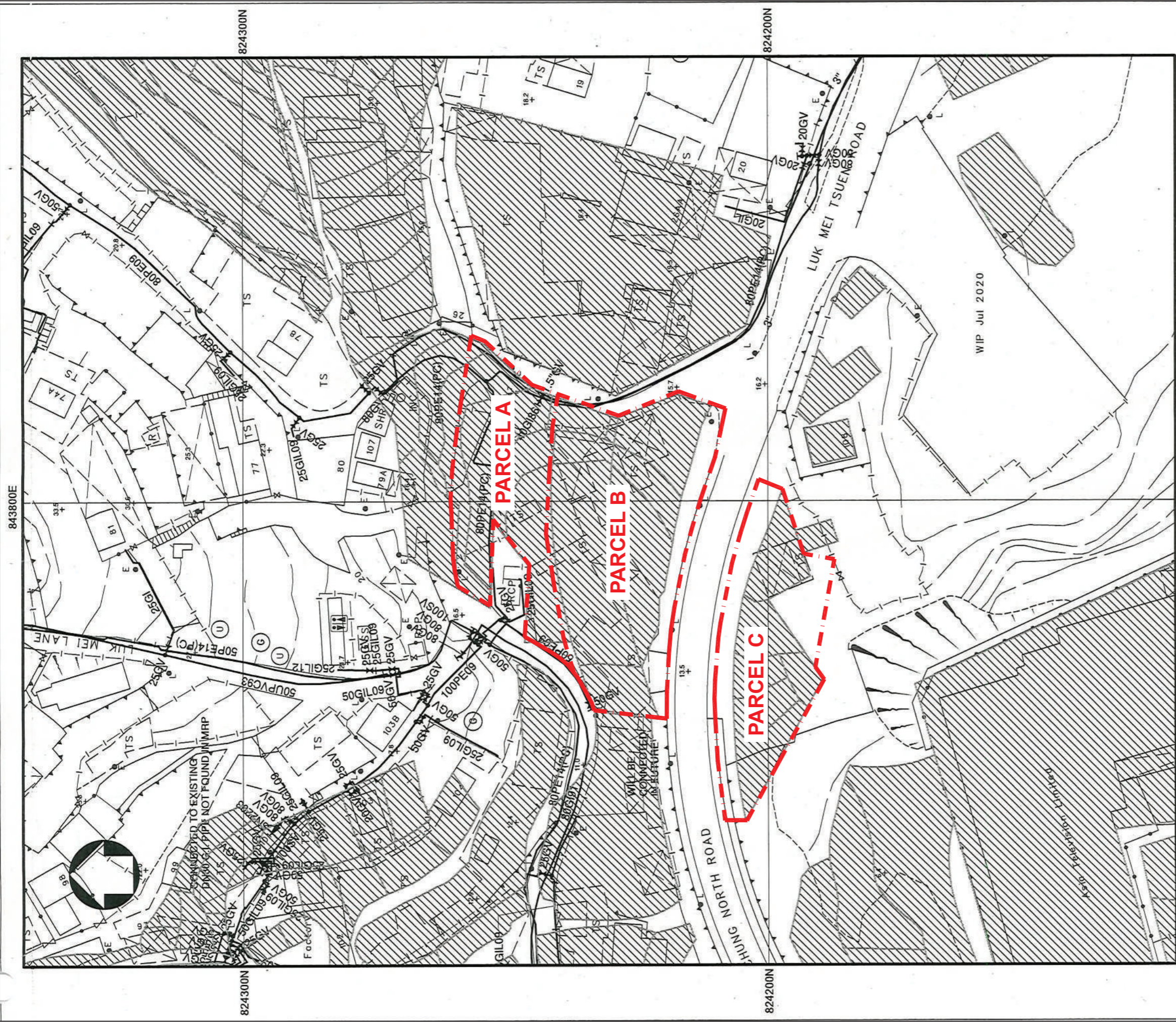
Drawn	CN	Date	19/07/2023
Checked	RT	Approved	RT
Scale	1:1000 @ A3		

Drawing No.	Figure 1.1
Rev.	-



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Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE:	Drawing Title	Drawn	Date	Drawing No.
		Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	UTILITY PLAN	CN	07/08/2023	
				Checked	Approved	RT
Rev	Description	Date	Scale	N.T.S.	Rev.	-



- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
 2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.
 3. INFORMATION ON ALIGNMENT OF MAINS IS OF INDICATIVE VALUE ONLY. WHERE POSITIONAL ACCURACY MAY BE OF IMPORTANCE, DETAILS SHOULD BE SITE CHECKED.
 4. NO EXISTING SALT WATER MAINS IN THE VICINITY OF THE SITE.
 5. THE SITE IS NOT WITHIN WSD GATHERING GROUNDS.

PRIVATE LOT BOUNDARY (FOR REF. ONLY)

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APPLICATION SITE BOUNDARY

Source: Water Supplies Department W678807-SE-25C (11 Jul 2023)

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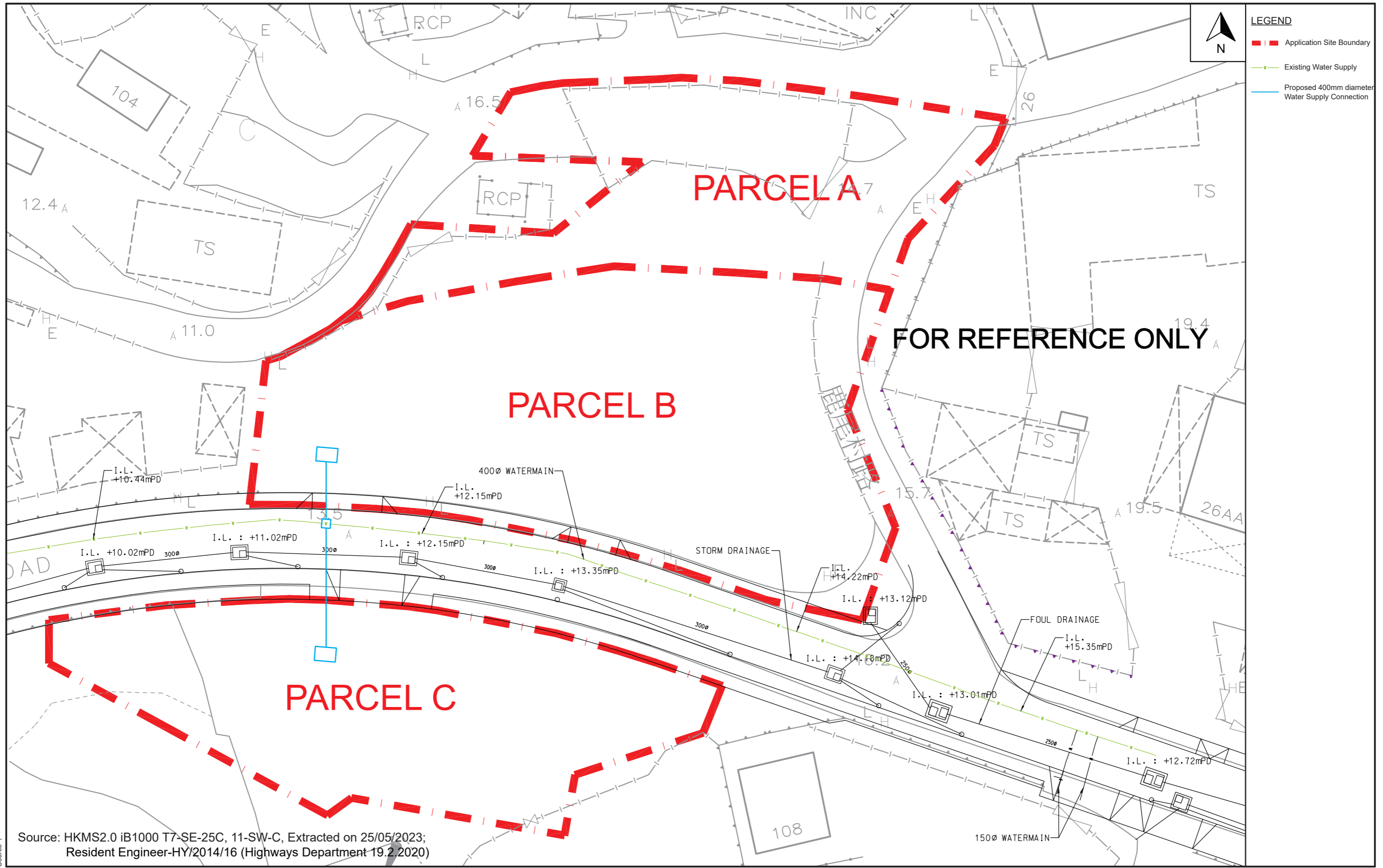
Drawing Title
COPY OF THE FRESH WATER MAINS RECORD PLAN

Drawn	Date	Drawn No.
CN	07/08/23	

Checked	Approved	Scale	Date
RT	RT		

FIGURE 3.1

Rev	Description	Date



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Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title PROPOSED WATER SUPPLY CONNECTION	1 Legend Updated 19/12/23	Drawn CN Date 19/12/2023	Drawing No. Figure 3.2
				Checked RT	Approved RT	
				Rev Description Date	Scale N.T.S.	Rev. 1

Appendix 5

Air Quality Impact Assessment

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Air Quality Impact Assessment

For

Amendment of Plan to

Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)”

(“R(E)” and an area shown as ‘Road’

to “Residential (Group C)3) (“R(C)3”

on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11

at Various Lots in Demarcation District 210 and Demarcation District 244

and Adjoining Government land

Ho Chung, Sai Kung, New Territories, Hong Kong

Prepared by: Prudential Surveyors International Limited

Version:

C

Date:

December 2023

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1. Introduction

- 1.1.1 This Air Quality Assessment is to support a planning permission from the Town Planning Board (TPB) under Section 12A of the Town Planning Ordinance (CAP. 131) for a proposed rezone of the Subject Site from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)” and an area shown as ‘Road’ to “Residential (Group C)3) (“R(C)3” within various lots within DD210 and DD244 and adjoining government land in Ho Chung, Sai Kung, New Territories. The application Site (**the Site**) is composed of 3 parcels, namely Parcel A, B and C. [refer to **Figure 1.1**]
- 1.1.2 The owner of the application site has the intention to construct six individual houses with twelve car parking spaces in Parcel A and B of the Site and two individual house with four car parking spaces in Parcel C of the Site.

