Form No. S16-I
表格第 S16-I 號

APPLICATION FOR PERMISSION UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE (CAP.131)

根據《城市規劃條例》(第131章)第16條遞交的許可申請

Applicable to proposals not involving or not only involving:
適用於建議不涉及或不祇涉及:

(i) Construction of "New Territories Exempted House(s)";
興建「新界豁免管制屋宇」;

(ii) Temporary use/development of land and/or building not exceeding 3 years in rural areas; and
位於鄉郊地區土地上及/或建築物內進行為期不超過三年的臨時用途/發展;及

(iii) Renewal of permission for temporary use or development in rural areas
位於鄉郊地區的臨時用途或發展的許可續期

Applicant who would like to publish the notice of application in local newspapers to meet one of the Town Planning Board's requirements of taking reasonable steps to obtain consent of or give notification to the current land owner, please refer to the following link regarding publishing the notice in the designated newspapers: https://www.info.gov.hk/tpb/en/plan_application/apply.html

申請人如欲在本地報章刊登申請通知,以採取城市規劃委員會就取得現行土地擁有人的同意或通知現行土地擁有人所指定的其中一項合理步驟,請瀏覽以下網址有關在指定的報章刊登通知:
https://www.info.gov.hk/tpb/tc/plan_application/apply.html

General Note and Annotation for the Form
填寫表格的一般指引及註解

\# "Current land owner" means any person whose name is registered in the Land Registry as that of an owner of the land to which the application relates, as at 6 weeks before the application is made
「現行土地擁有人」指在提出申請前六星期,其姓名或名稱已在土地註冊處註冊為該申請所關乎的土地的擁有人的人

& Please attach documentary proof 請夾附證明文件

^ Please insert number where appropriate 請在適當地方註明編號

Please fill "NA" for inapplicable item 請在不適用的項目填寫「不適用」

Please use separate sheets if the space provided is insufficient 如所提供的空間不足,請另頁說明

Please insert a「✔」at the appropriate box 請在適當的方格內上加上「✔」號

For Official Use Only 請勿填寫此欄	Application No. 申請編號	A/YL/302
	Date Received 收到日期	28 MAR 2023

1. The completed form and supporting documents (if any) should be sent to the Secretary, Town Planning Board (the Board), 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong.
申請人須把填妥的申請表格及其他支持申請的文件 (倘有)，送交香港北角渣華道 333 號北角政府合署 15 樓城市規劃委員會(下稱「委員會」)秘書收。

2. Please read the "Guidance Notes" carefully before you fill in this form. The document can be downloaded from the Board's website at http://www.info.gov.hk/tpb/. It can also be obtained from the Secretariat of the Board at 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong (Tel: 2231 4810 or 2231 4835), and the Planning Enquiry Counters of the Planning Department (Hotline: 2231 5000) (17/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong and 14/F, Sha Tin Government Offices, 1 Sheung Wo Che Road, Sha Tin, New Territories).
請先細閱《申請須知》的資料單張，然後填寫此表格。該份文件可從委員會的網頁下載 (網址：http://www.info.gov.hk/tpb/)，亦可向委員會秘書處 (香港北角渣華道 333 號北角政府合署 15 樓 – 電話：2231 4810 或 2231 4835)及規劃署的規劃資料查詢處(熱線：2231 5000)(香港北角渣華道 333 號北角政府合署 17 樓及新界沙田上禾輋路 1 號沙田政府合署 14 樓)索取。

3. This form can be downloaded from the Board's website, and obtained from the Secretariat of the Board and the Planning Enquiry Counters of the Planning Department. The form should be typed or completed in block letters. The processing of the application may be refused if the required information or the required copies are incomplete.
此表格可從委員會的網頁下載，亦可向委員會秘書處及規劃署的規劃資料查詢處索取。申請人須以打印方式或以正楷填寫表格。如果申請人所提交的資料或文件副本不齊全，委員會可拒絕處理有關申請。

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1. Name of Applicant 申請人姓名/名稱

(☐ Mr. 先生 / ☐ Mrs. 夫人 / ☐ Miss 小姐 / ☐ Ms. 女士 / ☑ Company 公司 / ☐ Organisation 機構)

Si Mau Limited

2. Name of Authorised Agent (if applicable) 獲授權代理人姓名/名稱（如適用）

(☐ Mr. 先生 / ☐ Mrs. 夫人 / ☐ Miss 小姐 / ☐ Ms. 女士 / ☑ Company 公司 / ☐ Organisation 機構)

DeSPACE (International) Limited

3. Application Site 申請地點

(a) Full address / location / demarcation district and lot number (if applicable) 詳細地址／地點／丈量約份及地段號碼（如適用）	Lots 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long, New Territories
(b) Site area and/or gross floor area involved 涉及的地盤面積及／或總樓面面積	☑ Site area 地盤面積 1,877.1 sq.m 平方米 ☑ About 約 ☑ Gross floor area 總樓面面積 5,756 sq.m 平方米 ☑ About 約
(c) Area of Government land included (if any) 所包括的政府土地面積（倘有）	144.8 sq.m 平方米 ☑ About 約

(d)	Name and number of the related statutory plan(s) 有關法定圖則的名稱及編號	Draft Yuen Long Outline Zoning Plan No. S/YL/26
(e)	Land use zone(s) involved 涉及的土地用途地帶	"Government, Institution or Community(1)"
(f)	Current use(s) 現時用途	Temporary open public car park and a vacant house (If there are any Government, institution or community facilities, please illustrate on plan and specify the use and gross floor area) (如有任何政府、機構或社區設施，請在圖則上顯示，並註明用途及總樓面面積)

4. "Current Land Owner" of Application Site 申請地點的「現行土地擁有人」

The applicant 申請人 –

☑ is the sole "current land owner"#& (please proceed to Part 6 and attach documentary proof of ownership).
是唯一的「現行土地擁有人」#& (請繼續填寫第 6 部分，並夾附業權證明文件)。

☐ is one of the "current land owners"#& (please attach documentary proof of ownership).
是其中一名「現行土地擁有人」#& (請夾附業權證明文件)。

☐ is not a "current land owner"#.
並不是「現行土地擁有人」#。

☐ The application site is entirely on Government land (please proceed to Part 6).
申請地點完全位於政府土地上（請繼續填寫第 6 部分）。

5. Statement on Owner's Consent/Notification
就土地擁有人的同意/通知土地擁有人的陳述

(a) According to the record(s) of the Land Registry as at ..... (DD/MM/YYYY), this application involves a total of ..... "current land owner(s) "#.
根據土地註冊處截至 ..... 年 ..... 月 ..... 日的記錄，這宗申請共牽涉 ..... 名「現行土地擁有人」#。

(b) The applicant 申請人 –

☐ has obtained consent(s) of ..... "current land owner(s)"#.
已取得 ..... 名「現行土地擁有人」#的同意。

Details of consent of "current land owner(s)"# obtained 取得「現行土地擁有人」#同意的詳情		
No. of 'Current Land Owner(s)' 「現行土地擁有人」數目	Lot number/address of premises as shown in the record of the Land Registry where consent(s) has/have been obtained 根據土地註冊處記錄已獲得同意的地段號碼／處所地址	Date of consent obtained (DD/MM/YYYY) 取得同意的日期 (日/月/年)

(Please use separate sheets if the space of any box above is insufficient. 如上列任何方格的空間不足，請另頁說明)

☐ has notified ..... "current land owner(s)"#
已通知 ..... 名「現行土地擁有人」#。

Details of the "current land owner(s)" # notified 已獲通知「現行土地擁有人」#的詳細資料		
No. of 'Current Land Owner(s)' 「現行土地擁有人」數目	Lot number/address of premises as shown in the record of the Land Registry where notification(s) has/have been given 根據土地註冊處記錄已發出通知的地段號碼／處所地址	Date of notification given (DD/MM/YYYY) 通知日期(日/月/年)

(Please use separate sheets if the space of any box above is insufficient. 如上列任何方格的空間不足，請另頁說明)

☐ has taken reasonable steps to obtain consent of or give notification to owner(s):
已採取合理步驟以取得土地擁有人的同意或向該人發給通知。詳情如下：

Reasonable Steps to Obtain Consent of Owner(s) 取得土地擁有人的同意所採取的合理步驟

☐ sent request for consent to the "current land owner(s)" on _____ (DD/MM/YYYY)#&
於_____(日/月/年)向每一名「現行土地擁有人」#郵遞要求同意書&

Reasonable Steps to Give Notification to Owner(s) 向土地擁有人發出通知所採取的合理步驟

☐ published notices in local newspapers on _____ (DD/MM/YYYY)&
於_____(日/月/年)在指定報章就申請刊登一次通知&

☐ posted notice in a prominent position on or near application site/premises on _____ (DD/MM/YYYY)&
於_____(日/月/年)在申請地點／申請處所或附近的顯明位置貼出關於該申請的通知&

☐ sent notice to relevant owners' corporation(s)/owners' committee(s)/mutual aid committee(s)/management office(s) or rural committee on _____ (DD/MM/YYYY)&
於_____(日/月/年)把通知寄往相關的業主立案法團/業主委員會/互助委員會或管理處，或有關的鄉事委員會&

Others 其他

☐ others (please specify)
其他（請指明）

_____

_____

_____

_____

Note: May insert more than one「✔」.
Information should be provided on the basis of each and every lot (if applicable) and premises (if any) in respect of the application.
註: 可在多於一個方格內加上「✔」號
申請人須就申請涉及的每一地段（倘適用）及處所（倘有）分別提供資料

6. Type(s) of Application 申請類別

☐ Type (i) 第(i)類 Change of use within existing building or part thereof 更改現有建築物或其部分內的用途

☐ Type (ii) 第(ii)類 Diversion of stream / excavation of land / filling of land / filling of pond as required under Notes of Statutory Plan(s) 根據法定圖則《註釋》內所要求的河道改道／挖土／填土／填塘工程

☐ Type (iii) 第(iii)類 Public utility installation / Utility installation for private project 公用事業設施裝置/私人發展計劃的公用設施裝置

☑ Type (iv) 第(iv)類 Minor relaxation of stated development restriction(s) as provided under Notes of Statutory Plan(s) 略為放寬於法定圖則《註釋》內列明的發展限制

☑ Type (v) 第(v)類 Use / development other than (i) to (iii) above 上述的(i)至(iii)項以外的用途／發展

Note 1: May insert more than one「✓」.
註 1： 可在多於一個方格內加上「✓」號
Note 2: For Development involving columbarium use, please complete the table in the Appendix.
註 2： 如發展涉及靈灰安置所用途，請填妥於附件的表格。

(i) For Type (i) application 供第(i)類申請

(a) Total floor area involved 涉及的總樓面面積	sq.m 平方米		
(b) Proposed use(s)/development 擬議用途/發展	(If there are any Government, institution or community facilities, please illustrate on plan and specify the use and gross floor area) (如有任何政府、機構或社區設施，請在圖則上顯示，並註明用途及總樓面面積)		
(c) Number of storeys involved 涉及層數		Number of units involved 涉及單位數目	
(d) Proposed floor area 擬議樓面面積	Domestic part 住用部分 ..... sq.m 平方米 ☐About 約		
	Non-domestic part 非住用部分..... sq.m 平方米 ☐About 約		
	Total 總計 ..... sq.m 平方米 ☐About 約		

(e) Proposed uses of different floors (if applicable) 不同樓層的擬議用途(如適用) (Please use separate sheets if the space provided is insufficient) (如所提供的空間不足，請另頁說明)	Floor(s) 樓層	Current use(s) 現時用途	Proposed use(s) 擬議用途

(ii) For Type (ii) application 供第(ii)類申請	
(a) Operation involved 涉及工程	☐ Diversion of stream 河道改道 ☐ Filling of pond 填塘 Area of filling 填塘面積 ..... sq.m 平方米 ☐About 約 Depth of filling 填塘深度 ..... m 米 ☐About 約 ☐ Filling of land 填土 Area of filling 填土面積 ..... sq.m 平方米 ☐About 約 Depth of filling 填土厚度 ..... m 米 ☐About 約 ☐ Excavation of land 挖土 Area of excavation 挖土面積 ..... sq.m 平方米 ☐About 約 Depth of excavation 挖土深度 ..... m 米 ☐About 約 (Please indicate on site plan the boundary of concerned land/pond(s), and particulars of stream diversion, the extent of filling of land/pond(s) and/or excavation of land) (請用圖則顯示有關土地／池塘界線，以及河道改道、填塘、填土及／或挖土的細節及/或範圍))
(b) Intended use/development 有意進行的用途／發展	

(iii) For Type (iii) application 供第(iii)類申請	
(a) Nature and scale 性質及規模	☐ Public utility installation 公用事業設施裝置 ☐ Utility installation for private project 私人發展計劃的公用設施裝置 Please specify the type and number of utility to be provided as well as the dimensions of each building/structure, where appropriate 請註明有關裝置的性質及數量，包括每座建築物/構築物(倘有)的長度、高度和闊度

Name/type of installation 裝置名稱／種類	Number of provision 數量	Dimension of each installation /building/structure (m) (LxWxH) 每個裝置／建築物／構築物的尺寸 (米) (長 x 闊 x 高)

(Please illustrate on plan the layout of the installation 請用圖則顯示裝置的布局)

(iv) For Type (iv) application 供第(iv)類申請

(a) Please specify the proposed minor relaxation of stated development restriction(s) and **also fill in the proposed use/development and development particulars in part (v) below** –
請列明擬議略為放寬的發展限制並填妥於第(v)部分的擬議用途/發展及發展細節 –

☐	Plot ratio restriction 地積比率限制	From 由 ..... to 至 .....
☐	Gross floor area restriction 總樓面面積限制	From 由 .....sq. m 平方米 to 至 .....sq. m 平方米
☐	Site coverage restriction 上蓋面積限制	From 由 .....% to 至 ..... %
☑	Building height restriction 建築物高度限制	From 由 .....m 米 to 至 ..... m 米 From 由 ..... mPD 米 (主水平基準上) to 至 .....mPD 米 (主水平基準上) From 由 3 ..... storeys 層 to 至 6 ..... storeys 層
☐	Non-building area restriction 非建築用地限制	From 由 .....m to 至 ..... m
☐	Others (please specify) 其他（請註明）	.....