2. Site Description

2.1 Site and its Surroundings

A site visit was carried out on 6th July 2023, per the observations from the site visit, the Site is surrounded by rural dwellings, vehicle workshops, light industry, vegetation, former ATV Production Centre (abandoned), Che Kung Temple, residential developments, refuse collection point and New Territories Exempted Houses (NTEHs). The details of the planned context and the current context of the surroundings are as follows [refer to **Figure 2.1**]: -

Planned Context

- to the north east of the Site are 15 planned houses with valid planning permission until 16.04.2025;
- to the far south of the Site are 48 planned houses with valid planning permission until 9.6.2027;

Current Context

- to the north of the Site are some 2- and 3-storey rural dwellings;
- to the east of the Site is some vehicle repair workshops and other light industry uses in rural industrial setting;
- to the southeast of the Site is an area zoned “Green Belt” (“GB”) under the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 (the OZP) with rich vegetation;
- to the further south is the former ATV Production Centre (abandoned) and Che Kung Temple;
- to the distance south (about 500 metres) are the residential developments of Dynasty Lodge (34 houses) and Villa Royale (10 blocks with 30 units);
- to the west of the Site is a refuse collection point (RCP) and vehicle repair workshops; and
- to the further west is Luk Mei Village with a mixture of traditional single-storey village dwellings and modern 3-storey New Territories Exempted Houses (NTEHs).

2.1.1 Apart from residential buildings, there are scattered structures in the vicinity of the Site intended primarily for industrial uses including an unnamed warehouse, a motor repair workshop (Bayview Motors Company), a food factory under Koon Yick Food Manufacturing Company (冠益華記食品廠) (“Koon Yick”).

2.2 Proposed Development

2.2.1 The proposed development (the Proposed Development) is to erect six individual houses in Parcel A and B of the Site and two individual house in Parcel C of the Site. The proposed gross floor area (GFA) of the houses are summarised in Table 2.1.

Propose House	Gross Floor Area (GFA) (sqm) (about)
House 1	283.35
House 2	283.35
House 3	283.35
House 4	283.35
House 5	283.35
House 6	283.35
House 7	345.75
House 8	345.75
Total	2,391.6
Average	298.95

Table 2.1 Proposed GFA of Houses

3. Background Air Quality

3.1 Air Quality Legislations, Standards & Guidelines

3.1.1 This Air Quality Impact Assessment were made reference to the Hong Kong Planning Standards and Guidelines (HKPSG) and the Air Pollution Control Ordinance (Cap. 311) (APCO).

Air Pollution Control Ordinance (APCO)

3.1.2 The Air Pollution Control Ordinance (APCO) provides the statutory authority for controlling air pollutants from a variety of sources. The Hong Kong Air Quality Objectives (AQOs) stipulate the statutory limits of air pollutants and the maximum allowable numbers of exceedance over specific periods should be met. With passage of the Air Pollution Control (Amendment) Ordinance 2013 by the Legislative Council on 10 July 2013, the AQOs listed in Table 3.1 have been effective since 1 January 2014.

Pollutant	Averaging time	Concentration limit[1] ($\mu\text{g}/\text{m}^3$)	Allowable number of exceedances
Sulphur Dioxide (SO ₂)	10-minute	500	3
	24-hour	125	3
Respirable Suspended Particulates (RSP)(PM ₁₀) [2]	24-hour	100	9
	Annual	50	Not Applicable
Fine Suspended Particulates (FSP)(PM _{2.5}) [3]	24-hour	75	9
	Annual	35	Not Applicable
Nitrogen Dioxide (NO ₂)	1-hour	200	18
	Annual	40	Not Applicable
Ozone (O ₃)	8-hour	160	9
Carbon Monoxide (CO)	1-hour	30,000	0
	8-hour	10,000	0
Lead (Pb)	Annual	0.5	Not Applicable

Table 3.1 Hong Kong Air Quality Objectives

Notes:

[1] All measurements of the concentration of gaseous air pollutants, i.e., sulphur dioxide, nitrogen dioxide, ozone and carbon monoxide, are to be adjusted to a reference temperature of 293 Kelvin and a reference pressure of 101.325 kilopascal.

[2] Respirable suspended particulates means suspended particles in air with a nominal aerodynamic diameter of 10 μm or less.

[3] Fine suspended particulates means suspended particles in air with a nominal aerodynamic diameter of 2.5 μm or less.

Hong Kong Planning Standards & Guidelines (HKPSG)

3.1.3 Chapter 9 of The Hong Kong Planning Standards & Guidelines (HKPSG) provides guidance for environmental considerations in the planning application of both private and public sectors.

3.1.4 The minimum buffer distance from the emission sources are recommended by the HKPSG and are summarised in Table 3.2.

Polluting Source	Parameter	Buffer Distance [1]	Permitted Uses
Road and Highways	<i>Type of Road</i>		
	Trunk Road and Primary Distributor	> 20m	Active and passive recreation uses
		3 - 20m	Passive recreational uses
		< 3m	Amenity areas
	District Distributor	> 10m	Active and passive recreation uses
		< 10m	Passive recreational uses
Local Distributor	> 5m	Active and passive recreation uses	
	< 5m	Passive recreational uses	
Industrial Area	Difference in Height between Industrial Chimney Exit and the Site		
	< 20m	> 200m	Active and passive recreation uses
		5 - 200m	Passive recreational uses
	20 - 30m	> 100m	Active and passive recreation uses
		5 - 100m	Passive recreational uses
	30 - 40m	> 50m	Active and passive recreation uses
		5 - 50m	Passive recreational uses
> 40m	> 10m	Active and passive recreation uses	

Table 3.2 Guidelines on Usage of Open Space Site (Table 3.1 of HKPSG Ch.9)

Notes:

[1] The buffer distance is the horizontal, shortest distance from the boundary of the industrial lot, the position of existing chimney or the edge of road kerb, to the boundary of open space sites.

3.2 Air Sensitive Receivers (ASRs)

3.2.1 During the operation, representative ASRs of this project are the proposed residential houses within the Site. Figure 3.1 shows the layout of the proposed residential development.

3.3 Existing Air Environment

Vehicular Emission Sources

3.3.1 The proposed development is primarily affected by the local traffic including Luk Mei Tsuen Road/ Ho Chung North Road and the nearby Hiram’s Highway.

Industrial Emission Sources

3.3.2 From the area survey, it has revealed that there are 3 chimneys in the vicinity of the Site, which belongs to Koon Yick Food Manufacturing Company.

3.4 Air Quality Monitoring

3.4.1 Although there is no air quality monitoring station located immediately close to the Site, there is currently an air quality monitoring station operated by Environmental Protection Department (EPD) located at a distance from the Site, namely Tseung Kwan O

monitoring station (situated at Tseung Kwan O Sports Centre). Despite this, in terms of geographical location, this monitoring station is considered the closest to the Site. The annual average of air pollutants in $\mu\text{g}/\text{m}^3$ monitored at this station for the year 2022 are summarised in Table 3.3.

Pollutant	Annual Average Concentration ($\mu\text{g}/\text{m}^3$)	AQO
Nitrogen Dioxide (NO ₂)	22*	40
Respirable Suspended Particulates (RSP)	22*	50
Fine Suspended Particulates (FSP)	13*	35

Table 3.3 EPD Air Quality Monitoring Record at Tseung Kwan O Station in 2022

Note: Annual average marked with asterisk denotes the data for calculation did not evenly distribute in the year.

3.5 Findings and Discussion

Operation Phase

Vehicular Emission Sources and Evaluation of Impacts

3.5.1 Local traffic including Luk Mei Tsuen Road/ Ho Chung North Road and Hiram’s Highway were identified as possible air pollution sources. As confirmed with Transport Department (TD), Hiram’s Highway is rural road and Luk Mei Tsuen Road/ Ho Chung North Road is feeder road and the confirmation email from TD dated 3rd July 2020 is attached in Appendix A. In order to minimise the adverse impact on ASRs from potential air pollution source, a separation distance of 5m between the sensitive uses of the proposed development and Ho Chung North Road was proposed, which satisfies the buffer distance requirement for Local Distributor (i.e. >5m) for active and passive recreation uses according to Chapter 9 of HKPSG as per Table 3. No adverse vehicular emission impact is anticipated upon incorporation of the required buffer distance as stipulated in Chapter 9 of HKPSG into the master layout plan. The 5m buffer zone between the sensitive uses of the proposed development and Ho Chung North Road is shown in Figure 3.2.

Industrial Emission Sources and Evaluation of Impacts

3.5.2 As mentioned in Section 3.3, at Koon Yick, there are 3 chimneys like structures at the east façade with diameter of around 20cm and exhaust at around 7m above ground (mAG).