(v) For Type (v) application 供第(v)類申請

(a) Proposed use(s)/development 擬議用途/發展	Social Welfare Facility (Residential Care Home for the Elderly) House for Siu Lo (Please illustrate the details of the proposal on a layout plan 請用平面圖說明建議詳情)

(b) Development Schedule 發展細節表

Proposed gross floor area (GFA) 擬議總樓面面積	5,756 ..... sq.m 平方米	☐About 約
Proposed plot ratio 擬議地積比率	About 3.07	☑About 約
Proposed site coverage 擬議上蓋面積	Not more than 65 ... %	☑About 約
Proposed no. of blocks 擬議座數	New building 1 Existing building 1 New building 6	
Proposed no. of storeys of each block 每座建築物的擬議層數	Existing building 2 ..... storeys 層 ☐ include 包括.....storeys of basements 層地庫 ☐ exclude 不包括.....storeys of basements 層地庫	
Proposed building height of each block 每座建築物的擬議高度	Not more than 31.65 ..... mPD 米(主水平基準上) 25.9 (Note 1) ..... m 米	☐About 約 ☑About 約

Note 1 Based on the mean street level at 5.75 mPD.

☑ Domestic part 住用部分

GFA 總樓面面積	356 ..... sq. m 平方米	☑About 約
number of Units 單位數目	The House as one single unit	
average unit size 單位平均面積	NA .....sq. m 平方米	☐About 約
estimated number of residents 估計住客數目	4-8	

☑ Non-domestic part 非住用部分

	GFA 總樓面面積	
☐ eating place 食肆	..... sq. m 平方米	☐About 約
☐ hotel 酒店	..... sq. m 平方米	☐About 約
	(please specify the number of rooms 請註明房間數目)	
☐ office 辦公室	..... sq. m 平方米	☐About 約
☐ shop and services 商店及服務行業	..... sq. m 平方米	☐About 約

☐ Government, institution or community facilities 政府、機構或社區設施

(please specify the use(s) and concerned land area(s)/GFA(s) 請註明用途及有關的地面面積／總樓面面積)

.....

.....

.....

☑ other(s) 其他

(please specify the use(s) and concerned land area(s)/GFA(s) 請註明用途及有關的地面面積／總樓面面積)

RCHE with GFA of not more than 5,400 sq.m .....

.....

.....

☑ Open space 休憩用地

(please specify land area(s) 請註明地面面積)

☑ private open space 私人休憩用地	About 276 ..... sq. m 平方米	☐ Not less than 不少於
☐ public open space 公眾休憩用地	..... sq. m 平方米	☐ Not less than 不少於

(c) Use(s) of different floors (if applicable) 各樓層的用途 (如適用)

[Block number] [座數]	[Floor(s)] [層數]	[Proposed use(s)] [擬議用途]
New RCHE Building	5/F	Dormitory, Dining/Multi-purpose Area, Small Group Activity Room, Nursing Station, Accessible Toilet, Stores, E&M, Isolation/ Sick room, Pantry
	1-4/F	Dormitory, Dining/Multi-purpose Area, Rehabilitation Area/ Management Office, Nursing Station, Accessible Toilets, Stores, E&M, Isolation/ Sick room, Pantry
	G/F	Kitchen, Laundry Room, Tx Room, Reception, Lobby, Lav., Dining/ Multi-purpose Room, loading/unloading area, E&M
Siu Lo	1/F	House
	G/F	House

(d) Proposed use(s) of uncovered area (if any) 露天地方（倘有）的擬議用途

R/F of the new RCHE building: Roof greening, E&M,

5/F of the new RCHE building: Balconies of dormitories, Flat roof of lower storeys

Outdoor area on ground level of the Site: Landscape area, local open space, circulations, car parking spaces

.....

.....

7. Anticipated Completion Time of the Development Proposal 擬議發展計劃的預計完成時間

Anticipated completion time (in month and year) of the development proposal (by phase (if any)) (e.g. June 2023)
擬議發展計劃預期完成的年份及月份 (分期 (倘有)) (例：2023 年 6 月)
(Separate anticipated completion times (in month and year) should be provided for the proposed public open space and Government, institution or community facilities (if any))
(申請人須就擬議的公眾休憩用地及政府、機構或社區設施 (倘有) 提供個別擬議完成的年份及月份)

October 2025 (tentatively)

8. Vehicular Access Arrangement of the Development Proposal 擬議發展計劃的行車通道安排

Any vehicular access to the site/subject building? 是否有車路通往地盤／有關建築物？	Yes 是	☑ There is an existing access. (please indicate the street name, where appropriate) 有一條現有車路。(請註明車路名稱(如適用)) ..... ☐ There is a proposed access. (please illustrate on plan and specify the width) 有一條擬議車路。（請在圖則顯示，並註明車路的闊度）
	No 否	☐
Any provision of parking space for the proposed use(s)? 是否有為擬議用途提供停車位？	Yes 是	☑ (Please specify type(s) and number(s) and illustrate on plan) 請註明種類及數目並於圖則上顯示) Private Car Parking Spaces 私家車車位 2 Motorcycle Parking Spaces 電單車車位 _____ Light Goods Vehicle Parking Spaces 輕型貨車泊車位 _____ Medium Goods Vehicle Parking Spaces 中型貨車泊車位 _____ Heavy Goods Vehicle Parking Spaces 重型貨車泊車位 _____ Others (Please Specify) 其他 (請列明) _____ _____ _____ _____ _____
	No 否	☐
Any provision of loading/unloading space for the proposed use(s)? 是否有為擬議用途提供上落客貨車位？	Yes 是	☑ (Please specify type(s) and number(s) and illustrate on plan) 請註明種類及數目並於圖則上顯示) Taxi Spaces 的士車位 _____ Coach Spaces 旅遊巴車位 _____ Light Goods Vehicle Spaces 輕型貨車車位 2(Light Bus) Medium Goods Vehicle Spaces 中型貨車車位 _____ Heavy Goods Vehicle Spaces 重型貨車車位 _____ Others (Please Specify) 其他 (請列明) _____ _____ _____ _____ _____
	No 否	☐

9. Impacts of Development Proposal 擬議發展計劃的影響

If necessary, please use separate sheets to indicate the proposed measures to minimise possible adverse impacts or give justifications/reasons for not providing such measures.
如需要的話，請另頁註明可盡量減少可能出現不良影響的措施，否則請提供理據/理由。

Does the development proposal involve alteration of existing building? 擬議發展計劃是否包括現有建築物的改動?	Yes 是	☐ Please provide details 請提供詳情 To retain Siu Lo as house For details, please refer to the Supplementary Planning Statement
	No 否	☑
Does the development proposal involve the operation on the right? 擬議發展是否涉及右列的工程? (Note: where Type (ii) application is the subject of application, please skip this section. 註：如申請涉及第(ii)類申請，請跳至下一條問題。)	Yes 是	☐ (Please indicate on site plan the boundary of concerned land/pond(s), and particulars of stream diversion, the extent of filling of land/pond(s) and/or excavation of land) (請用地盤平面圖顯示有關土地／池塘界線，以及河道改道、填塘、填土及／或挖土的細節及/或範圍) ☐ Diversion of stream 河道改道 ☐ Filling of pond 填塘 Area of filling 填塘面積 ..... sq.m 平方米 ☐About 約 Depth of filling 填塘深度 ..... m 米 ☐About 約 ☐ Filling of land 填土 Area of filling 填土面積 ..... sq.m 平方米 ☐About 約 Depth of filling 填土厚度 ..... m 米 ☐About 約 ☐ Excavation of land 挖土 Area of excavation 挖土面積..... sq.m 平方米 ☐About 約 Depth of excavation 挖土深度 .....m 米 ☐About 約
	No 否	☑

Would the development proposal cause any adverse impacts? 擬議發展計劃會否造成不良影響？		
On environment 對環境	Yes 會 ☐	No 不會 ☑
On traffic 對交通	Yes 會 ☐	No 不會 ☑
On water supply 對供水	Yes 會 ☐	No 不會 ☑
On drainage 對排水	Yes 會 ☐	No 不會 ☑
On slopes 對斜坡	Yes 會 ☐	No 不會 ☑
Affected by slopes 受斜坡影響	Yes 會 ☐	No 不會 ☑
Landscape Impact 構成景觀影響	Yes 會 ☐	No 不會 ☑
Tree Felling 砍伐樹木	Yes 會 ☐	No 不會 ☑
Visual Impact 構成視覺影響	Yes 會 ☐	No 不會 ☑
Others (Please Specify) 其他 (請列明)	Yes 會 ☐	No 不會 ☑
Heritage		
Risk		

Please state measure(s) to minimise the impact(s). For tree felling, please state the number, diameter at breast height and species of the affected trees (if possible)
請註明盡量減少影響的措施。如涉及砍伐樹木，請說明受影響樹木的數目、及胸高度的樹幹直徑及品種(倘可)

For details, please refer to the Supplementary Planning Statement

10. Justifications 理由

The applicant is invited to provide justifications in support of the application. Use separate sheets if necessary.
現請申請人提供申請理由及支持其申請的資料。如有需要，請另頁說明。

Please refer to the Supplementary Planning Statement

11. Declaration 聲明

I hereby declare that the particulars given in this application are correct and true to the best of my knowledge and belief.
本人謹此聲明，本人就這宗申請提交的資料，據本人所知及所信，均屬真實無誤。

I hereby grant a permission to the Board to copy all the materials submitted in an application to the Board and/or to upload such materials to the Board's website for browsing and downloading by the public free-of-charge at the Board's discretion.
本人現准許委員會酌情將本人就此申請所提交的所有資料複製及/或上載至委員會網站，供公眾免費瀏覽或下載。

Signature 簽署 ..... ☐ Applicant 申請人 / ☑ Authorised Agent 獲授權代理人

LAM KWOK CHUN
Name in Block Letters 姓名（請以正楷填寫）

Director
Position (if applicable) 職位 （如適用）

Professional Qualification(s) 專業資格
☑ Member 會員 / ☐ Fellow of 資深會員
☑ HKIP 香港規劃師學會 / ☐ HKIA 香港建築師學會 /
☐ HKIS 香港測量師學會 / ☐ HKIE 香港工程師學會 /
☑ HKILA 香港園境師學會/ ☐ HKIUD 香港城市設計學會
☑ RPP 註冊專業規劃師 (Membership no. 267)
Others 其他 .....

on behalf of 代表 DeSPACE (International) Limited

☑ Company 公司 / ☐ Organisation Name and Chop (if applicable) 機構名稱及蓋章（如適用）

Date 日期 24/3/2023 (DD/MM/YYYY 日/月/年)

Remark 備註

The materials submitted in an application to the Board and the Board's decision on the application would be disclosed to the public. Such materials would also be uploaded to the Board's website for browsing and free downloading by the public where the Board considers appropriate.
委員會會向公眾披露申請人所遞交的申請資料和委員會對申請所作的決定。在委員會認為合適的情況下，有關申請資料亦會上載至委員會網頁供公眾免費瀏覽及下載。

Warning 警告

Any person who knowingly or wilfully makes any statement or furnish any information in connection with this application, which is false in any material particular, shall be liable to an offence under the Crimes Ordinance.
任何人在明知或故意的情況下，就這宗申請提出在任何要項上是虛假的陳述或資料，即屬違反《刑事罪行條例》。

Statement on Personal Data 個人資料的聲明

1. The personal data submitted to the Board in this application will be used by the Secretary of the Board and Government departments for the following purposes:
委員會就這宗申請所收到的個人資料會交給委員會秘書及政府部門，以根據《城市規劃條例》及相關的城市規劃委員會規劃指引的規定作以下用途：
   (a) the processing of this application which includes making available the name of the applicant for public inspection when making available this application for public inspection; and
   處理這宗申請，包括公布這宗申請供公眾查閱，同時公布申請人的姓名供公眾查閱；以及
   (b) facilitating communication between the applicant and the Secretary of the Board/Government departments.
   方便申請人與委員會秘書及政府部門之間進行聯絡。

2. The personal data provided by the applicant in this application may also be disclosed to other persons for the purposes mentioned in paragraph 1 above.
申請人就這宗申請提供的個人資料，或亦會向其他人士披露，以作上述第 1 段提及的用途。

3. An applicant has a right of access and correction with respect to his/her personal data as provided under the Personal Data (Privacy) Ordinance (Cap. 486). Request for personal data access and correction should be addressed to the Secretary of the Board at 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong.
根據《個人資料(私隱)條例》(第 486 章)的規定，申請人有權查閱及更正其個人資料。如欲查閱及更正個人資料，應向委員會秘書提出有關要求，其地址為香港北角渣華道 333 號北角政府合署 15 樓。

構 建 (國 際) 有 限 公 司

DeSPACE (International) Limited

Date: 30th August 2023

Pages: 1 + Report
BY HAND and EMAIL
(tpbpd@pland.gov.hk)

Secretary, Town Planning Board
15/F, North Point Government Offices
333 Java Road, North Point, Hong Kong

Dear Sir/Madam,

SECTION 16 APPLICATION
TOWN PLANNING ORDINANCE (CHAPTER 131)

Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lots 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D.120 and Adjoining Government Land, Tai Kei Leng, Yuen Long, New Territories
S16 Application No.: A/YL/302 - Submission of Further Information (8)
Consolidation of Submission

We refer to the captioned application.

We submit herewith a soft copy and hard copies of the **Final Consolidated Report** and the **Revised Application Form** of the captioned Town Planning Application.

Should you have any queries, please feel free to contact Mr. Endy Cheng/Mario Li at 2493 3626 or the undersigned at 3590 6333.