3.5.3 The concerned Koon Yick Foods Factory is an active Chinese sauces manufacturer (Food Factory License Number 29 98 803889). Based on site survey conducted on July 6th 2023 all three chimneys were observed to be inactive.



Photo of the 3 chimneys at Koon Yick taken at 10:00am on July 6th 2023

Furthermore, with reference to an approved planning application for a residential development in the vicinity (A/SH-HC/316), the owners of Koon Yick had confirmed that the three chimneys are not in operation, as per interview conducted with them on 07.09.2020.

- 3.5.4 During the site visit, no odour nuisance has been identified near Koon Yick and at the Application Site.
- 3.5.5 Therefore, no adverse impact from industrial emission is anticipated.

Construction Phase

Dust Sources and Evaluation of Impacts

- 3.5.6 Major dust emitting construction activities will be the excavation works, foundation works and construction activities (e.g. the construction of superstructure). Fugitive dust would be generated. The concerned air pollutants during the construction phase are the Respirable Suspended Particulates (RSP) and Fine Suspended Particulates (FSP) arising from the construction work of the Proposed Development.
- 3.5.7 Dust control measures under the Air Pollution Control (Construction Dust) Regulation (Cap. 311R) and good site practice shall be implemented to mitigate dust impact arising from demolition work by preventing dust generation and/or by screening, suppressing and removing dust generated:
- hoarding of not less than 2.4 m high from ground level, except for a site entrance or exit, shall be provided along the entire portion of site boundary adjoins a road, street, service lane or other area accessible to the public;

- water or a dust suppression chemical shall be sprayed immediately prior to, during and immediately after excavation works;
- cover stockpile or dusty materials with tarpaulin to prevent wind erosion;
- any dusty materials remaining after a stockpile is removed shall be wetted with water and cleared from the surface of roads or streets;
- every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the construction site;
- where a vehicle leaving construction site is carrying a load of dusty materials, the load shall be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle;
- store cement bags in shelter with 3 sides and the top covered by impervious materials if the stack exceeds 20 bags;
- maintain a reasonable height when dropping excavated materials to limit dust generation;
- limit vehicle speed within site to 10 km/h and confine vehicle movement in haul road;
- minimise exposed earth after completion of work in a certain area by hydroseeding, vegetating or soil compacting;
- cover materials on trucks before leaving the site to prevent dropping or being blown away by wind;
- regular maintenance of plant equipment to prevent black smoke emission; and
- throttle down or switch off unused machines or machine in intermittent use.

3.5.8 Considering the small scale of work, with the implementation of dust suppression measures stipulated under the Air Pollution Control (Construction Dust) Regulation, good site practice, adverse air quality impact associated with the foundation works and superstructure works is not anticipated. Quantitative construction dust assessment is considered not necessary.

3.5.9 Operation of Powered Mechanical Equipment (PME) during demolition/construction work would emit gaseous air pollutants such as nitrogen dioxide (NO₂) via fuel burning. According to Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, only approved or exempted Non-Road Mobile Machinery (NRMM) with a proper label are allowed to be used in specified activities and locations including construction sites. Supportive information and documents (e.g. third-party emission certificates, model and serial numbers of machines and engines, etc.) for each NRMM would be provided to EPD to prove that the concerned NRMM is in line with the prescribed emission standards. Since the number of PME expected to be used on-site will be limited, no significant impact is anticipated.

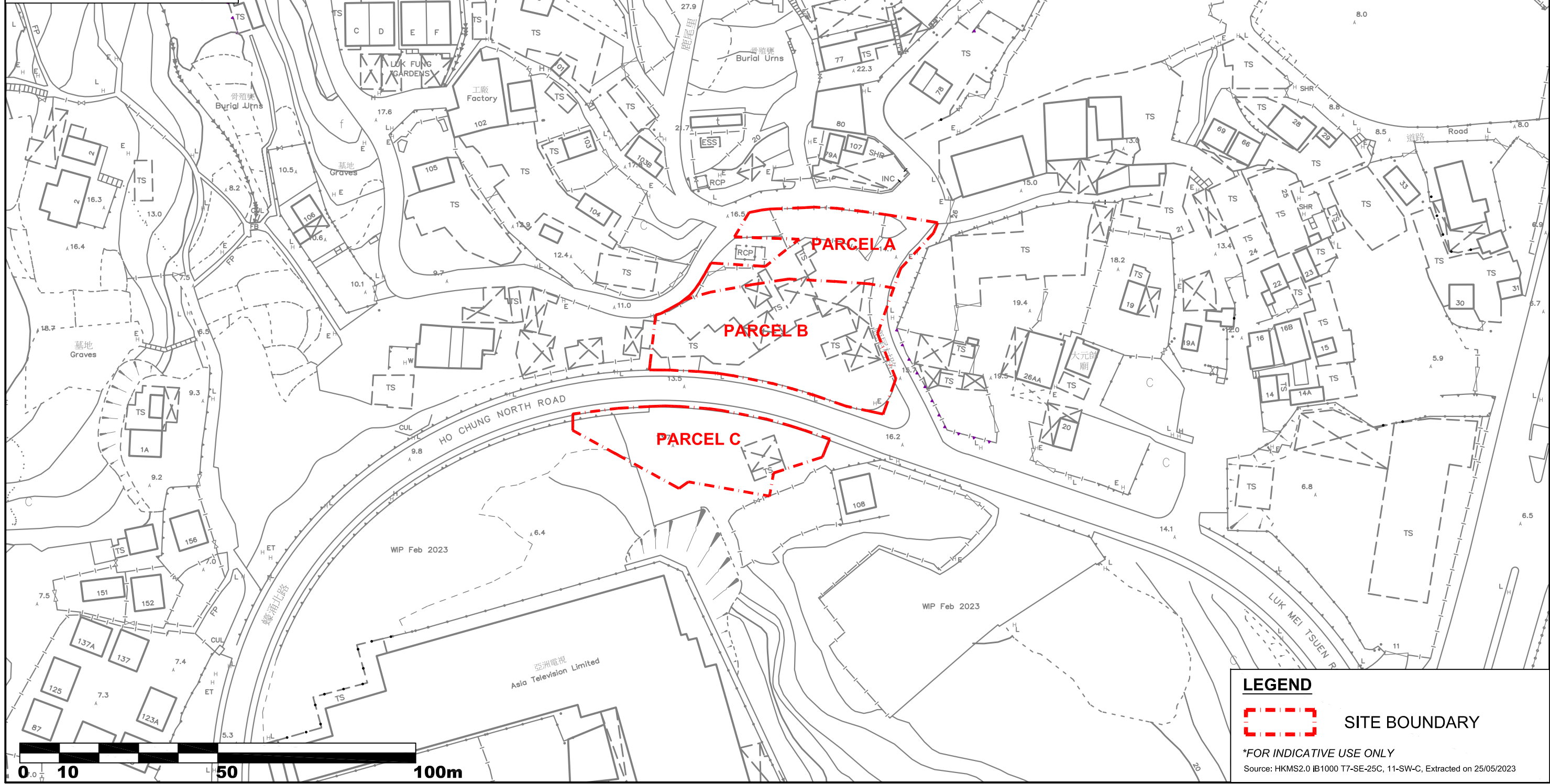
4. Conclusion

- 4.1.1 The proposed development may be subject to vehicular emission impact from roads nearby during the operation phase. However, with the incorporation of the 5 meter buffer zone, no significant adverse air quality impact due to vehicular emission is expected.
- 4.1.2 There is no active industrial chimney in the vicinity of the Site. Hence, no adverse air quality impact to the proposed development is anticipated.
- 4.1.3 Relevant mitigation measures would be incorporated during construction phase to minimise potential adverse impact on the air quality.


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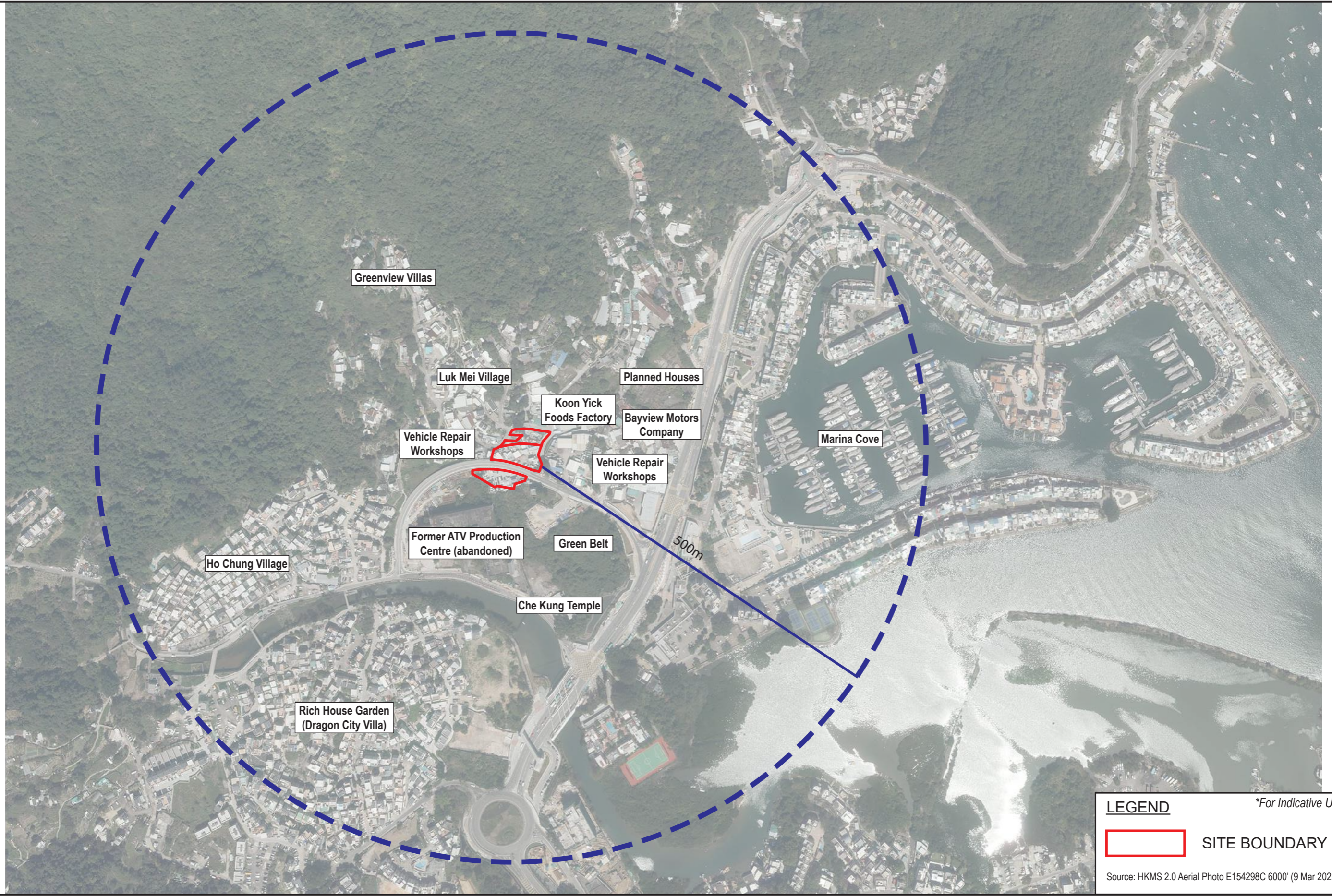
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SITE BOUNDARY

Source: HKMS 2.0 Aerial Photo E154298C 6000' (9 Mar 2022)

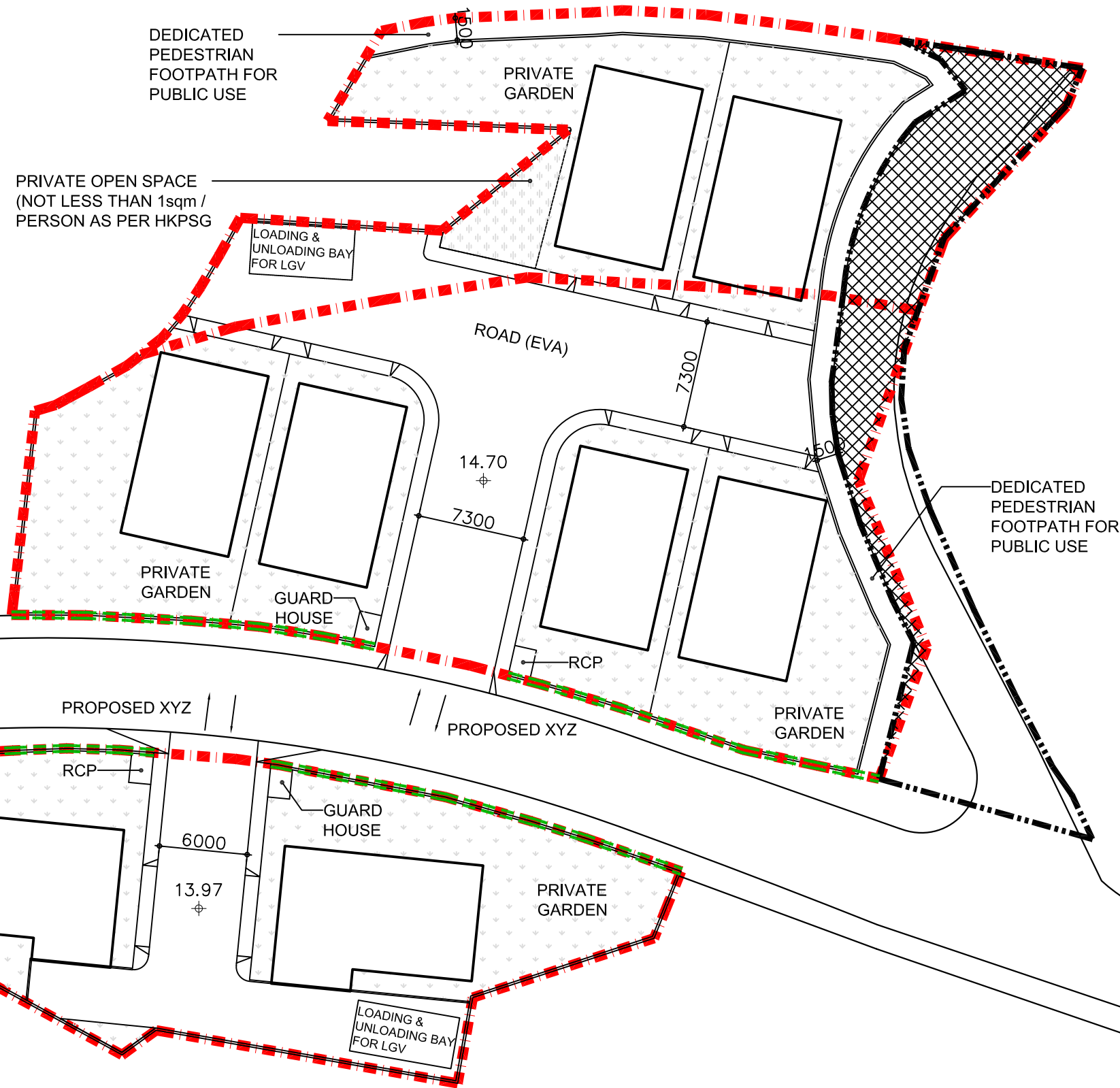


ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING
244 DES VOEUX ROAD CENTRAL HONG KONG
TEL: 2507 8333
FAX: 2598 6576

JOB TITLE:
Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong

Drawing Title
SITE SURROUNDINGS

Drawn	CN	Date	08/08/2023	Drawing No.	
Checked	RT	Approved	RT	Figure 2.1	
Scale	N.T.S.			Rev.	-
Rev	Description	Date			

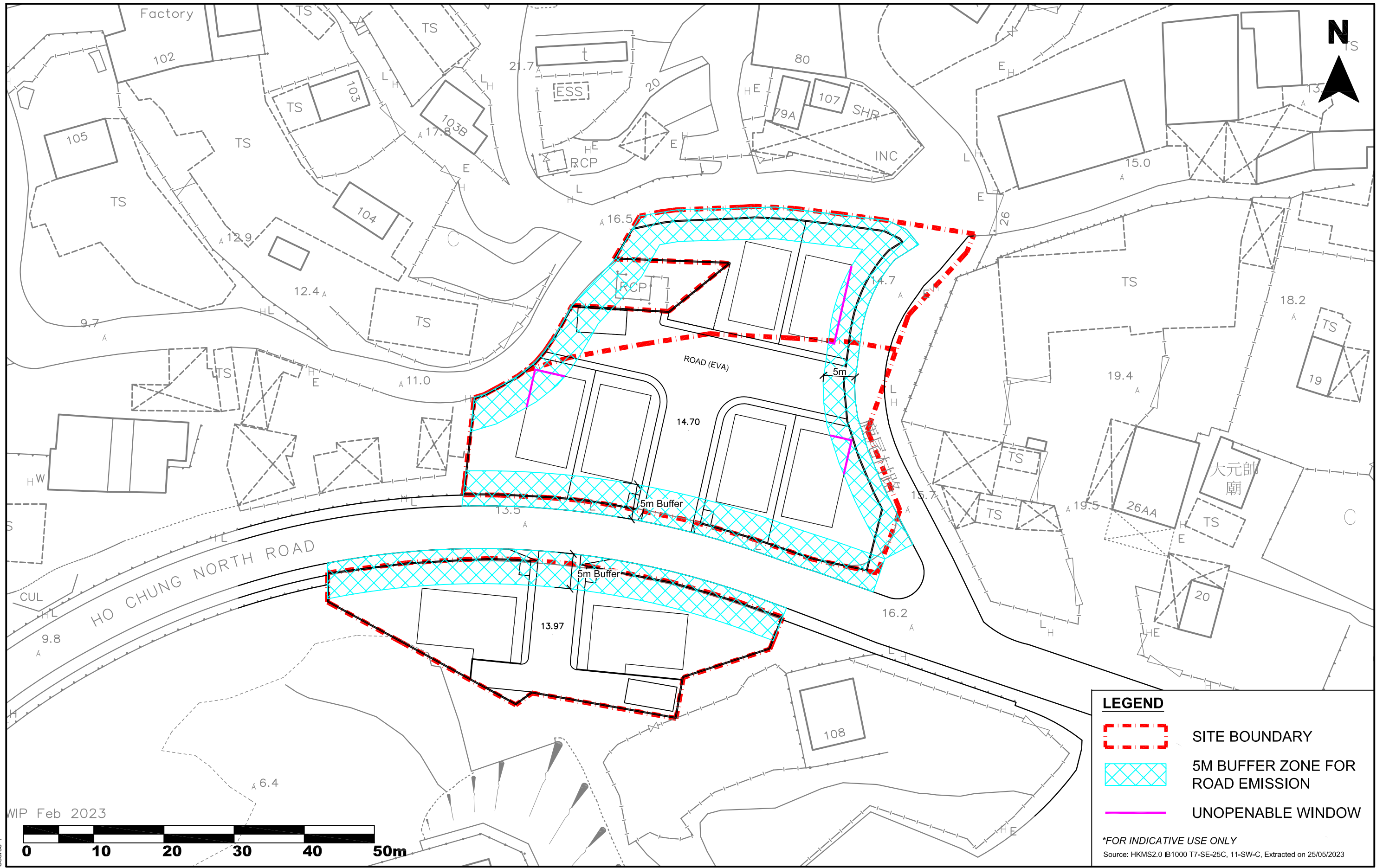


LEGEND

- SITE BOUNDARY
- AREA TO BE DEDICATED AS RIGHT OF WAY
- GREEN NOISE BARRIER
- PRIVATE GARDEN
- BUILDING FOOTPRINT
- PRIVATE OPEN SPACE