Yours faithfully,
FOR AND ON BEHALF OF
DeSPACE (INTERNATIONAL) LIMITED

DeSPACE (International) Limited 構建(國際)有限公司

Greg Lam

RECEIVED
3 1 AUG 2023
Town Planning Board

c.c.: Ms. KAN Ka Lo, Carol (STP/SD), Email: klkan@pland.gov.hk
Mr. CHAN Distinction, Ajyum (TP/SD), Email: adchan@pland.gov.hk

Form No. S16-I
表格第 S16-I 號

APPLICATION FOR PERMISSION UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE (CAP.131)

根據《城市規劃條例》(第131章)第16條遞交的許可申請

Applicable to proposals not involving or not only involving:
適用於建議不涉及或不祇涉及:

(i) Construction of "New Territories Exempted House(s)";
興建「新界豁免管制屋宇」;

(ii) Temporary use/development of land and/or building not exceeding 3 years in rural areas; and
位於鄉郊地區土地上及/或建築物內進行為期不超過三年的臨時用途/發展;及

(iii) Renewal of permission for temporary use or development in rural areas
位於鄉郊地區的臨時用途或發展的許可續期

Applicant who would like to publish the notice of application in local newspapers to meet one of the Town Planning Board's requirements of taking reasonable steps to obtain consent of or give notification to the current land owner, please refer to the following link regarding publishing the notice in the designated newspapers: https://www.info.gov.hk/tpb/en/plan_application/apply.html

申請人如欲在本地報章刊登申請通知,以採取城市規劃委員會就取得現行土地擁有人的同意或通知現行土地擁有人所指定的其中一項合理步驟,請瀏覽以下網址有關在指定的報章刊登通知:
https://www.info.gov.hk/tpb/tc/plan_application/apply.html

General Note and Annotation for the Form
填寫表格的一般指引及註解

"Current land owner" means any person whose name is registered in the Land Registry as that of an owner of the land to which the application relates, as at 6 weeks before the application is made
「現行土地擁有人」指在提出申請前六星期,其姓名或名稱已在土地註冊處註冊為該申請所關乎的土地的擁有人的人

& Please attach documentary proof 請夾附證明文件

^ Please insert number where appropriate 請在適當地方註明編號

Please fill "NA" for inapplicable item 請在不適用的項目填寫「不適用」

Please use separate sheets if the space provided is insufficient 如所提供的空間不足,請另頁說明

Please insert a「✔」at the appropriate box 請在適當的方格內上加上「✔」號

For Official Use Only 請勿填寫此欄	Application No. 申請編號	
	Date Received 收到日期	

1. The completed form and supporting documents (if any) should be sent to the Secretary, Town Planning Board (the Board), 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong.
申請人須把填妥的申請表格及其他支持申請的文件 (倘有)，送交香港北角渣華道 333 號北角政府合署 15 樓城市規劃委員會(下稱「委員會」)秘書收。

2. Please read the "Guidance Notes" carefully before you fill in this form. The document can be downloaded from the Board's website at http://www.info.gov.hk/tpb/. It can also be obtained from the Secretariat of the Board at 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong (Tel: 2231 4810 or 2231 4835), and the Planning Enquiry Counters of the Planning Department (Hotline: 2231 5000) (17/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong and 14/F, Sha Tin Government Offices, 1 Sheung Wo Che Road, Sha Tin, New Territories).
請先細閱《申請須知》的資料單張，然後填寫此表格。該份文件可從委員會的網頁下載 (網址：http://www.info.gov.hk/tpb/)，亦可向委員會秘書處 (香港北角渣華道 333 號北角政府合署 15 樓 – 電話：2231 4810 或 2231 4835)及規劃署的規劃資料查詢處(熱線：2231 5000) (香港北角渣華道 333 號北角政府合署 17 樓及新界沙田上禾輋路 1 號沙田政府合署 14 樓)索取。

3. This form can be downloaded from the Board's website, and obtained from the Secretariat of the Board and the Planning Enquiry Counters of the Planning Department. The form should be typed or completed in block letters. The processing of the application may be refused if the required information or the required copies are incomplete.
此表格可從委員會的網頁下載，亦可向委員會秘書處及規劃署的規劃資料查詢處索取。申請人須以打印方式或以正楷填寫表格。如果申請人所提交的資料或文件副本不齊全，委員會可拒絕處理有關申請。

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1. Name of Applicant 申請人姓名/名稱

(☐ Mr. 先生 / ☐ Mrs. 夫人 / ☐ Miss 小姐 / ☐ Ms. 女士 / ☑ Company 公司 / ☐ Organisation 機構)

Si Mau Limited

2. Name of Authorised Agent (if applicable) 獲授權代理人姓名/名稱（如適用）

(☐ Mr. 先生 / ☐ Mrs. 夫人 / ☐ Miss 小姐 / ☐ Ms. 女士 / ☑ Company 公司 / ☐ Organisation 機構)

DeSPACE (International) Limited

3. Application Site 申請地點

(a) Full address / location / demarcation district and lot number (if applicable) 詳細地址／地點／丈量約份及地段號碼（如適用）	Lots 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long, New Territories
(b) Site area and/or gross floor area involved 涉及的地盤面積及／或總樓面面積	☑ Site area 地盤面積 1,877.1 sq.m 平方米 ☑ About 約 ☑ Gross floor area 總樓面面積 6,956 sq.m 平方米 ☑ About 約
(c) Area of Government land included (if any) 所包括的政府土地面積（倘有）	144.8 sq.m 平方米 ☑ About 約

(d) Name and number of the related statutory plan(s) 有關法定圖則的名稱及編號	Draft Yuen Long Outline Zoning Plan No. S/YL/26
(e) Land use zone(s) involved 涉及的土地用途地帶	Government, Institution or Community(1)
(f) Current use(s) 現時用途	Temporary open public car park and a vacant house (If there are any Government, institution or community facilities, please illustrate on plan and specify the use and gross floor area) (如有任何政府、機構或社區設施，請在圖則上顯示，並註明用途及總樓面面積)

4. "Current Land Owner" of Application Site 申請地點的「現行土地擁有人」

The applicant 申請人 –

☑ is the sole "current land owner"#& (please proceed to Part 6 and attach documentary proof of ownership).
是唯一的「現行土地擁有人」#& (請繼續填寫第 6 部分，並夾附業權證明文件)。

☐ is one of the "current land owners"#& (please attach documentary proof of ownership).
是其中一名「現行土地擁有人」#& (請夾附業權證明文件)。

☐ is not a "current land owner"#.
並不是「現行土地擁有人」#。

☐ The application site is entirely on Government land (please proceed to Part 6).
申請地點完全位於政府土地上（請繼續填寫第 6 部分）。

5. Statement on Owner's Consent/Notification
就土地擁有人的同意/通知土地擁有人的陳述

(a) According to the record(s) of the Land Registry as at …… (DD/MM/YYYY), this application involves a total of ……. "current land owner(s) "#.
根據土地註冊處截至 …… 年 …… 月 …… 日的記錄，這宗申請共牽涉 …… 名「現行土地擁有人」#。

(b) The applicant 申請人 –

☐ has obtained consent(s) of …… "current land owner(s)"#.
已取得 …… 名「現行土地擁有人」#的同意。

Details of consent of "current land owner(s)"# obtained 取得「現行土地擁有人」#同意的詳情		
No. of 'Current Land Owner(s)' 「現行土地擁有人」數目	Lot number/address of premises as shown in the record of the Land Registry where consent(s) has/have been obtained 根據土地註冊處記錄已獲得同意的地段號碼／處所地址	Date of consent obtained (DD/MM/YYYY) 取得同意的日期 (日/月/年)

(Please use separate sheets if the space of any box above is insufficient. 如上列任何方格的空間不足，請另頁說明）

☐ has notified …… "current land owner(s)"#
已通知 …… 名「現行土地擁有人」#。

Details of the "current land owner(s)" # notified 已獲通知「現行土地擁有人」#的詳細資料		
No. of 'Current Land Owner(s)' 「現行土地擁有人」數目	Lot number/address of premises as shown in the record of the Land Registry where notification(s) has/have been given 根據土地註冊處記錄已發出通知的地段號碼／處所地址	Date of notification given (DD/MM/YYYY) 通知日期(日/月/年)

(Please use separate sheets if the space of any box above is insufficient. 如上列任何方格的空間不足，請另頁說明）

☐ has taken reasonable steps to obtain consent of or give notification to owner(s):
已採取合理步驟以取得土地擁有人的同意或向該人發給通知。詳情如下：

Reasonable Steps to Obtain Consent of Owner(s) 取得土地擁有人的同意所採取的合理步驟

☐ sent request for consent to the "current land owner(s)" on _____ (DD/MM/YYYY)#&
於_____(日/月/年)向每一名「現行土地擁有人」#郵遞要求同意書&

Reasonable Steps to Give Notification to Owner(s) 向土地擁有人發出通知所採取的合理步驟

☐ published notices in local newspapers on _____ (DD/MM/YYYY)&
於_____(日/月/年)在指定報章就申請刊登一次通知&

☐ posted notice in a prominent position on or near application site/premises on _____ (DD/MM/YYYY)&
於_____(日/月/年)在申請地點／申請處所或附近的顯明位置貼出關於該申請的通知&

☐ sent notice to relevant owners' corporation(s)/owners' committee(s)/mutual aid committee(s)/management office(s) or rural committee on _____ (DD/MM/YYYY)&
於_____ (日/月/年)把通知寄往相關的業主立案法團/業主委員會/互助委員會或管理處，或有關的鄉事委員會&

Others 其他

☐ others (please specify)
其他（請指明）

_____

_____

_____

_____

Note: May insert more than one「✔」.
Information should be provided on the basis of each and every lot (if applicable) and premises (if any) in respect of the application.
註: 可在多於一個方格內加上「✔」號
申請人須就申請涉及的每一地段（倘適用）及處所（倘有）分別提供資料

6. Type(s) of Application 申請類別

☐ Type (i) Change of use within existing building or part thereof
第(i)類 更改現有建築物或其部分內的用途

☐ Type (ii) Diversion of stream / excavation of land / filling of land / filling of pond as required under Notes of Statutory Plan(s)
第(ii)類 根據法定圖則《註釋》內所要求的河道改道／挖土／填土／填塘工程

☐ Type (iii) Public utility installation / Utility installation for private project
第(iii)類 公用事業設施裝置/私人發展計劃的公用設施裝置

☑ Type (iv) Minor relaxation of stated development restriction(s) as provided under Notes of Statutory Plan(s)
第(iv)類 略為放寬於法定圖則《註釋》內列明的發展限制

☑ Type (v) Use / development other than (i) to (iii) above
第(v)類 上述的(i)至(iii)項以外的用途／發展

Note 1: May insert more than one「✓」.
註 1： 可在多於一個方格內加上「✓」號
Note 2: For Development involving columbarium use, please complete the table in the Appendix.
註 2： 如發展涉及靈灰安置所用途，請填妥於附件的表格。

(i) For Type (i) application 供第(i)類申請

(a) Total floor area involved 涉及的總樓面面積	sq.m 平方米		
(b) Proposed use(s)/development 擬議用途/發展	(If there are any Government, institution or community facilities, please illustrate on plan and specify the use and gross floor area) (如有任何政府、機構或社區設施，請在圖則上顯示，並註明用途及總樓面面積)		
(c) Number of storeys involved 涉及層數		Number of units involved 涉及單位數目	
(d) Proposed floor area 擬議樓面面積	Domestic part 住用部分 …… sq.m 平方米 ☐About 約		
	Non-domestic part 非住用部分…… sq.m 平方米 ☐About 約		
	Total 總計 …… sq.m 平方米 ☐About 約		

(e) Proposed uses of different floors (if applicable) 不同樓層的擬議用途(如適用)
(Please use separate sheets if the space provided is insufficient)
(如所提供的空間不足，請另頁說明)

Floor(s) 樓層	Current use(s) 現時用途	Proposed use(s) 擬議用途

(ii) For Type (ii) application 供第(ii)類申請

(a) Operation involved 涉及工程	☐ Diversion of stream 河道改道 ☐ Filling of pond 填塘 Area of filling 填塘面積 …… sq.m 平方米 ☐About 約 Depth of filling 填塘深度 …… m 米 ☐About 約 ☐ Filling of land 填土 Area of filling 填土面積 …… sq.m 平方米 ☐About 約 Depth of filling 填土厚度 …… m 米 ☐About 約 ☐ Excavation of land 挖土 Area of excavation 挖土面積 …… sq.m 平方米 ☐About 約 Depth of excavation 挖土深度 …… m 米 ☐About 約 (Please indicate on site plan the boundary of concerned land/pond(s), and particulars of stream diversion, the extent of filling of land/pond(s) and/or excavation of land) (請用圖則顯示有關土地／池塘界線，以及河道改道、填塘、填土及／或挖土的細節及/或範圍))
(b) Intended use/development 有意進行的用途／發展	

(iii) For Type (iii) application 供第(iii)類申請

(a) Nature and scale
性質及規模

☐ Public utility installation 公用事業設施裝置

☐ Utility installation for private project 私人發展計劃的公用設施裝置

Please specify the type and number of utility to be provided as well as the dimensions of each building/structure, where appropriate
請註明有關裝置的性質及數量，包括每座建築物/構築物(倘有)的長度、高度和闊度

Name/type of installation 裝置名稱／種類	Number of provision 數量	Dimension of each installation /building/structure (m) (LxWxH) 每個裝置／建築物／構築物的尺寸 (米) (長 x 闊 x 高)

(Please illustrate on plan the layout of the installation 請用圖則顯示裝置的布局)

(iv) For Type (iv) application 供第(iv)類申請

(a) Please specify the proposed minor relaxation of stated development restriction(s) and **also fill in the proposed use/development and development particulars in part (v) below** –
請列明擬議略為放寬的發展限制**並填妥於第(v)部分的擬議用途/發展及發展細節** –

☐	Plot ratio restriction 地積比率限制	From 由 …… to 至 ……
☐	Gross floor area restriction 總樓面面積限制	From 由 ……sq. m 平方米 to 至 ……sq. m 平方米
☐	Site coverage restriction 上蓋面積限制	From 由 ……% to 至 …… %
☑	Building height restriction 建築物高度限制	From 由 ……m 米 to 至 …… m 米 From 由 …… mPD 米 (主水平基準上) to 至 ……mPD 米 (主水平基準上) From 由 3 …… storeys 層 to 至 6 …… storeys 層
☐	Non-building area restriction 非建築用地限制	From 由 ……m to 至 …… m
☐	Others (please specify) 其他（請註明）	…… ……

(v) For Type (v) application 供第(v)類申請

(a) Proposed use(s)/development 擬議用途/發展	Social Welfare Facility (Residential Care Home for the Elderly) House for Siu Lo (Please illustrate the details of the proposal on a layout plan 請用平面圖說明建議詳情)

(b) Development Schedule 發展細節表

Proposed gross floor area (GFA) 擬議總樓面面積	6,956 …… sq.m 平方米	☑About 約
Proposed plot ratio 擬議地積比率	About 3.71 ……	☑About 約
Proposed site coverage 擬議上蓋面積	Not more than 65 … %	☑About 約
Proposed no. of blocks 擬議座數	New building 1 …… Existing building 1 ……	
Proposed no. of storeys of each block 每座建築物的擬議層數	New building 6 …… Existing building 2 …… storeys 層 ☐ include 包括…… storeys of basements 層地庫 ☐ exclude 不包括…… storeys of basements 層地庫	
Proposed building height of each block 每座建築物的擬議高度	Not more than 31.65 …… mPD 米(主水平基準上) 25.9 (Note 1) …… m 米	☐About 約 ☑About 約

Note 1 Based on the mean street level at 5.75 mPD.