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title BLOCK PLAN	1	Road Layout Update	18/12/23	Drawn	CN	Date	18/12/2023	Drawing No.
							Checked	RT	Approved	RT	Scale
				Rev	Description	Date					1



LEGEND

- SITE BOUNDARY
- 5M BUFFER ZONE FOR ROAD EMISSION
- UNOPENABLE WINDOW

**FOR INDICATIVE USE ONLY*
 Source: HKMS2.0 IB1000 T7-SE-25C, 11-SW-C, Extracted on 25/05/2023

WIP Feb 2023

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Drawing Title
BUFFER ZONE FOR THE PROPOSED DEVELOPMENT

1	Windows Updated	07/08/23	Drawn	CN	Date	19/12/2023	Drawing No. Figure 3.2
2	Layout Updated	19/12/23	Checked	RT	Approved	RT	
Rev	Description	Date	Scale	1:500 @ A3		Rev.	2

Appendix A

Email from Transport Department (TD) on confirmation of road type

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Re: Application No. A/SK-HC/317 Proposed Houses with Minor Relaxation of Plot Ratio Restriction Various Lots in D.D. 210 and 244 and Adjoining Government Land, Ho Chung, Sai Kung

From : Ran WANG <ranwang@td.gov.hk>

Fri, Jul 03, 2020 09:51 AM

Subject : Re: Application No. A/SK-HC/317 Proposed Houses with Minor Relaxation of Plot Ratio Restriction Various Lots in D.D. 210 and 244 and Adjoining Government Land, Ho Chung, Sai Kung

To : Raymond TAM <raymondtam@pruden.com.hk>

Cc : Ally Au <ally.au@ppsintl.com>, Frank WONG <frankwong@pruden.com.hk>, stephenko@td.gov.hk, Vivian Zhu <vivianzhu@pruden.com.hk>

Dear Raymond,

I have no adverse comment on the proposed road type below.

Regards,
WANG Ran, Thomas
E/SK, TE/NTE, TD
Tel: 2399 2224
Fax: 2381 3799

From: Raymond TAM <raymondtam@pruden.com.hk>
To: Ran WANG <ranwang@td.gov.hk>
Cc: Ally Au <ally.au@ppsintl.com>, Frank WONG <frankwong@pruden.com.hk>, stephenko@td.gov.hk, Vivian Zhu <vivianzhu@pruden.com.hk>
Date: 07/03/2020 09:47 AM
Subject: Application No. A/SK-HC/317 Proposed Houses with Minor Relaxation of Plot Ratio Restriction Various Lots in D.D. 210 and 244 and Adjoining Government Land, Ho Chung, Sai Kung

Dear Thomas,

As advised by the Environmental Protection Department in connection to our Town Planning Application, can you please confirm our proposed classification of the following roads:

1. Hiram's Highway - Rural Roads
2. Ho Chung Road - Feeder Roads
3. Luk Mei Tsuen Road - Feeder Roads

4. Luk Cheung Road - Feeder Roads

Should you have any questions, please feel free to contact me on 2531-8727.

Thanks & Regards,

Raymond Tam

Senior Manager
Planning & Development

Prudential Surveyors International Limited 測建行有限公司
3/F & 2/F Tung Hip Commercial Building 244 Des Voeux Road Central Hong Kong [Map](#)
香港德輔道中244號 東協商業大廈3樓及2樓 [地圖](#)
Tel 電話: (852) 2507 8333
DDI 直線: (852) 2531 8727
Fax 傳真: (852) 2531 8888
Info 查詢: info@pruden.com.hk
Website 網址: www.pruden.com.hk

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Appendix 6

Noise Impact Appraisal

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Noise Impact Appraisal

For

Amendment of Plan to

Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)”

(“R(E)”) and an area shown as ‘Road’

to “Residential (Group C)3) (“R(C)3”)

on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11

at Various Lots in Demarcation District 210 and Demarcation District 244

and Adjoining Government land

Ho Chung, Sai Kung, New Territories, Hong Kong

Prepared by: Prudential Surveyors International Limited

Version: C

Date: December 2023

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Table 4.2 HKPSG Road Traffic Noise Planning Criteria
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1. Introduction / Background

- 1.1.1 This Noise Impact Appraisal (NIA) is to support a planning permission from the Town Planning Board (TPB) under Section 12A of the Town Planning Ordinance (CAP. 131) for Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) within Various Lots in D.D. 210 and 244 and Adjoining Government Land, Ho Chung, Sai Kung (Application Site) [refer to **Figure 1.1**]
- 1.1.2 As industrial development has been identified in the vicinity of the Application Site, the major potential noise impact has been identified as the fixed noise sources from industrial activities and road traffic noise.

2. Description of the Environment

- 2.1.1 The Application Site is located in rural environment which is relatively far from the major road traffic. The nearest major road is the Hiram’s Highway which is around 150m in the east. No industrial zone is identified in the vicinity of the Application Site according to the OZP thus no planned industrial sources are concerned. A site visit has been conducted by project team on 6th Jul 2023 between 9:30am and 2:00pm (weather: fair), to identify potential environment impact in the vicinity. The study area of the current assessment is illustrated in **Figure 2.1**.
- 2.1.2 Luk Mei Tsuen, which mostly consist of residential houses, is in the immediate west and north to the Application Site. Some warehouse liked temporary structures have been identified in the Luk Mei Tsuen, but no significant noise from industrial activities has been identified within Luk Mei Tsuen during site visit.
- 2.1.3 An abandoned building belong to former Asia Television Limited is in the south of the Application Site, which should not be a potential noise source to be concerned.
- 2.1.4 A “Residential (Group E)” (“R(E)”) zone accordingly to the OZP is in the immediately east of the Application Site. Currently, a mixture of industrial and residential uses has been identified within the zone. Although no new industrial development will be allowed and the existing industrial uses is expected to be phasing out, the existing industrial uses would be tolerated. Thus, the potential noise impact arising from those existing industrial development in the “R(E)” zone Area will be reviewed and assessed.
- 2.1.5 As no new industrial development in the surrounding of the Application Site is anticipated, mpotential planned fixed noise source is anticipated.
- 2.1.6 Therefore, the potential noise impacts during operation phase of the proposed development are road traffic noise impacts and noise impact from fixed (industrial) sources.

3. Proposed Development

- 3.1.1 The Applicant proposes to develop eight (8) 3-storeys houses a maximum building height of 12m with 3 storey over one storey of carport over in the Application Site. The layout of the proposed development is shown in Appendix A.
- 3.1.2 The proposed development is to erect six individual houses in Parcel A and B of the Site and two individual houses in Parcel C of the Site. [refer to **Appendix A**] The proposed gross floor area (GFA) of the houses are summarised in Table 3.1.

Propose House	Gross Floor Area (GFA) (sq.m) (about)
House 1	283.35
House 2	283.35
House 3	283.35
House 4	283.35
House 5	283.35
House 6	283.35
House 7	345.75
House 8	345.75
Total	2,391.6
Average	298.95

Table 3.1 Proposed GFA of Houses

- 3.1.3 The proposed development is for residential use only. There is no centralised ventilation and/or air condition system nor underground carpark that required large scale mechanical ventilation will be provided. Therefore, the proposed development is not regarded as a fixed noise source during operation phase.
- 3.1.4 On the other hand, the living rooms and bedrooms of the proposed residential houses are considered Noise Sensitive Receivers (NSRs) during operation phase. As the Applicant does not intend to provide fresh air provision, all openable windows on living rooms and bedrooms are for ventilation purposes.

4. Noise Impact Assessment

4.1 Introduction

- 4.1.1 The purpose of this report is to demonstrate that the Proposed Development will not impose adverse noise to the surrounding area during its construction phase; and the noise sensitive receivers (NSRs) of the proposed development will not experience insurmountable noise impact from the surrounding during the operational phase in accordance with the current proposed layout plan.
- 4.1.2 This section assessed the potential noise impact from the following aspects: (i) Construction Phase - the potential noise impact generated from the construction activities of the proposed development to the surroundings; (ii) Operation Phase - road traffic noise impact and noise impact from fixed sources of the proposed development.

4.2 Legislation, Standards & Guidelines

Construction Noise

- 4.2.1 Construction noise is governed by the Noise Control Ordinance (NCO) (Cap. 400) which prohibits the use of powered mechanical equipment (PME) during the restricted hours (7 p.m. to 7 a.m. on normal weekdays and any time on a general holiday, including Sunday) without a valid Construction Noise Permit (CNP) issued by the Authority. The criteria and procedures for issuing such a permit are specified in Technical Memorandum on Noise from Construction Works Other than Percussive Piling (TM1).
- 4.2.2 For construction works other than percussive piling, although TM1 does not provide control over daytime construction activities on any day not being general holiday, the noise limits as shown in Table 4.1 below are set out in the Practice Note for Professional Persons Environmental Consultative Committee (ProPECC PN 2/93) issued in 1993.