☑ Domestic part 住用部分

GFA 總樓面面積 356 ..... sq. m 平方米 ☑About 約

number of Units 單位數目 The House as one single unit .....

average unit size 單位平均面積 NA .....sq. m 平方米 ☐About 約

estimated number of residents 估計住客數目 4-8 .....

☑ Non-domestic part 非住用部分 GFA 總樓面面積

☐ eating place 食肆 ..... sq. m 平方米 ☐About 約

☐ hotel 酒店 ..... sq. m 平方米 ☐About 約

(please specify the number of rooms 請註明房間數目) .....

☐ office 辦公室 ..... sq. m 平方米 ☐About 約

☐ shop and services 商店及服務行業 ..... sq. m 平方米 ☐About 約

☐ Government, institution or community facilities 政府、機構或社區設施 (please specify the use(s) and concerned land area(s)/GFA(s) 請註明用途及有關的地面面積／總樓面面積)

.....

.....

.....

☑ other(s) 其他 (please specify the use(s) and concerned land area(s)/GFA(s) 請註明用途及有關的地面面積／總樓面面積)

RCHE with GFA of not more than 6,600 sqm .....

.....

.....

☑ Open space 休憩用地 (please specify land area(s) 請註明地面面積)

☑ private open space 私人休憩用地 About 270 ..... sq. m 平方米 ☐ Not less than 不少於

☐ public open space 公眾休憩用地 ..... sq. m 平方米 ☐ Not less than 不少於

(c) Use(s) of different floors (if applicable) 各樓層的用途 (如適用)

[Block number] [座數]	[Floor(s)] [層數]	[Proposed use(s)] [擬議用途]
New RCHE Building	5/F	Dormitory, Dining/Multi purpose Area, Small Group Activity Room, Nursing Station, Accessible Toilet, Stores, E&M, Isolation/ Sick room, Pantry
	1 4/F	Dormitory, Dining/Multi purpose Area, Rehabilitation Area/ Management Office, Nursing Station, Accessible Toilets, Stores, E&M, Isolation/ Sick room, Pantry
	G/F	Kitchen, Laundry Room, Tx Room, Reception, Lobby, Lav., Dining/ Multi purpose Room, loading/unloading area, E&M,
Siu Lo	1/F	House
	G/F	House (Remarks: The original use of Siu Lo as "House" will be resumed, except 3 rooms on G/F to be opened for regular public visits according to CMP to the satisfaction of AMO or of TPB.)

(d) Proposed use(s) of uncovered area (if any) 露天地方（倘有）的擬議用途

R/F of the new RCHE building Roof greening, E&M, ...

5/F of the new RCHE building Balconies of dormitories, Flat roof of lower storeys .....

Outdoor area on ground level of the Site Landscape area, local open space, circulations, car parking spaces .....

.....

.....

7. Anticipated Completion Time of the Development Proposal
擬議發展計劃的預計完成時間

Anticipated completion time (in month and year) of the development proposal (by phase (if any)) (e.g. June 2023)
擬議發展計劃預期完成的年份及月份 (分期 (倘有)) (例：2023 年 6 月)
(Separate anticipated completion times (in month and year) should be provided for the proposed public open space and Government, institution or community facilities (if any))
(申請人須就擬議的公眾休憩用地及政府、機構或社區設施 (倘有) 提供個別擬議完成的年份及月份)

October 2025 (tentatively)

……

……

……

……

……

8. Vehicular Access Arrangement of the Development Proposal
擬議發展計劃的行車通道安排

Any vehicular access to the site/subject building? 是否有車路通往地盤／有關建築物？	Yes 是	☑ There is an existing access. (please indicate the street name, where appropriate) 有一條現有車路。(請註明車路名稱(如適用)) ..... ☐ There is a proposed access. (please illustrate on plan and specify the width) 有一條擬議車路。（請在圖則顯示，並註明車路的闊度）
	No 否	☐
Any provision of parking space for the proposed use(s)? 是否有為擬議用途提供停車位？	Yes 是	☑ (Please specify type(s) and number(s) and illustrate on plan) 請註明種類及數目並於圖則上顯示) Private Car Parking Spaces 私家車車位 2 Motorcycle Parking Spaces 電單車車位 _____ Light Goods Vehicle Parking Spaces 輕型貨車泊車位 _____ Medium Goods Vehicle Parking Spaces 中型貨車泊車位 _____ Heavy Goods Vehicle Parking Spaces 重型貨車泊車位 _____ Others (Please Specify) 其他 (請列明) _____ _____ _____ _____ _____
	No 否	☐
Any provision of loading/unloading space for the proposed use(s)? 是否有為擬議用途提供上落客貨車位？	Yes 是	☑ (Please specify type(s) and number(s) and illustrate on plan) 請註明種類及數目並於圖則上顯示) Taxi Spaces 的士車位 _____ Coach Spaces 旅遊巴車位 _____ Light Goods Vehicle Spaces 輕型貨車車位 2(Light Bus) Medium Goods Vehicle Spaces 中型貨車車位 _____ Heavy Goods Vehicle Spaces 重型貨車車位 _____ Others (Please Specify) 其他 (請列明) _____ _____ _____ _____ _____
	No 否	☐

9. Impacts of Development Proposal 擬議發展計劃的影響

If necessary, please use separate sheets to indicate the proposed measures to minimise possible adverse impacts or give justifications/reasons for not providing such measures.
如需要的話，請另頁註明可盡量減少可能出現不良影響的措施，否則請提供理據/理由。

Does the development proposal involve alteration of existing building? 擬議發展計劃是否包括現有建築物的改動?	Yes 是	☐ Please provide details 請提供詳情 To retain Siu Lo as house For details, please refer to the Supplementary Planning Statement
	No 否	☑
Does the development proposal involve the operation on the right? 擬議發展是否涉及右列的工程? (Note: where Type (ii) application is the subject of application, please skip this section. 註：如申請涉及第(ii)類申請，請跳至下一條問題。)	Yes 是	☐ (Please indicate on site plan the boundary of concerned land/pond(s), and particulars of stream diversion, the extent of filling of land/pond(s) and/or excavation of land) (請用地盤平面圖顯示有關土地／池塘界線，以及河道改道、填塘、填土及／或挖土的細節及/或範圍) ☐ Diversion of stream 河道改道 ☐ Filling of pond 填塘 Area of filling 填塘面積 …… sq.m 平方米 ☐About 約 Depth of filling 填塘深度 …… m 米 ☐About 約 ☐ Filling of land 填土 Area of filling 填土面積 …… sq.m 平方米 ☐About 約 Depth of filling 填土厚度 …… m 米 ☐About 約 ☐ Excavation of land 挖土 Area of excavation 挖土面積…… sq.m 平方米 ☐About 約 Depth of excavation 挖土深度 ……m 米 ☐About 約
	No 否	☑

Would the development proposal cause any adverse impacts?
擬議發展計劃會否造成不良影響？

On environment 對環境	Yes 會 ☐	No 不會 ☑
On traffic 對交通	Yes 會 ☐	No 不會 ☑
On water supply 對供水	Yes 會 ☐	No 不會 ☑
On drainage 對排水	Yes 會 ☐	No 不會 ☑
On slopes 對斜坡	Yes 會 ☐	No 不會 ☑
Affected by slopes 受斜坡影響	Yes 會 ☐	No 不會 ☑
Landscape Impact 構成景觀影響	Yes 會 ☐	No 不會 ☑
Tree Felling 砍伐樹木	Yes 會 ☐	No 不會 ☑
Visual Impact 構成視覺影響	Yes 會 ☐	No 不會 ☑
Others (Please Specify) 其他 (請列明) Heritage Risk	Yes 會 ☐	No 不會 ☑

Please state measure(s) to minimise the impact(s). For tree felling, please state the number, diameter at breast height and species of the affected trees (if possible)
請註明盡量減少影響的措施。如涉及砍伐樹木，請說明受影響樹木的數目、及胸高度的樹幹直徑及品種(倘可)

For details, please refer to the Supplementary Planning Statement

10. Justifications 理由

The applicant is invited to provide justifications in support of the application. Use separate sheets if necessary.
現請申請人提供申請理由及支持其申請的資料。如有需要，請另頁說明。

Please refer to the Supplementary Planning Statement

11. Declaration 聲明

I hereby declare that the particulars given in this application are correct and true to the best of my knowledge and belief.
本人謹此聲明，本人就這宗申請提交的資料，據本人所知及所信，均屬真實無誤。

I hereby grant a permission to the Board to copy all the materials submitted in an application to the Board and/or to upload such materials to the Board's website for browsing and downloading by the public free-of-charge at the Board's discretion.
本人現准許委員會酌情將本人就此申請所提交的所有資料複製及/或上載至委員會網站，供公眾免費瀏覽或下載。

Signature 簽署 ..... ☐ Applicant 申請人 / ☑ Authorised Agent 獲授權代理人

LAM KWOK CHUN
Name in Block Letters 姓名（請以正楷填寫）

Director
Position (if applicable) 職位 （如適用）

Professional Qualification(s) 專業資格
☑ Member 會員 / ☐ Fellow of 資深會員
☑ HKIP 香港規劃師學會 / ☐ HKIA 香港建築師學會 /
☐ HKIS 香港測量師學會 / ☐ HKIE 香港工程師學會 /
☐ HKILA 香港園境師學會/ ☐ HKIUD 香港城市設計學會 /
☑ RPP 註冊專業規劃師 (Membership no. 267)
Others 其他 .....

on behalf of 代表 DeSPACE (International) Limited

☑ Company 公司 / ☐ Organisation Name and Chop (if applicable) 機構名稱及蓋章（如適用）

Date 日期 28/3/2023 (DD/MM/YYYY 日/月/年)

Remark 備註

The materials submitted in an application to the Board and the Board's decision on the application would be disclosed to the public. Such materials would also be uploaded to the Board's website for browsing and free downloading by the public where the Board considers appropriate.
委員會會向公眾披露申請人所遞交的申請資料和委員會對申請所作的決定。在委員會認為合適的情況下，有關申請資料亦會上載至委員會網頁供公眾免費瀏覽及下載。

Warning 警告

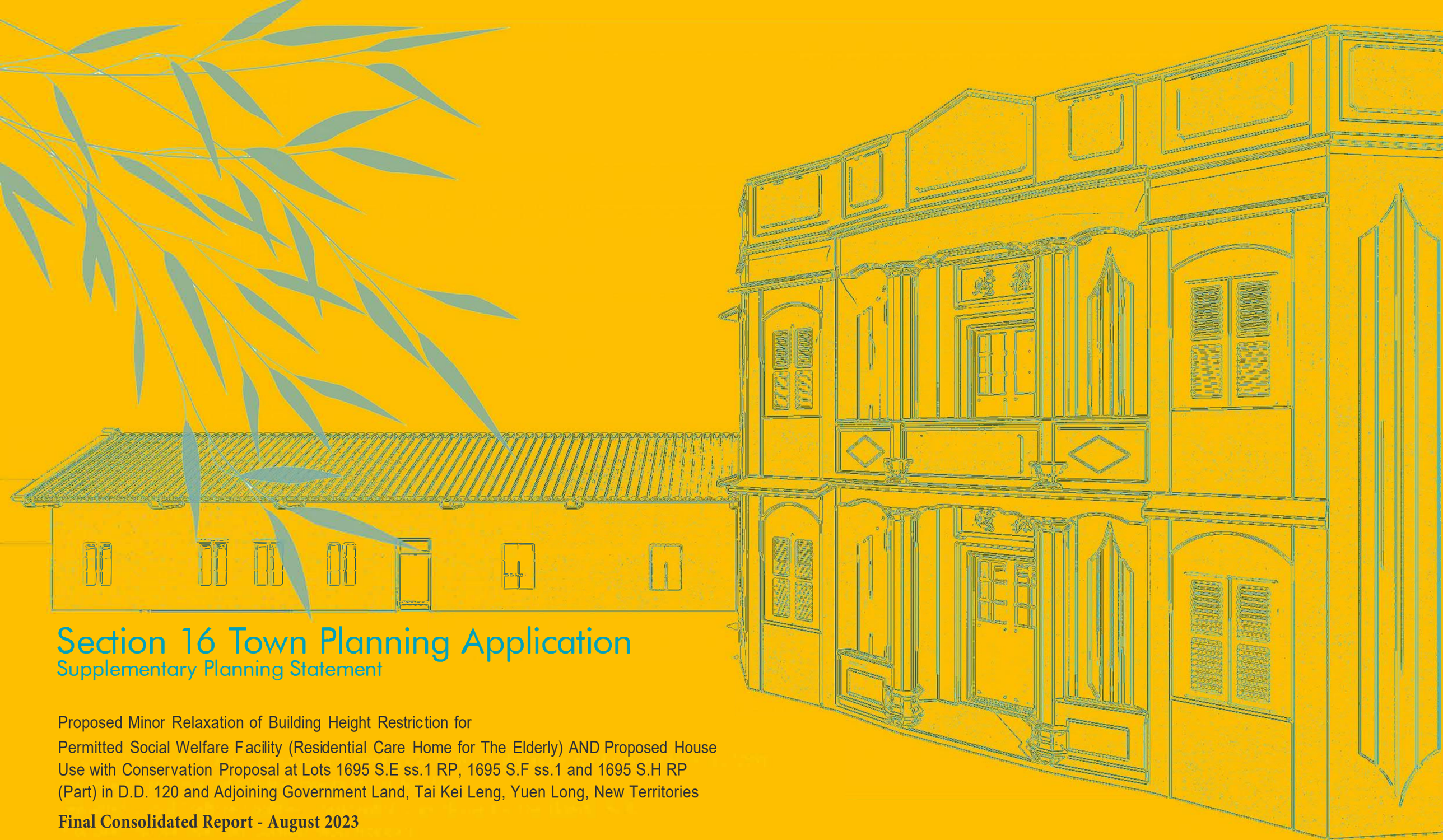
Any person who knowingly or wilfully makes any statement or furnish any information in connection with this application, which is false in any material particular, shall be liable to an offence under the Crimes Ordinance.
任何人在明知或故意的情況下，就這宗申請提出在任何要項上是虛假的陳述或資料，即屬違反《刑事罪行條例》。