Noise Sensitive Receivers	0700 to 1900 hours on any day not being a Sunday or general holiday Leq (30min.), dB (A)
Dwelling	75
School	70

Notes: The above standards apply to uses which rely on opened windows for ventilation;
The above standards shall be viewed as the maximum permissible noise levels assessed at 1m from the external facade.

Table 4.1 Noise Limits for Daytime Construction Activities

Road Traffic Noise

- 4.2.3 HKPSG provides guidance on acceptable road traffic noise levels at the openable windows of various types of noise sensitive buildings. The relevant criteria are shown in Table 4.2.

Uses	Road Traffic Noise L ₁₀ , (1hr) dB(A)
All domestic premises including temporary housing accommodation	70
Hotel and Hostels	70
Offices	70
Educational institutions	65
Hospital & Clinics	55
Places of public worship and courts of law	65

Note: The above criteria apply to noise sensitive uses which rely on opened window for ventilation.

Table 4.2 HKPSG Road Traffic Noise Planning Criteria

Fixed Noise Sources

- 4.2.4 According to Table 2 of Technical Memorandum for the Assessment of Noise from Places Other than Domestic Premises, Public Places or Construction Sites (IND-TM), the ANLs for different Area Sensitivity Ratings (ASRs) are given in Table 4.3.

Time Period	ASR A	ASR B	ASR C
Day (0700 to 1900 hours)	60	65	70
Evening (1900 to 2300 hours)			
Night (2300 to 0700 hours)	50	55	60

Note: In any event, the ASRs and the ANLs adopted in this report are only indicative and they are used for assessment only. It should be noted that noise from fixed noise sources is controlled under section 13 of the Noise Control Ordinance. Therefore, the ASRs and ANLs determined in this report shall not prejudice the Noise Control Authority’s discretion to determine noise impact due to fixed noise sources on the basis of prevailing legislation and practices being in force, and taking account of contemporary conditions/ situations of adjoining land uses. The assessment of noise impacts due to fixed noise sources in this report shall not bind the Noise Control Authority in the context of law enforcement against any of the noise from fixed noise sources being assessed.”

Table 4.3 Acceptable Noise Levels for Fixed Noise Impact (ANLs), dB(A), Leq, (30mins)

- 4.2.5 The Proposed Development is located in the rural area of Ho Chung - Sai Kung. The only major road in the vicinity is Hiram’s Highway, which is around 150m to the east of the Application Site According to TD’s Annual Traffic Census (ATC2021), the daily traffic of Hiram’s Highway, is around 24,000, which is below the definition of Influencing Factor (IF).
- 4.2.6 According to IND-TM, the determination of Area Sensitivity Rating (ASR) for sparsely developed area should be 500m depending upon circumstances. To the west and north of the Application Site, closely packed low-rise buildings (mostly consist of residential houses and temporary structures) have been identified within ~150m. Beyond ~150m to the west and north, it is undeveloped mountain region that should not have any fixed noise sources. To the east of the Application site, closely packed low-rise buildings with industrial activities are identified, such as food factory and car repair workshops (detailed in Para. 4.4.5 to 4.4.7). Considering the land elevation and the height of the surrounding buildings are declining along the east direction only the visible portion of the Proposed Development are potentially affected. As the existing food factory and car repair workshop would block other potential noise sources in the east. In addition, the identified industrial noise sources in the east are either indoor or surrounded by solid fence-wall/hoarding. The Application site and the surrounding area should not be directly affected by the fixed noise sources of the industrial activities.
- 4.2.7 In the south of the Application site, there is a large building (abandoned Asia Television Limited building) blocking majority of the view to the south of the Application Site. To the south-east of the Application Site is a developing area. Considering the allowable land use (Residential (E)), the development in this area should not be considered as fixed noise sources in the future. Instead, they will become noise barrier blocking the noise from the south-east. At the immediately east of the developing site, which is around 70m from the Application Site, there is a knoll which should block the view to south-east direction.

- 4.2.8 As there is no IF in the vicinity and no significant fixed noise sources is visible from the Application Site, ASR of the Application Site and its' surroundings would be classified "A".
- 4.2.9 HKPSG suggests that the criterion of the planned fixed noise source should be ANL -5 dB (A), or the prevailing background noise level, whichever is lower. The planning criteria would be 55 dB(A) for day and evening time and 45 dB(A) for night time, or the prevailing background noise level, whichever is lower.

4.3 Construction Phase Noise Impact Appraisal

- 4.3.1 For the construction phase although the project site is small and only demolition of temporary structures is required, mitigation measures are proposed to minimise the noise impact to the surrounding.
- 4.3.2 Major noise emitting activities during the construction phase will be the foundation works.
- 4.3.3 The use of Powered Mechanical Equipment (PME) will generate construction noise nuisance to the nearby NSRs. As the project site is small, the number of PME that it can accommodate is limited. To minimise noise generation, non-percussive piling method for foundation work is proposed. As these activities would only last for a short period of time, significant noise impact on sensitive receivers is not expected with proper implementation of mitigation measures:
- adopt good site practice, such as throttle down or switch off equipment unused or intermittently used between works;
 - regular maintenance of equipment to prevent noise emission due to impairment;
 - position mobile noisy equipment in locations away from NSRs and point the noise sources to directions away from NSRs;
 - make good use of other structures for noise screening;
 - use of quiet plants and working methods to mitigate at source;
 - use of mobile noise barriers/enclosures along the path of noise propagation; and
 - schedule work to minimise concurrent activity and duration of impact
- 4.3.4 With the proposed mitigation measures properly implemented, no adverse noise impact arising from the construction of the proposed development is anticipated

4.4 Operational Phase Noise Impact Assessment

- 4.4.1 As stated in Section 3.1.1, the proposed development is planned for residential purpose only. The closest identified NSRs in each direction are ~40m in north (77 Luk Mei Tsuen); ~25m in north-west (103B Luk Mei Tsuen); ~110m in the west (156 Ho Chung); ~15m in south- east (108 Luk Mei Tsuen) of the Application Site. It is expected that the proposed development is not visible from the nearby NSR in other directions. The proposed development is planned to equip with windows type or split type air conditioners which do not cause potential noise impact. As the distance correction with 15m distance is around 31.5 dB(A) (for SWL) or 23.5 dB(A) (for SPL measured at 1m), with the noise level of typical split type AC unit¹, no adverse noise impact on the surrounding is anticipated. Without centralised ventilation and/or air conditioning system nor underground carpark provision, no major fixed noise source is anticipated

from the Proposed Development during operation phase.

- 4.4.2 On the other hand, the potential noise sources in the vicinity, i.e. traffic noise and industrial noise may affect the NSRs of the proposed development.

Noise Sensitive Receivers

- 4.4.3 The Proposed Development will not be centrally ventilated thus all living rooms and bedrooms of the residential flats are regards as NSRs. Therefore for a quantitative assessment, assessment points have to be provided to all the openable windows of living rooms and bedrooms. The elevation of the houses would be assumed to be 26.7mPD for the homes in Parcels A and B and 25.97mPD for the homes in the Parcel C.

Fixed Noise Source from Industrial Activities

- 4.4.4 As stated in Section 2, based on the site survey, no significant noise from industrial activities have been identified in Luk Mei Tsuen (mostly consists of residential houses) which is in the immediate west and north to the Application Site; no industrial noise is anticipated from the abandoned Asia Television Limited building in the south; but potential fixed noise sources are identified in the R(E) zone in the east.
- 4.4.5 The most concerned existing developments with potential fixed noise sources are identified as Koon Yick Food Factory, which is an active Chinese sauces manufacturer (Food Factory License Number 29 98 803889), and the group of car repair workshops in the immediate west of the Application Site, due to their proximity. On the other hand, due to the much higher ground elevation of the car repair workshops (around 19.5 mPD) with a solid hoarding of about 2m high bring the foundation to about 21.5mPD compare to the Application Site (13.9 - 14.4 mPD) and the rest of R(E) zone in the east (5.9 – 13.4 mPD), the view from the proposed development to the west portion of the R(E) zone is blocked on the lower floors. The locations of the potential fixed noise sources are illustrated in **Figure 4.1**.
- 4.4.6 Koon Yick Food Factory, as a traditional Chinese sauces manufacturer, is not expected to use heavy and noisy machines for its manufacturing process. In addition, no fixed machinery nor noise emitting outdoor industrial activities has been identified during the site visit. All of the potential noisy works (e.g. packaging) are conducted in confined indoor area. Therefore, the potential noise sources from Koon Yick Food Factory should not have adverse noise impact to the proposed development.
- 4.4.7 For the group of car repair workshops in the immediate east of the Application Site, considering their scale and from the observation during the site visit, they are relying on hand-tool instead of fixed heavy machine. Besides, no fixed machinery nor noise emitting outdoor activities has been identified during the site visit. With the solid structures on the west facades of the car repair workshops and their much higher ground elevation compare to the Application Site, the view from the proposed development is completely blocked. Therefore, the potential noise from that group of car repair workshops should not have adverse noise impact to the proposed development.
- 4.4.8 As stated in Section 2, no new industrial development in the surrounding of the Application Sites is allowed, thus no adverse noise impact from the planned fixed noise sources is anticipated.

4.4.9 In conclusion based on the above assessment no adverse noise impact from potential fixed noise sources to the proposed development is anticipated.

Traffic Noise

4.4.10 Despite the Application Site is located in rural area, and the nearby major road, i.e. Hiram’s Highway, is classified as Rural Road, the daily traffic flow of Hiram’s Highway is around 24,000 (according to ATC2021). Thus, traffic noise is considered as one of the major potential noise impacts.

4.4.11 As the line-of-sight between the most affect road, i.e. Hiram’s Highway, and the Application Site is mostly blocked by the existing buildings and there is around 150m separation distance between the proposed development and Hiram's Highway, no adverse road traffic noise impact is anticipated at the proposed development (fully complying with 70 dB(A) noise criterion).

5. Conclusion

5.1.1 A Noise Impact Appraisal has been carried out to evaluate the potential noise impacts likely to arise from the proposed development.

5.1.2 The key noise issues associated with the proposed development are potential construction noise impact during construction phase; as well as potential road traffic noise impact and potential noise impact from fixed sources during operational phase.

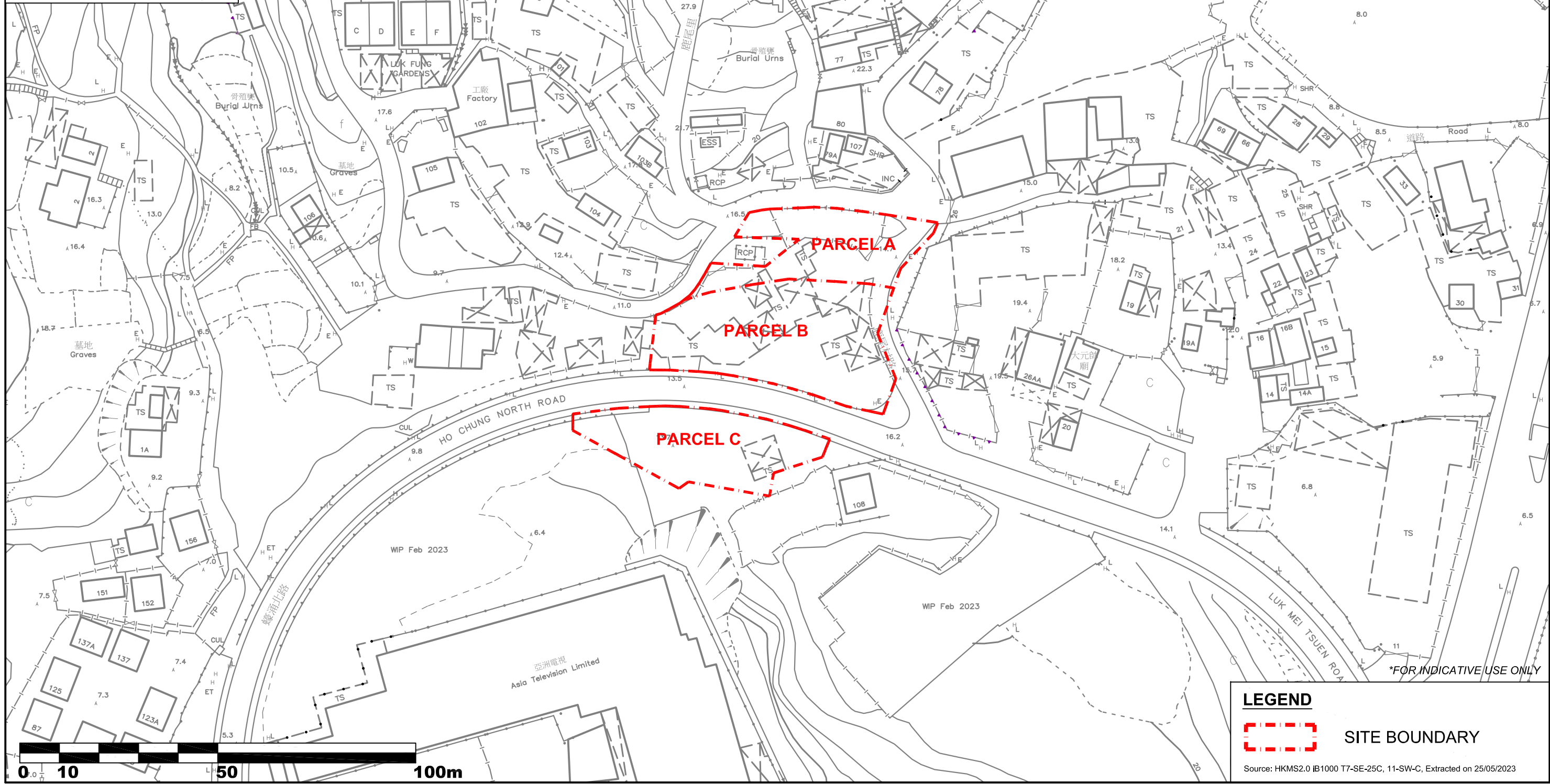
5.1.3 With the proposed mitigation measures properly implemented, no adverse noise impact arising from the construction of the proposed development is anticipated.

5.1.4 The proposed development is not considered a fixed noise source during its operation phase. Both road traffic and fixed noise sources do not induce adverse noise impact to the proposed development during its operation.

5.1.5 In conclusion, no noise impact is anticipated for the proposed development.

Figures

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244 DES VOEUX ROAD CENTRAL HONG KONG
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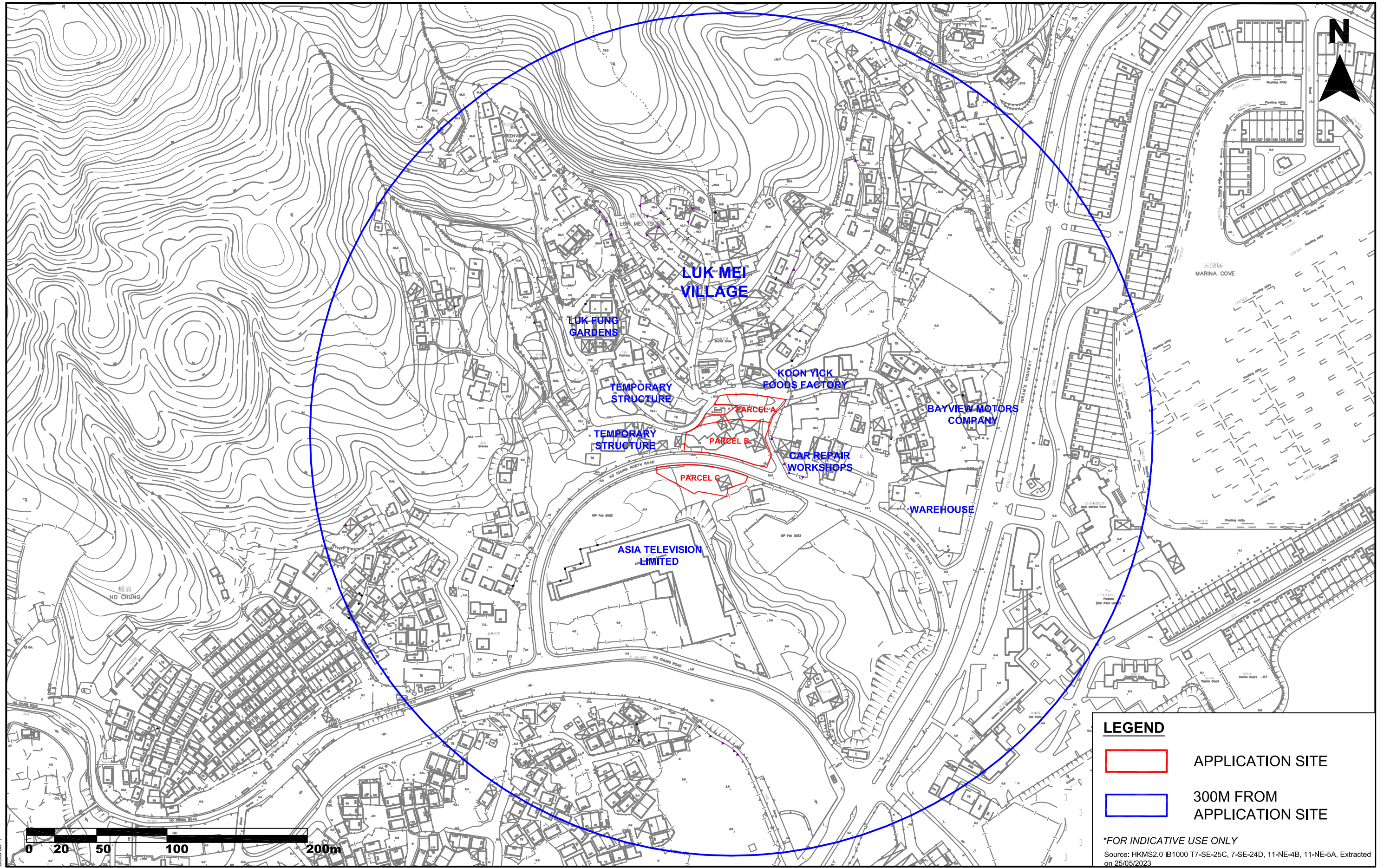
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Rev	Description	Date

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Drawing No.	Figure 1.1
Rev.	-