Statement on Personal Data 個人資料的聲明

1. The personal data submitted to the Board in this application will be used by the Secretary of the Board and Government departments for the following purposes:
委員會就這宗申請所收到的個人資料會交給委員會秘書及政府部門，以根據《城市規劃條例》及相關的城市規劃委員會規劃指引的規定作以下用途：
   (a) the processing of this application which includes making available the name of the applicant for public inspection when making available this application for public inspection; and
   處理這宗申請，包括公布這宗申請供公眾查閱，同時公布申請人的姓名供公眾查閱；以及
   (b) facilitating communication between the applicant and the Secretary of the Board/Government departments.
   方便申請人與委員會秘書及政府部門之間進行聯絡。

2. The personal data provided by the applicant in this application may also be disclosed to other persons for the purposes mentioned in paragraph 1 above.
申請人就這宗申請提供的個人資料，或亦會向其他人士披露，以作上述第 1 段提及的用途。

3. An applicant has a right of access and correction with respect to his/her personal data as provided under the Personal Data (Privacy) Ordinance (Cap. 486). Request for personal data access and correction should be addressed to the Secretary of the Board at 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong.
根據《個人資料(私隱)條例》(第 486 章)的規定，申請人有權查閱及更正其個人資料。如欲查閱及更正個人資料，應向委員會秘書提出有關要求，其地址為香港北角渣華道 333 號北角政府合署 15 樓。



Section 16 Town Planning Application
Supplementary Planning Statement

Proposed Minor Relaxation of Building Height Restriction for
Permitted Social Welfare Facility (Residential Care Home for The Elderly) AND Proposed House Use with Conservation Proposal at Lots 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long, New Territories

Final Consolidated Report - August 2023

DeSPACE (International) Limited — Planning Consultant

REVIVAL Heritage Consultants Limited — Heritage & Conservation Consultant

BXG — Environmentalist, Quantitative Risk Assessor, Drainage & Sewage Consultant

MINOR 細 CREATIVE 合室 — Architect

STV S.T. WONG & PARTNERS LIMITED — STRUCTURAL ◆ GEOTECHNICAL ◆ ARCHITECTURAL ◆ PROJECT MANAGEMENT CONSULTANT — Authorized Person, Registered Structural Engineer, Registered Geotechnical Engineer

α — Traffic Consultant

WEC Engineering Consultants (International) Limited — Building Service Consultant

01

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EXECUTIVE SUMMARY

(Disclaimer: This Chinese translation is for reference only. If there is any discrepancy between the Chinese translation and the English original, the English original shall prevail.)

Si Mau Limited ("the Applicant"), as the sole registered land owner of the private lots concerned, seeks town planning permission from the Town Planning Board for proposed minor relaxation of Building Height Restriction (BHR) from 3 storeys to 6 storeys for permitted social welfare facility (Residential Care Home for the Elderly) and proposed "House" use with Conservation Proposal at Lot Nos.1695 S.E ss. 1 RP, 1695 S.F ss.1, 1695 S.H RP (Part) and adjoining government land in D.D. 120, Tai Kei Leng, Yuen Long, New Territories (the Application Site), with the purpose of incorporating amendments to the approved development proposal under planning application no. A/YL/289.

The Application Site is currently zoned as "Government, Institution or Community(1)" ("G/IC(1)") under the Draft Yuen Long Outline Zoning Plan No. S/YL/26 (the OZP). According to the Notes of the OZP, the "G/IC(1)" zone is subject to a BHR of 3 storeys (8 storeys for 'School' and 'Hospital') excluding basement(s). Regarding the proposed conversion of the historic building (i.e. Siu Lo) as house, "House" is a Column 2 use which requires town planning permission from the Town Planning Board.

As a recap, in view of the presence of an existing Grade 3 historic building 'Siu Lo' currently occupying the northern portion of the Site, the Applicant has put forward a conservation-cum-development proposal in which Siu Lo will be preserved in-situ with the provision of a heritage garden and a RCHE building with not more than 5,400 sq.m of GFA is proposed at the southern remaining portion of the Site to fully optimize the development potential according to the "Incentive Scheme to Encourage Provision of Residential Care Home for the Elderly Premises in New Private Developments". The conservation-cum-development proposal echoes with multiple Government Policies, including heritage conservation policy to strike a proper balance between respect for private property rights and heritage conservation and offer appropriate economic incentives to encourage private owners to conserve and revitalize their historic buildings; social welfare policy to encourage provision of RCHE premises in new private developments; and land supply policy idea of making better use of the valuable land resources, especially on "G/IC" site under the "single site, multiple use" model.

Upon in-depth review at the detailed design stage, amendments to the schematic layout, building forms and building height to the approved scheme are proposed for the enhancement to the schematic design, especially on the design compatibility between the proposed RCHE building and Siu Lo, and compliance with the technical requirements of EVA. For the building height, it is found that while limiting the nos. of columns around Siu Lo, a longer structural span and thicker structural elements are required to support the loading bearing wall or columns above it, such that the RCHE floor plates above could span over the Annex Block of Siu Lo. Wihtout compromising the vertical clearance above the Annex Block for future roof maintenance, there is a need to further increase the floor-to-floor height at G/F. It is also proposed to increase in the floor-to-floor heights on typical floors to enable a larger ventilation system to comply with the latest guideline on prevention of communicable diseases in RCHE provided by the Department of Health. It is thus proposed to increase the absolute building height from 22.65m to 25.9m as measured from the mean street level. These amendments necessitate a fresh planning application to be submitted to the Town Planning Board for approval on the amendment to the approved overall building height. The setting of Siu Lo is further respected with the additional vertical and horizontal setback measures for the RCHE under the current scheme. It is anticipated that the proposed development would not result in insurmountable impacts to the surroundings on visual, landscape, heritage, environmental, sewerage, drainage and traffic aspects.

行政摘要

（聲明：此中文譯本僅供參考，如中文譯本和英文原文有差異時，應以英文原文為準。）

Si Mau Limited（"申請人"）為新界元朗大旗嶺丈量約份第 120 約地段第 1695 號 E 分段第 1 小分段餘段、第 1695 號 F 分段第 1 小分段及第 1695 號 H 分段餘段（部分）的唯一「現行土地擁有人」，現尋求城市規劃委員會（下稱城規會）批准上述私人地段及毗鄰的政府土地（申請地點）擬議略為放寬建築物高度限制 3 層到 6 層以作准許的社會福利設施（安老院舍）及擬議「屋宇」用途連同保育方案，以容許對核准發展計劃的修訂。

根據元朗分區計劃大綱草圖編號 S/YL/26（大綱圖），申請地點現時被劃作「政府、機構或社區（1）」。根據大綱圖的註釋，該用途地帶受限於最高建築物高度 3 層 (如用作「學校」或「醫院」用途，最高可建 8 層)。就擬議將歷史建築（即筱廬）改作屋宇而言，「屋宇」屬第二欄用途，需要獲得城市規劃委員會的規劃許可。

回顧先前申請，鑑於現有佔據申請地盤北部的三級歷史建築「筱廬」，申請人提出「保育及發展」建議，將筱廬原址保育，並盡用地盤南部分的剩餘用地興建建築面積不超過 5,400 平方米的安老院舍，以符合《鼓勵在新私人發展物業內提供安老院舍院址計劃》。此「保育及發展」建議符合多項政府政策，包括文物保育政策，於尊重私有產權和保護文物兩者之間取得平衡，並為擁有歷史建築的私人業主提供適合的經濟誘因，以換取他們同意保育及活化有關的歷史建築；鼓勵在新私人發展物業內提供安老院舍院址的社會福利政策；和土地供應的政策理念，以「一地多用」的發展模式，特別在「政府、機構或社區」的用地上，充分優化土地的發展潛力以更好地善用珍貴的土地資源。

經過詳細設計階段的深入檢討後，建議修訂核准發展計劃的佈局、建築物的外形及高度，以優化設計，特別是在擬建安老院舍與「筱廬」附屬樓的相容性， 並符合緊急車輛通道的技術要求。 對於建築物的高度，發現限制附屬樓周邊的支柱數量需要較長結構跨度和較厚的結構構件來支撐上方的承重牆或支柱，以容許安老院舍的樓板可以跨越於附屬樓的上方。在不影響「筱廬」附屬樓上方的垂直淨空作屋頂日後維修下，安老院舍的地面樓層的層高需要進一步增加。此外，亦建議增加一般樓層的層高，以安裝更大的通風系統以符合衛生署最新發布的安老院舍傳染病預防指引。因此，建議將建築物高度從 22.65 米增加到 25.9 米。這些修訂需要向城市規劃委員會重交規劃申請，以批准對核准發展計劃總高度的修訂。 現行方案下安老院舍的進一步垂直和橫向後移亦對「筱廬」的風貌更加尊重。計劃在規劃、文物保育、社會福利，以及各種規劃和設計優點方面均有充分的理據。鑑於上述理由，預計擬議的發展不會對四周的視覺、景觀、文物保育、環境、排污、渠務和交通等方面造成不可克服的影響。

1. INTRODUCTION

The Applicant, Si Mau Limited, is the sole "current land owner" of Lot Nos.1695 S.E ss. 1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120, Tai Kei Leng, Yuen Long, New Territories. The Applicant intends to develop a permitted social welfare facility (Residential Care Home for the Elderly) (RCHE) with conservation of Historic Building at the said private lots and adjoining government land (hereinafter referred to as "the Site/Application Site"). The Application Site is zoned as "Government, Institution or Community(1)" ("G/IC(1)") under the Draft Yuen Long Outline Zoning Plan No. S/YL/26 (the OZP), which is subject to a Building Height restriction (BHR) of 3 storeys (or 8 storeys for 'School' and 'Hospital') excluding basement(s). No "Village" zone nor "Road" zone is included in this application. Please refer to **Figures 1 and 2** for the Site Plan and the Location Plan respectively.

The Site is currently occupied by an existing Grade 3 historic building 'Siu Lo' (筱廬) and parking of vehicles. The Site is a subject of a previously approved town planning case (RNTPC A/YL/256A dated 20.3.2020) submitted by the previous owner (hereinafter referred as the First Planning Application / the First Approved Scheme). In that previous case, an agreement with Commissioner for Heritage's Office (CHO) and Antiquities and Monuments Office (AMO) was made in 2018 to preserve the entire Siu Lo in-situ, and convert the building into a "Gallery for Heritage Interpretation" for free public visit and enjoyment, whilst a five-storey RCHE was proposed to be constructed on the remaining area of the Site in a conservation-cum-development model. The CHO and AMO had rendered in-principle support to that application from the heritage conservation perspective.

In the relevant Town Planning Board meeting held on 20.3.2020 in relation to the First Approved Scheme, some board members were of the view that consideration might be given to further increasing the building height to attain more GFA for the proposed RCHE. Subsequently, the Applicant submitted a planning application to seek planning permission for minor relaxation of BHR from 3 storeys to 6 storeys (+ 3 storeys) for a permitted social welfare facility (RCHE) and proposed house use with conservation proposal for a Grade 3 historic building 'Siu Lo' (筱廬) at the Application Site (i.e. application no. A/YL/289) (hereinafter referred as the Second Planning Application / the Second Approved Scheme). The intention of the application was to further optimize the development potential of the Site by developing an RCHE with a GFA not exceeding 5,400 sq.m according to the policy of Incentive Scheme to Encourage Provision of Residential Care Home for the Elderly Premises in New Private Developments (hereinafter referred to as "the Incentive Scheme") of the Lands Department and in response to the pressing societal need against the backdrop of ageing population and the genuine concerns of some TPB members. With the conservation-cum-development approach, Siu Lo will be preserved in-situ with the development of the proposed RCHE building at the southern portion of the Site under the Second Approved Scheme. The application was approved by the Rural and New Town Planning Committee on 29.7.2022.

Please be invited to note that in spite of the administrative nature of the Antiquities Advisory Board's ("AAB") grading system which does not affect the ownership management, usage and development rights of the buildings, the Applicant appreciates the unique historical value of Siu Lo and sincerely intends to preserve the entire of it. The Applicant is a bona fide private developer and operator of RCHEs committed to develop and operate this project, which will ensure a continued heritage conservation practice for Siu Lo. Through this planning application, it is proposed to resume the original use of Siu Lo as "house" which is a Column 2 use under the OZP. In the Second Approved Scheme, it is proposed to provide a compatible heritage garden at its side and to implement a conservation management plan to be agreed with AMO and CHO. According to the Heritage Appraisal submitted, as compared to the external "Character Defining Elements" (CDEs), the internal features have relatively minor contribution to the overall significance of the place. As such, **the proposed Heritage Garden will become the area open for free public visits with guided and self-guided tours at regular intervals, educational display boards, thus allowing photo-taking spots around the external of Siu Lo and offering heritage information for public appreciation.** While the interior features of historical significance will be preserved as far as practicable as per the Heritage Appraisal**, glazed doors/ windows will be provided at the Siu Lo building to allow the public visitors to see-through the internal area from outside**. Overall, it is aimed to achieve a "win-win" solution by conserving Siu Lo and providing RCHE bedspaces in accordance with the prevailing conservation policy.

Yet, with the elongated, irregular configuration of the Application Site, the clearance required to conserve Siu Lo and a number of site constraints, the building footprint of RCHE is largely confined in terms of its possible spatial disposition. **With an optimized design under the proposed scheme while conserving Siu Lo, the new RCHE building is required to have 6 storeys to achieve the intended GFA of 6,600 sq.m**. The number of beds of the proposed RCHE was largely increased under the Second Approved Scheme.

Upon in-depth review and clarifications at the detailed design stage on several design requirements, changes to the schematic layout, building forms and building height under Second Approved Scheme were incorporated. The proposed absolute building height has to be increased from 22.65m to 25.9m as measured from mean street level. With the said BHR on the extant OZP and the building height being the subject of approval in the Second Planning Application, a further increase in the proposed building height, as per the Planning Department's advice, has necessitated a fresh planning application as hereby kindly submitted to the Town Planning Board. Other layout changes are mostly for the benefits of conservation of Siu Lo and complying with building regulation and fire safety requirements. The rationales for the main changes to the Second Approved Scheme are summarized in Section 4.2 and 4.3.

Apart from the above schematic changes, additional merits are also proposed, including allowing the future guided tours and private tours for non-government organizations ("NGO") and schools as previously proposed, to visit some of the interior areas of Siu Lo under the docent's guidance, showcasing the display area and the historic kitchen.

The proposed RCHE development and conservation of Siu Lo are hereinafter referred to as "the Proposed Development".

2. SITE CONTEXT AND HISTORY

2.1 Site Context and Surrounding Land uses

The Application Site with a site area of about 1,877.1 sq.m is situated in the southern part of Yuen Long New Town accessible via Tai Tong Road. (**Figure 1** refers) The Site is currently used as a temporary open public car park and comprises a Grade 3 historic building (including its main building and annex block) i.e., Siu Lo, which was built in around 1941 and has been in existence long before the exhibition of the first draft Yuen Long OZP on 12 April 1991. It is noted that Siu Lo comprises a 2-storey main building with a single-storey annex block attached to the main block at an angle.

The surrounding areas have the following characteristics:

a) the Site is situated in an area generally occupied by residential and village settlements;
b) to its immediately north is the Yuen Long Baptist Church which is covered by a valid planning application No. A/YL/252 for a composite building comprising school and religious institution (church) with minor relaxation of BHR to 8 storeys which was approved with conditions by the Rural and New Town Planning Committee (RNTPC) on 3.5.2019, and to its further north are village houses;
c) to its west and south-west are a temporary private ball court, vacant land, open storages, rural workshops and parking of vehicles;
d) to its south are some village houses and the Hang Heung food factory which is covered by a valid planning application No. A/YL/263 for a 6-storey RCHE;
e) to its immediate east is Tai Tong Road and a petrol filling station; and
f) to its further east across Tai Tong Road are open storage, warehouse with retail sale and workshop, real estate agencies and car services.

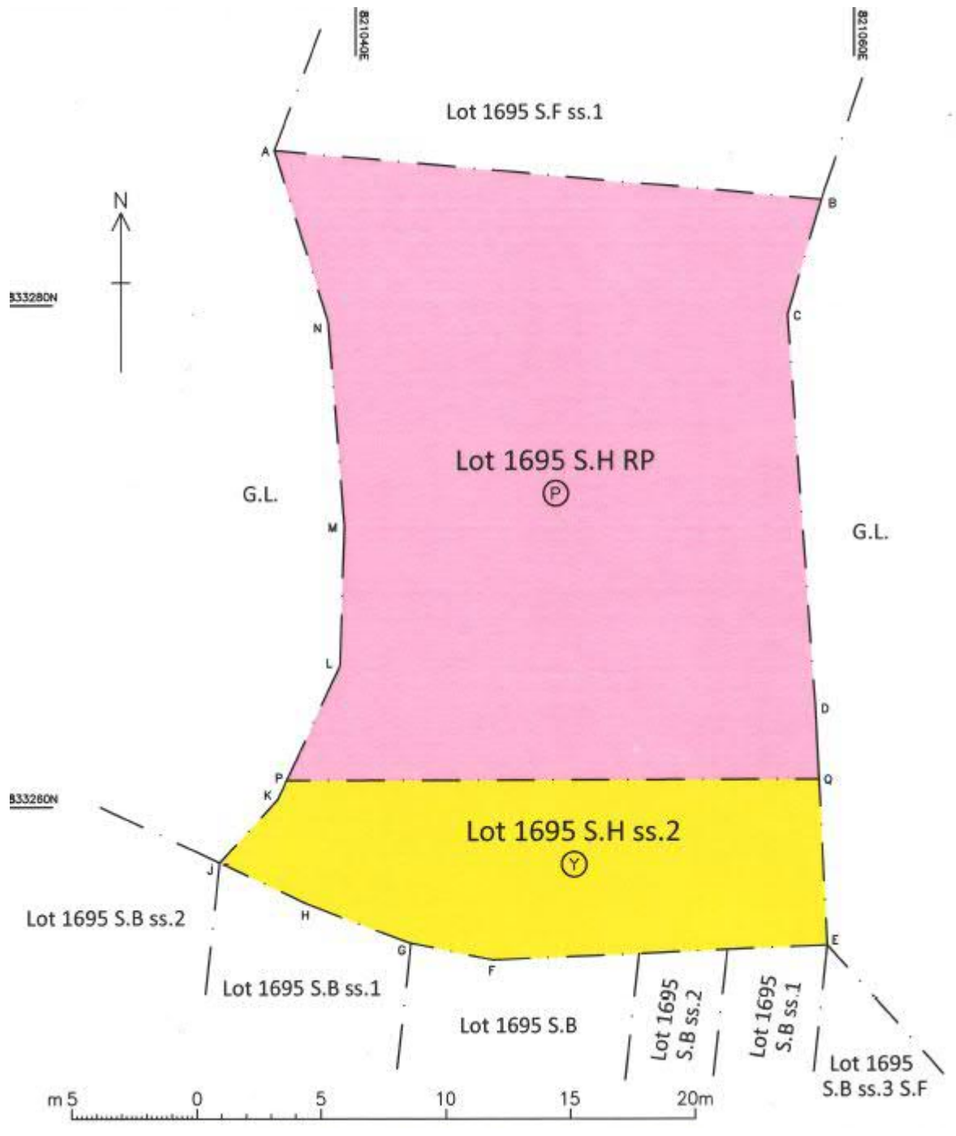
2.2 Land Status

With reference to preliminary land status check, Lot Nos. 1695 S.E s.s.1 RP, 1695S.F s.s.1 and 1695 S.H RP (Part) in D.D. 120 of the subject Site are Old Scheduled agricultural lots whereas the lease is untraceable.

Taking into account the narrow, left-out space on government land to the west of the subject private lots, the current proposal has included a portion of the Government Land with about 144.8 sq.m into the Application Site boundary to put it into good use. This Government land involved is considered to be incapable of reasonable separate alienation or development. Where it is currently mainly zoned as "G/IC", it has also no foreseeable public use. **The proposed inclusion of the government land can allow a little more space and hence more flexibility for including the possible heritage conservation measures for Siu Lo**, which may include further setting back of the columns of the future RCHE building from the historic building, provision of a landscape strip along the western boundary for greater compatibility and so forth.

A land exchange application has been submitted and is now being processed by the Lands Department to facilitate the Proposed Development and inclusion of the portion of Government Land. At the processing of land grant, the site area has been measured as about 1,877.1 sq.m based on the latest land survey carried out in August 2022, which is reflected in the subject application. The actual area and boundary of the Application Site will be subject to verification with the Lands Department in the finalization of the land exchange application.

Please note that a Deed Poll Plan of Lot No. 1695 S.H RP has been prepared, submitted and registered in the Land Registry vide memorial no. 23021401600066 on 14th February 2023. The Lot No. 1695 S.H RP will be subdivided into Lot No. 1695 S.H RP in the north (which is zoned as "G/IC") and Lot No. 1695 S.H ss.2 to the south, which is zoned as "V". Inasmuch, it is intended not to include any "V" zone in the subject S.16 town planning application. (see below)



2.3 Accessibility

The Application Site is assumed to be a Class A Site abutting and accessible via Tai Tong Road. Request to the Lands Department has been made for a right of way for using the local vehicular track rested on government land for the proposed vehicular & pedestrian access of the Site. The Site will be provided with means of obtaining access thereto from a street under the B(P)R 5 and emergency vehicular access will be provided for all the buildings to be erected on the Site in accordance with the requirements under the B(P)R 41D.

The Area is also served by various modes of public transport including buses, public light bus and Tai Tong Road Light Rail Stop at about 650m walking distance from the Site.

3. TOWN PLANNING CONTEXT

3.1 Statutory Planning Context

3.1.1 Brief Planning Context of Yuen Long Town

The Site falls within the southern part of Yuen Long New Town. Under the OZP, the zonings around the Yuen Long Town Centre (known as the areas around Castle Peak Road – Yuen Long) are mainly planned for high-density residential developments. The planned development intensity then gradually descends towards the south, with village-type and "G/IC" developments in the area along Tai Tong Road.

With respect to the "Planning and Engineering Study for Housing Sites in Yuen Long South – Investigation" (the YLS Study), the rural land in the Yuen Long South area would in future accommodate more high-density housing developments to cater for a total population of about 101,200 upon full completion to meet the medium to long-term housing needs of Hong Kong. The rezoning of those sites to "Residential" uses have been completed, which is now covered by the approved Tong Yan San Tsuen OZP gazetted on 20 August 2021, as Stages 1 and 2 of the YLS Development.

3.1.2 Statutory Planning Context of the Application Site

The Site falls within an area zoned "G/IC(1)" on the OZP and is subject to BHR of 3 storeys (or max. BH of 8 storeys for "school" or "hospital" uses) in "G/IC(1)" zone. According to the Notes of the OZP, 'Social Welfare Facility' is always permitted in the "G/IC" zone. The proposed RCHE use is subsumed under the always permitted 'Social Welfare Facility' use according to the Definition of Terms in town planning. As the Proposed Development with a building height of 6 storeys exceeds the BHR of 3 storeys as stipulated on the OZP, a Section 16 planning application for minor relaxation of Building Height restriction is submitted to the Town Planning Board. There is no development restriction on plot ratio and site coverage ratio under the "G/IC" zone.

The planning intention of this zone is primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.

According to the Planning Report for Yuen Long New Town prepared by the Planning Department (PlanD) in 1990, "G/IC" sites were planned/reserved in the western and southern extension areas of the Yuen Long New Town for providing GIC facilities to cater for the unforeseen needs in future. For this case, while available space has been scarce throughout Hong Kong for accommodating the various G/IC facilities for serving the needs of the community, the development restrictions on these "G/IC" sites should be correspondingly adjusted in response to the everchanging needs in the society and the planning context.

The permitted BH of the prevailing "G/IC(1)" zone is actually much lower than those of the "R(A)" and "R(B)" zones in the general context of the urban fringe in Yuen Long. Developments planned for high-rise developments can be found within about 200m from the Site, and the permitted max. BH of 8 storeys for 'School' and 'Hospital' under the subject "G/IC(1)" zone is not out of context in terms of building height profile of the wider area.

3.2 Non-Statutory Planning Context & Relevant Policy

3.2.1 Optimal Use of Scarce Standalone "G/IC" Developments in Hong Kong

In view of the competing use of land in Hong Kong, available "G/IC" lands to accommodate standalone building of "G/IC" facilities have become more and more uncommon in Hong Kong. In recent years, the Government has begun to rely on housing sites for providing the required "G/IC" facilities to meet various societal demands. Since 2018, arrangements have been taken by the Government for the exemption of floor space for "G/IC" facilities from GFA calculation on housing sites, which have been facilitated through the town planning, land administrations and building development control mechanisms. Without compromising the housing production, this arrangement renders most of the new provision of "G/IC" facilities to be congested within larger podium blocks underneath housing developments in a higher density development mode, thus stacking up the overall building heights of many new housing developments in the urban area.

Apart from that, despite the separate access arrangements through design, interfacing problems are often revealed where RCHEs are operated as part of composite residential developments within a congested layout arrangement. For instance, due to limited space, it has often been criticized for the inadequate provision of lifts separately for the visitors, beds and waste disposal of RCHEs, and for residents of the residential portion, which has often caused much constraints to the operation of RCHE and nuisance to the residents.

3.2.2 The Surging Demand for RCHE in Hong Kong

Ageing population and the foreseeable threat of shortage of elderly facilities has been a focus of a wide range of policy initiatives and studies in Hong Kong, including the Chief Executive's Policy Addresses and the latest version of strategic plan of Hong Kong, "HK2030+: Towards a Planning Vision and Strategy Transcending 2030" (HK2030+). Hong Kong has the highest life expectancy in the world – 81.7 for men and 87.66 for women. Statistics from Census and Statistic Department has indicated that the proportion

of population aged 65 or older will increase from 15.4 percent of the population to 36 percent in 2064. For elderly dependency ratio, it was estimated that 1,000 individuals supported 180 nos. of elderly in 2011 while in 2041, 1,000 individuals will be supporting nearly every 500 elderly (2 adults to 1 elderly). In 2016, about 8% of the population aged 65 or above (i.e. 93,600 nos.) lived in RCHEs.