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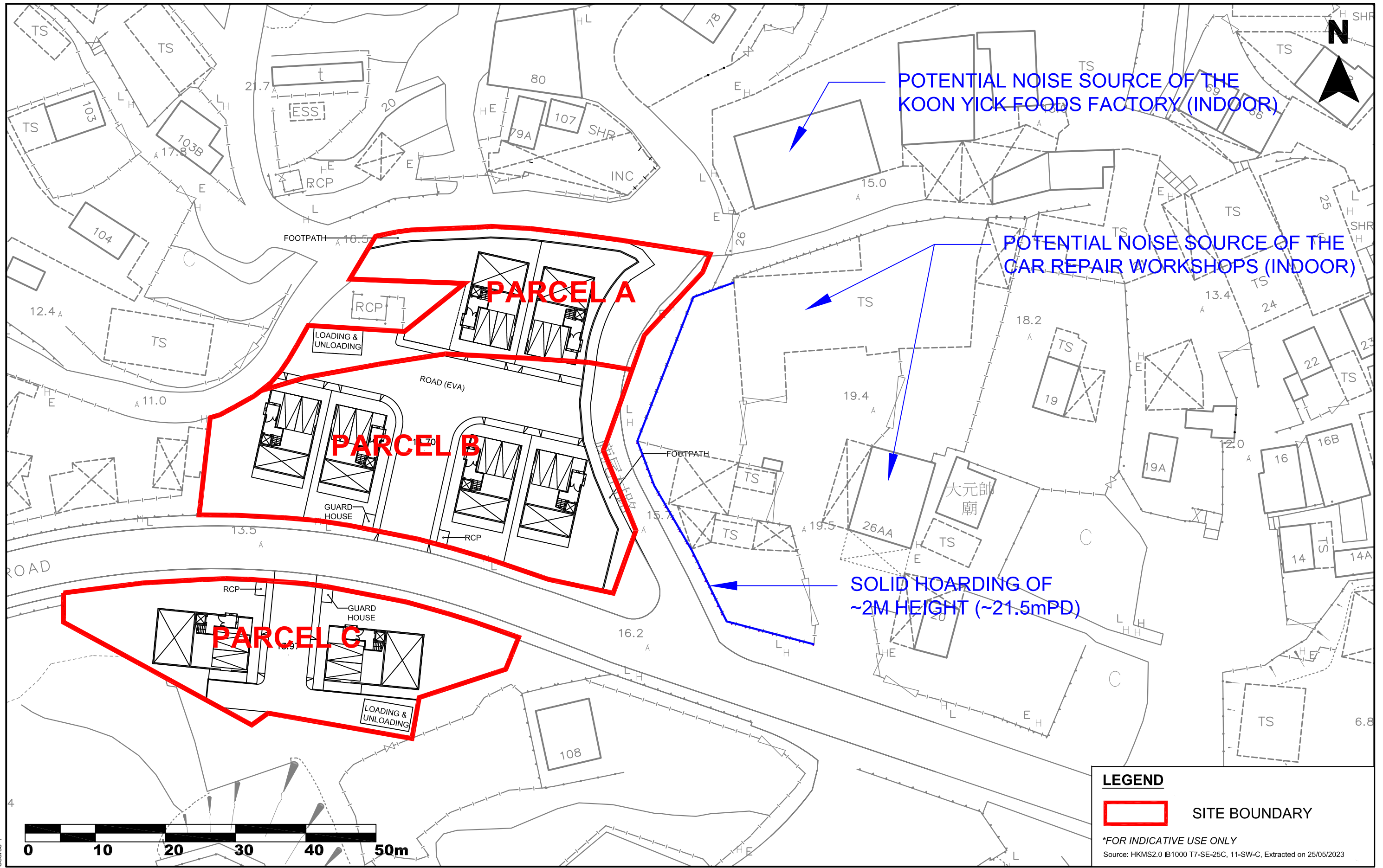
LEGEND

- APPLICATION SITE
- 300M FROM APPLICATION SITE

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				Checked RT	Approved RT	Scale 1:2500 @ A3	
				Rev	Description	Date	-



LEGEND

SITE BOUNDARY

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File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as "Road" to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title LOCATIONS OF POTENTIAL FIXED NOISE SOURCES IN THE VICINITY	1	Layout Updated	19/12/23	Drawn	CN	Date	19/12/2023	Drawing No.
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				Rev	Description	Date	Scale	1:500 @ A3	Rev.		1

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Attachment 2

Site Photos Taken on 27 Oct 2023

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PHOTO A



PHOTO B



PHOTO C



PHOTO D



PHOTO E



PHOTO F



PHOTO G



PHOTO H

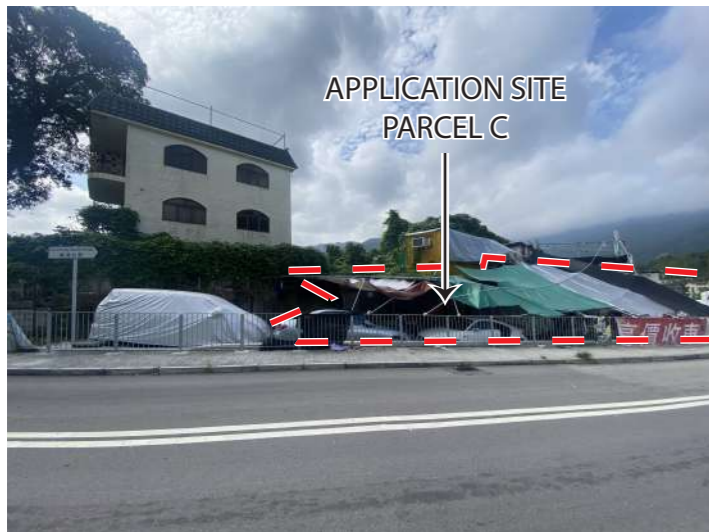


PHOTO I

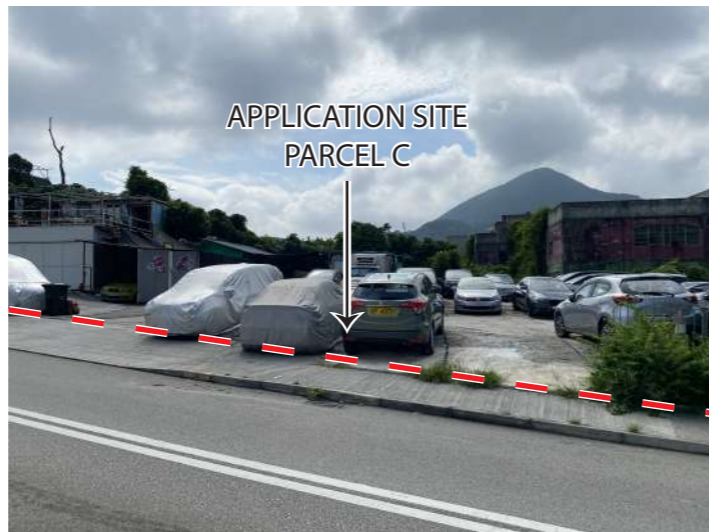
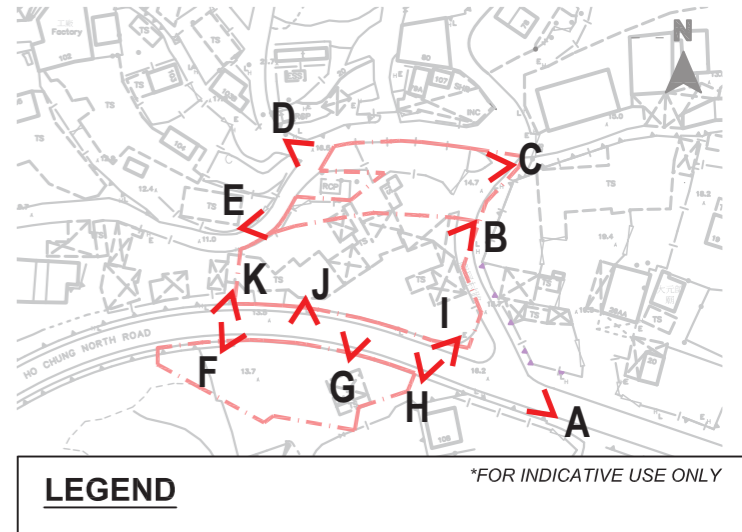


PHOTO J



PHOTO K



LEGEND *FOR INDICATIVE USE ONLY

SITE BOUNDARY

(Source: Photos Taken on 27 Oct 2023)

File Name :
Source :

	ADDRESS: 2/F & 3/F TUNG HIP COMMERCIAL BUILDING 244 DES VOEUX ROAD CENTRAL HONG KONG TEL: 2507 8333 FAX: 2598 6576	JOB TITLE: Amendment of Plan to Rezone from "Residential (Group D)" ("R(D)", "Residential (Group E)" ("R(E)") and an area shown as 'Road' to "Residential (Group C)3" ("R(C)3") on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 at Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land, Ho Chung, Sai Kung, New Territories, Hong Kong	Drawing Title SITE PHOTOS TAKEN ON 27 OCT 2023			Drawn CN Date 10/11/2023 Checked RT Approved RT Scale N.T.S.	Drawing No. - Rev. -
	Rev Description Date						

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Enclosure 2

Response-to-Public Comments Table

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Amendment of Plan to Rezone from “Residential (Group D)” (“R(D)”), “Residential (Group E)” (“R(E)”) and an area shown as ‘Road’ to “Residential (Group C)3” (“R(C)3”) on the Approved Ho Chung Outline Zoning Plan No. S/SK-HC/11 Various Lots in Demarcation District 210 and Demarcation District 244 and Adjoining Government land Ho Chung, Sai Kung, New Territories, Hong Kong

Response to Public Comments received during the period of 24.11.2023 to 15.12.2023 on the Application No. Y/SK-HC/6. There was 1 comment received and the comment is as follows:

Item	Public Comments (PC)	The Applicant’s Responses
PC2-1	I don’t know why government approved this application. Since this application used the land and the land was used for the factory and car park, the owner doesn’t care about the law.	This current application has not been approved by the government. The current Application is applied under the laws of Hong Kong.

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