According to "Elderly Services Programme Plan" completed by Working Group on Elderly Services Programme Plan Elderly Commission[1], the projected service demand for residential care for residential care for elderly would raise from 49,000 places in 2016 to about 68,000 places in 2046. However, the total number of subsidised and non-subsidised RCHE places is only 34,742 as at 30 Jun 2021[2].

According to the reply from the Secretary for Labour and Welfare in 17 Mar 2021 to a question from a Legislative Councillor[3], as at end-December 2020, the waiting time and number of people waitlisted for subsidised care and attention (C&A) places and nursing home (NH) places are 21 and 26 months respectively. It is revealed that the supply of private RCHE places is also crucial to meet the acute demand.

3.2.3 The Surging Demand for RCHE in Yuen Long District (Short to Medium-term)

With respect to the population profile of Yuen Long District stated in the Population and Household Statistics Analyzed by District Council District in March 2021, the population in Yuen Long District was nearly 640,600 in 2020 whilst the population aged 65 or above accounted for about 16.8% (around 107,400 elders) of the district population. Making reference to the HKPSG requirements of 21.3 subsidised beds per 1 000 elderly persons aged 65 or above, there is currently a surging demand for subsidized beds for RCHE in the Yuen Long Town within the OZP area.

A sharp growth in Yuen Long's elderly population has been projected by PlanD, according to the Projection of Population Distribution, 2021 – 2029. The population aged over 65 or above in Yuen Long area was estimated to be 169,400 in 2029 which accounted for about 23.9% of the district population.[4]

With the projected dramatic increase in elderly's population by 2029 in the district, the proposed increase in RCHE places in the Application Site can help address the short to medium-term shortfall for elderly facilities and relieve the stress of service providers and carers in both the public and private sectors.

3.2.4 The Future Demand for RCHE in Yuen Long District (Long-term)

It was mentioned in para. 3.1.1 about the progress of the YLS planning and development. It is noteworthy that in the Panel on Development of the Legislative Council (LegCo) on Planning and Engineering Study for Housing Sites in Yuen Long South — Recommended Outline Development Plan on 27 February 2018 (LC Paper No. CB(1)608/17-18(07))[5], there were LegCo members expressing disappointments that the residential care places to be provided in the YLS Development Area were inadequate, given that residential care places for the elderly were in huge demand.

3.2.5 Government's Prevailing Policies to Increase Supply of RCHE Places through Private Sector and Living Space of RCHE Residents

Policy to Encourage Provision of Residential Care Home for the Elderly premises and to Optimize the Development Potential of "G/IC" Sites

The acute demand for RCHE has long been an issue the Government trying to address. To encourage developers to provide RCHEs in **new private developments**, in July 2003, the Government launched the Premium Concession Scheme, under which eligible RCHE premises would be exempted from payment of land premium in respect of land transactions relating to lease modifications, land exchanges and private treaty grants for residential/commercial developments, subject to meeting certain conditions for the delivery of the RCHE premises, such as **a maximum limit of 5,400 sq.m for GFA. It is worth noting that the maximum total GFA eligible for premium payment exemption has been relaxed from 5,400sq.m to 12,000sq.m as per the Legislative Council Panel on Welfare Services Meeting (LC Paper No. CB(2) 535/2023(04)).**

On the other hand, the Government has indicated in the 2019's Policy Address that "G/IC" sites currently earmarked for standalone public facility would be reviewed for optimizing site development potential under a "single site, multiple use" model. The Applicant's proposal shares the same idea with this government policy.

Recent Proposal on Increasing the Minimum Area Per Resident for RCHE

The residential care services for the elderlies in Hong Kong in general have long been criticized for their low living standards as compared to the major cities internationally, especially with regards to the amount of living space. There have been persistent discussions among the society about increasing the minimum area per resident for RCHE. In the Report of "Working Group on the Review of Ordinances and Codes of Practice for Residential Care Homes" ("the Working Group") dated May 2019[6], it is proposed to increase the minimum area per resident for "Care-and-Attention Home" RCHE from 6.5 sq.m to 9.5 sq.m. The proposal will be submitted to the Legislative Council for the procedures of amendment of the Regulation.[7]

[1] Source: Working Group on Elderly Services Programme Plan of Elderly Commission: https://www.elderlycommission.gov.hk/en/download/library/ESPP_Final_Report_Eng.pdf
[2] Source: Social Welfare Department (last revision date: 9 July 2019): https://www.swd.gov.hk/en/index/site_pubsvc/page_elderly/sub_residentia/id_overviewon/
[3] Source: HKSAR Government Press Release (17 Mar 2021): https://www.info.gov.hk/gia/general/202103/17/P2021031700222.htm
[4] Source: Planning Department: http://www.pland.gov.hk/pland_en/index.html
[5] Source: LegCo Panel on Development Minutes of Meeting on 27 February 2018: https://www.legco.gov.hk/yr17-18/english/panels/dev/minutes/dev20180227.pdf
[6] Source: Working Group on the Review of Ordinances and Codes of Practice for Residential Care Homes: https://www.swd.gov.hk/en/index/site_pubsvc/page_lr/sub_working/
[7] Source: "Paper on heritage conservation initiatives prepared by the Legislative Council Secretariat (Updated background brief)," *Minutes of meeting of the Panel on Development,* 10 May 2021.

3.2.6 Development Restrictions and Relevant Requirements related to RCHE

RCHE development shall comply with the followings:

a) Residential Care Homes (Elderly Persons) Ordinance (Cap. 459) ("the Ordinance");
b) Residential Care Homes (Elderly Persons) Regulation (Cap. 459A) ("the Regulation"); and
c) Code of Practice for Residential Care Homes (Elderly Persons) (Revised Edition, March 2013) ("Code of Practice").

3.2.7 Heritage Conservation

The government's heritage conservation policy aims to strike a proper balance between respect for private property rights and heritage conservation, and offer appropriate economic incentives to encourage private owners to conserve and revitalize their historic buildings. A grading system for historic buildings has been put in place to provide an objective basis for determining the heritage value, hence the preservation need of individual historic buildings. The grading system is administrative in nature and does not affect the ownership management, usage and development rights of the buildings. Siu Lo is a Grade 3 historic building accorded by the Antiquities Advisory Board on 7.9.2017. By definition, Grade 3 historic buildings are "buildings of some merit; preservation in some form would be desirable and alternative means should be considered if preservation is not applicable". On the Second Approved Scheme (A/YL/289, it is generally agreed that the proposed conservation-cum-development proposal is commensurate with Siu Lo's grading and heritage value. The heritage conservation strategy outlined in the current application remains largely unchanged from the Second Approved Scheme, except for minor amendments on the development scheme of the new RCHE building.

In respecting private property rights, the Government is providing incentives to owners for historic building conservation. As officially released by the Secretary for Development[8], LegCo[9] and AMO[10], the Government recognises that appropriate economic incentives should be offered to encourage the private owners to conserve historic buildings in their ownership. Economic incentives to be offered could take the form of financial assistance, relaxation of plot ratio and/or site coverage and land exchange to facilitate private owners to carry out timely maintenance works and protect historic buildings, and to compensate for their loss in a 'conservation-cum-development' model.

3.3 Hypothetical Scenario of Purely 3-storey RCHE without Siu Lo

In the Second Planning Application, a hypothetical scenario was presented which involved total demolition of Siu Lo to prove that the total intended GFA of the RCHE of 5,400 m^2 can be accommodated within the prevailing BHR of 3 storeys under the OZP and need for planning applications for minor relaxation of BHR is merely arisen from the good intention to preserve Siu Lo in-situ as a whole. In this regards, AMO has expressed that such hypothetical scenario is not supported from heritage conservation perspective. As such, the need for minor relaxation of building height has been justified and such hypothetical scenario is no longer a relevant consideration in the current fresh planning application.

The preservation of Siu Lo, including its main building and annex block, faces some planning and design challenges that

a) the development of the RCHE building needs to be confined outside the northern portion of the site and
b) the periphery of Siu Lo is better to be freed up for the public appreciation and free public visits with guided and self-guided tours.

With a good view to strike a balance with the RCHE development and preservation of Siu Lo, the government's in-principle policy support for the following items has been sought for:

a) Inclusion of some government land (about 144.8 sq.m) to allow building design flexibility to allow no building development to the east of Siu Lo;
~~b) Separate calculation of covered car park and internal road spaces for Siu Lo (to be rendered outside the 5,400 sq.m RCHE portion to comply with the Incentive Scheme);~~
c) Relaxing building height for RCHE for conservation merits;
d) Justifications for high headroom on G/F of RCHE in order to materialize the conservation-cum-development proposal and allow a vertical clearance for occasional maintenance of the pitch roof of Siu Lo Annex Block (para. 4.2 and 4.4.4 refers); and
e) Resuming the original use of Siu Lo as "house".

Hypothetically, given the site area at 1877.1 sqm and the extant statutory planning requirement of building height restriction at 3 storeys, the maximum GFA for any G/IC use(s) can reach a maximum GFA of 5631.3 sqm. With a good planning intention to preserve in-situ he existing Siu Lo as well as its Annex Block, we need to apply to increase the number of storeys to 6 to achieve a comparable GFA at 6,600 sq.m. In particular, we need to adopt an exceptional high ground floor height to 7.45m to allow sufficient maintenance clear height over the Annex Block area. **To this end, the Commission of Heritage Officer (CHO) is invited to grant a policy (or in-principle support) for the exceptional high ground floor clear height on the conservation ground.**

3.4 Planning History

The Site is the subject of 2 previous planning applications under Section 16 of the Town Planning Ordinance – (i) Application No. A/YL/256 for Proposed Conservation of Historic Building and Minor Relaxation of BHR from 3 storeys to 5 storeys for Permitted Social Welfare Facility (Residential Care Home for the Elderly) (i.e. the First Planning Application), which was approved with condition(s) by the Town Planning Board on 20.3.2020; and (ii) Application No. A/YL/289 Proposed Minor Relaxation of Building Height Restriction (BHR) for Permitted Social Welfare Facility (Residential Care Home for the Elderly) (RCHE) and Proposed House Use with Conservation Proposal (i.e. the Second Planning Application).

[8] Source: Government Press Release on January 27, 2016 - LCQ6: Policy Review on Conservation of Built Heritage https://www.info.gov.hk/gia/general/201601/27/P201601270704.htm
[9] Source: Updated background brief on heritage conservation initiatives : https://www.legco.gov.hk/yr15-16/english/panels/dev/papers/dev20160621cb1-1034-4-e.pdf
[10] Source: Report on the Policy Review on Conservation of Built Heritage: https://www.aab.gov.hk/form/AAB_Report_e.pdf

In the First Planning Application, the Planning Department had no objection to the application based on the relevant planning intention, its compatibility with surrounding areas, technical assessments, etc. The CHO and AMO rendered support to the application from heritage conservation perspective. In the RNTPC held on 20.3.2020, some TPB Members were of the view that reduction in GFA for RCHE facilities due to preservation of Siu Lo was not ideal; the proposed minor relaxation of BH restriction was considered not unreasonable; and that consideration might be given to further increasing the building height to attain more GFA for the proposed RCHE. The Second Planning Application submitted by the Applicant was for the same goal to serve a bigger public gain through a more optimal utilization of the Site. The application was approved by the Rural and New Town Planning Committee on 29.7.2022

A fresh application is being submitted for reasons presented in Section 4.2 and 4.3.

3.5 Similar Planning Application(s)

For Section 16 planning applications for minor relaxation of BHR, there was also an approved case to the adjoining north of the subject site for proposed Composite School and Religious Institution (Church) Development by the Yuen Long Baptist Church (case no. A/YL/252), which was approved on 3.5.2019 by the RNTPC. The proposal involves a minor relaxation of BH from 3 storeys to 8 storeys (excluding 2 basement floors) for the proposed composite development. Being located next to the Yuen Long Baptist Church with an approved scheme of 8 storeys, the current proposal of 6 storeys is considered in a compatible scale.

4. THE PROPOSED CONSERVATION-CUM-DEVELOPMENT SCHEME

4.1 Development Rationale of Conservation-cum-Development Proposal

A conservation-cum-development proposal is prepared to preserve the architectural and cultural merits embodied in Siu Lo for the benefit of the general public as in line with the Government's heritage conservation policy which aims at respecting the private property rights. The objective is to create a win-win situation in which both the public interest and financial viability of the project could be properly attained. Major findings of the Heritage Appraisal will be respected. A heritage garden will be opened by advanced booking for free public visits with guided and self-guided tours at regular intervals whereas the interior part of Siu Lo including the Main Building and the Siu Lo Annex Block will be used for private "house" use as its original use, for the individual use of the Applicant itself. Interior features of historical significance will be preserved as far as practicable as per the Heritage Appraisal.

Taking into account the above-mentioned surging demand for RCHE in Hong Kong, the First Approved Scheme just has not fully utilized the Site to its full potential. To fully optimize on its convenient location in Yuen Long and in response to the genuine concern of some TPB members, the Applicant intends to increase development scale of the proposed RCHE licensing portion to a maximum gross floor area (GFA) of 6,600 sq.m as per the policy of LandsD's Incentive Scheme, which will require 6 storeys. The current proposal will also comply with the relevant Social Welfare Department's Best Practices Guidelines for the design, operation and basic provision schedule of RCHEs.[11]

[11] Social Welfare Department (2005) https://www.swd.gov.hk/en/index/site_pubsvc/page_elderly/sub_residentia/id_schemetoen/

Upon in-depth review and clarifications at the detailed design stage on several design requirements in the aspects of fire safety, mechanical, electrical and plumbing (MEP) engineering, building structure and heritage conservation, amendments to the scheme layout, building form and building height have been made to the Second Approved Scheme. Drawings of the amended scheme under the current application including master layout plan, floor plans, sections and landscape plans are in **Appendix 1**. Drawings overlaying the amended scheme on the Second Approved Scheme (A/YL/289) for illustration and comparison purposes are in **Appendix 2**. The rationales for the amendments are summarized in Section 4.2 - 4.4.2 below.

4.2 Rationales and justifications for a fresh S.16 planning application for an amendment to building height

✓ *To increase the floor-to-floor height from 6.4m to 7.45m at G/F of the RCHE building to materialize the conservation of Siu Lo Annex Block in-situ and enable a wider vertical separation between the RCHE building and the roof of Annex Block*

A structural engineer has been appointed to provide a feasible structural design for the RCHE building. Under an optimized design limiting the nos. of columns around Siu Lo to 4 to reduce their visual impact, a longer structural span and thicker structural elements (i.e. a transfer beam) is required to support the loading bearing wall and/or columns above it, such that the floor plates above could span over the Annex Block of Siu Lo. The vertical separation between the RCHE building (bottom of the beam) and the Siu Lo Annex Block has also been increased to enhance the design compatibility with Siu Lo and to allow more space for occasional roof maintenances of the Annex Block in future. The said increase in beam's depth from a typical 0.6m to 1.65m and the increase in minimum vertical distance between the RCHE building and the Siu Lo Annex Block from 1.2m to 1.5m necessitates the amendment of floor-to-floor height at G/F from 6.4m to 7.45m, taking into account also a 0.3m reduction due to a slight increase in site formation level from 5.9mPD to 6.2mPD in the current proposal (**Figure 3** and ***Schematic Section A* and *B* in Appendix 2** refer).

✓ *To increase in the floor-to-floor height from 3.15m (1– 4/F) and 3.5m (5/F) to 3.6m (1-5/F) of the RCHE building to accommodate a larger ventilation system to comply with the latest guideline on prevention of communicable diseases in RCHE provided by the Department of Health*

Upon in-depth review of the Mechanical, electrical and plumbing (MEP) requirements, a higher floor-to-floor height on each typical floor is required to accommodate a larger ventilation system to comply with the latest guideline on prevention of communicable diseases in RCHE provided by the Department of Health. As per the latest guideline, RCHE shall adopt mechanical ventilation with the rate of fresh air replacement to achieve a minimum of 10L/s/person. A 3.6m floor-to-floor height is required to accommodate 650mm-deep structural beams, 300mm-deep air duct for fresh air supplies, sprinkler / lighting fixtures /

other facilities installation, floor finishing, plus a vertical clearance of 2300mm – 2600mm in habitable space to comply with Residential Care Homes (Elderly Persons) Regulation (Cap. 459, section 23) and for a quality living condition for the elderly. (**Figure 4** refers) In short, the increase in floor-to-floor height of typical floors will enhance the health, safety and living conditions of the future RCHE occupants.

4.3 Rationales and justifications for layout re-adjustments to the building blocks and internal transport facilities (Class B amendment)

The need for a re-arrangement in the layouts of the building blocks and internal transport facilities is arisen from an in-depth study and careful design among the design team with the full intention to enhance the compatibility and integration between Siu Lo and the new RCHE building. A number of merits of this re-arrangement is summarized below :

- ✓ *Further setting back the internal road to enable a larger space around the Annex Block and an compliant EVA*

  In the Second Approved Scheme, the space around the Siu Lo Annex Block in the heritage garden is rather congested. With the intention to improve the design compatibility and to enable a wider physical space for the enjoyment of visitors, the internal road/EVA has been further setback from the Siu Lo Annex Block. This re-arrangement is also necessary for complying with the technical requirements for EVA under the Building (Planning) Regulation 41D and FSD's operational requirements. The loading/unloading bay and office at G/F are also relocated to increase the sense of spaciousness of visitors.

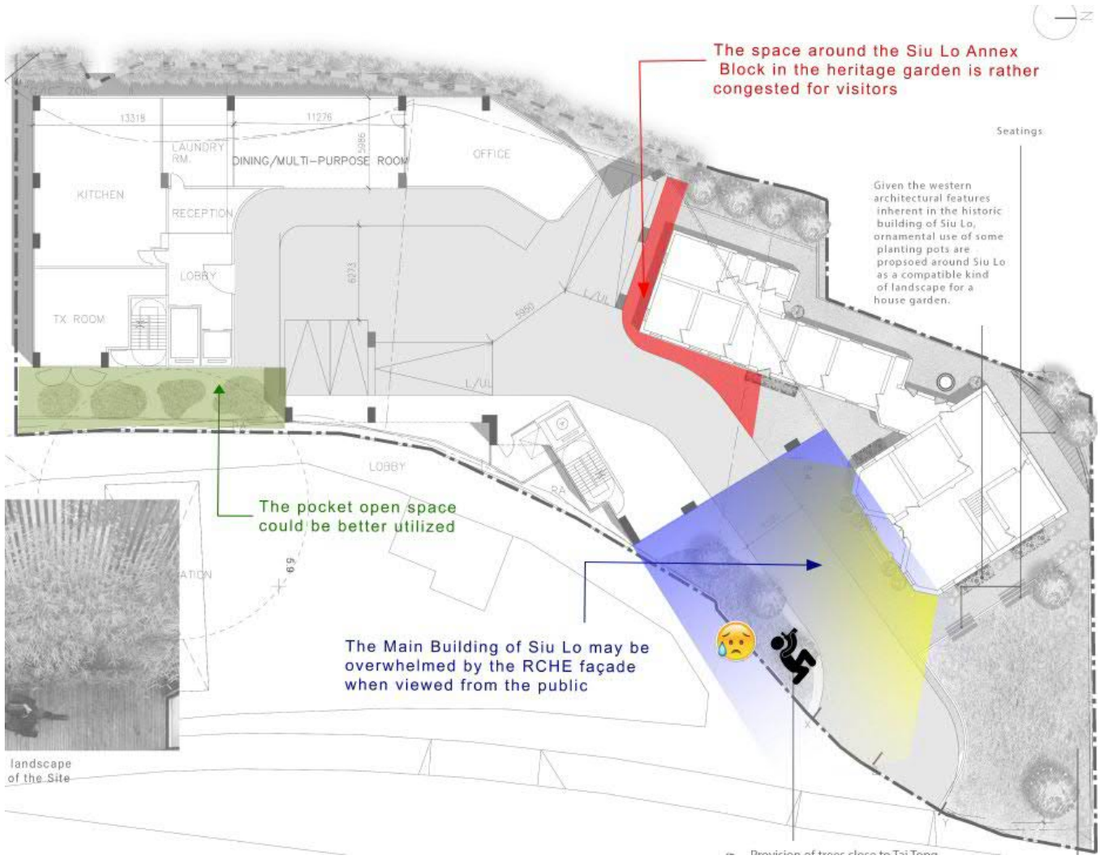
- ✓ *Adjusting the angle of RCHE block for a more recessive and orderly design in response to Siu Lo*

  In the Second Approved Scheme, the northern portion of the new RCHE building is tilted towards site entrance that the Main Building of Siu Lo may be overwhelmed by the RCHE building façade when viewed from the street level. In other words, the RCHE building facade may steal the spotlight of Siu Lo and thus cannot allow the best spots for public appreciation and photo taking. In order to integrate better with Siu Lo, the RCHE building layout has been refined such that the building's northern portion is recessed towards the western boundary of the site, resulting in less clashing of frontage views with Siu Lo and a more orderly disposition in parallel with the Siu Lo Annex Block.

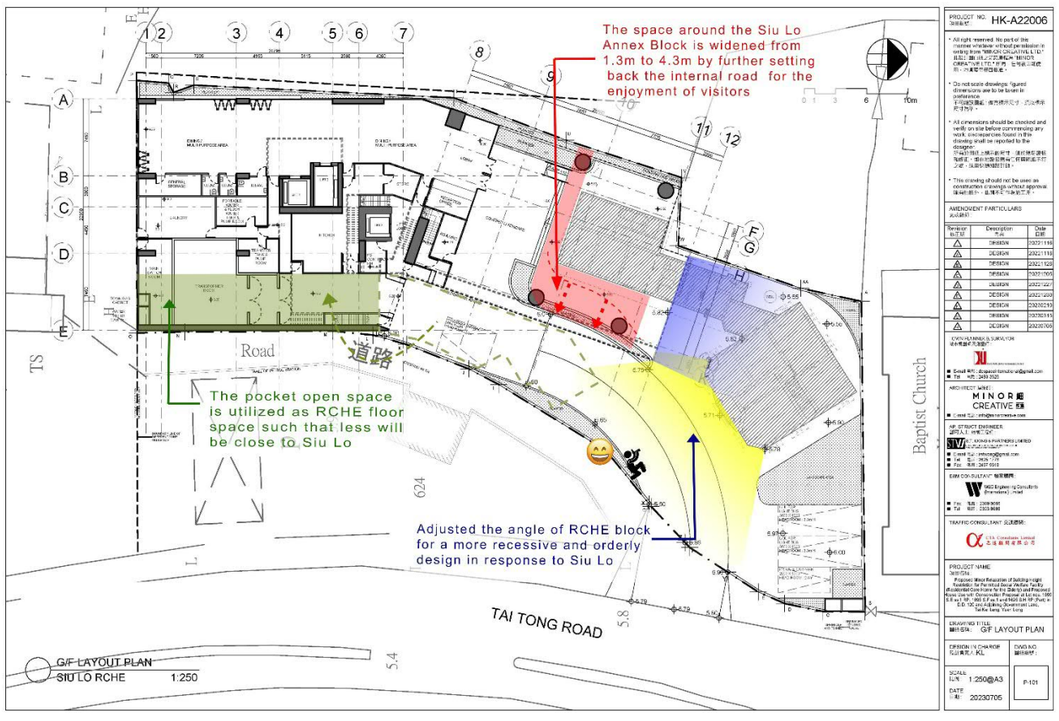
- ✓ *The pocket open space is utilized as RCHE floor space such that less new building area will be close to Siu Lo*

  According to the QRA Statement submitted (**Appendix 9A** refers), with the adoption of proposed mitigation measures against the risks associated with the petrol filling station, the pocket open space in the approved scheme within the buffer zone along the southeastern site boundary can be freed up and better utilized as RCHE floor space. By an adjustment in the floor plates, more RCHE floor space will be concentrated on the southern part of the site and less will be close to Siu Lo under the amended scheme. The design compatibility with Siu Lo will be enhanced by a reduced bulkiness of the northern portion of the RCHE block.

Before



After



The above adjustments in layout are proven to be technically feasible. A swept path analysis has been conducted for the revised internal road/EVA (see ***EVA Plan-1*** in **Appendix 1**). Although the two private car parking spaces have been relocated to the northeastern corner of the Site near the vehicular entrance, the nos. of parking spaces and loading/unloading provisions remain unchanged in the amended scheme. While the affected portion in the proposed amendments is subject to the application of acoustic windows as traffic noise mitigation measures under the approved scheme, an updated Noise Impact Assessment is submitted for this fresh planning application. For details, please refer to the submitted updated Noise Impact Assessment (NIA) in **Appendix 6** and Traffic Impact Assessment (TIA) with Traffic Statement (supplementary) in **Appendix 8 & 8A**.

4.4 Development Proposal

4.4.1 Development Parameters

The development proposal comprises a 6-storey (about 31.65 mPD) building of social welfare facility (RCHE) at the southern portion of the Site, providing 241 beds (or within a range of 220 – 260 beds). The disposition and layout of the proposed RCHE building are also specifically designed in responding to the irregular site configuration, conservation of Siu Lo, setback requirements and the surrounding environment. The master layout plan, floor plans, sections and landscape plans are shown in **Appendix 1**. The key development parameters with preservation of Siu Lo and proposed schedule of accommodation of the proposed RCHE scheme are summarized in **Table 4.1** below:

TABLE 4.1 – MAJOR DEVELOPMENT PARAMETERS OF THE PROPOSED DEVELOPMENT

Major Development Parameters	Proposed Scheme
Site Area (about) (subject to detailed survey to be conducted and land exchange application)	1,877.1 sq.m. with private land at 1,732.3 sq.m. and Government Land at about 144.8 sq.m. ("G/IC(1)" zone only) *(based on the land survey provided by the authorized Land Surveyor)
Plot Ratio (PR)	About 3.71
Site Coverage (about)	Not more than 65% (Including Site Coverage of Siu Lo)
Total Gross Floor Area (GFA)	About 6,956 sq.m. (total) with the following split: i. Not more than 6,600 sq.m. (RCHE) ii. About 356 sq.m. (Siu Lo) iii. Covered internal road, L/UL bays and parking serving Siu Lo and the proposed RCHE (assuming 100% GFA disregarded according to BD's Practice Note APP-2)
Building Height	Not more than 31.65 mPD (NB: Ground level at 6.2 mPD and Mean street level at 5.75 mPD)
No. of Storeys	6
Total No. of beds	241 beds (or within a range of 220 – 260)
Provision of parking facilities: Private car parking spaces Loading and Unloading (L/UL) / Light Bus	 2 (including 1 disabled car parking space) (Total) 1 (RCHE) 1 (Siu Lo) 2 (RCHE)
Proposed Floor use (RCHE)	G/F: Kitchen cum Store, Laundry Room, Tx Room, Reception, Lobby, Lav., Dining/ Multi-purpose Room, E&M, Car Parking Spaces, Siu Lo 1/F: Dormitory, Multi-purpose Area, Office, Nursing Station, Accessible Toilets, Stores, E&M, Pantry, Isolation/Sick/Quiet Room 2/F: Dormitory, Multi-purpose Area, Conference Room, Interview Room/ Family Room, Pharmacy , Nursing Station, Accessible Toilets, Stores, E&M, Isolation/ Sick/ Quiet Room, Pantry 3/F: Dormitory, Multi-purpose Area, Rehabilitation Area, Nursing Station, Accessible Toilets, Stores, E&M, Isolation/ Sick/ Quiet Room, Pantry

	4/F: Dormitory, Multi-purpose Area, Rehabilitation Area, Nursing Station, Accessible Toilets, Stores, E&M, isolation/ Sick/ Quiet Room, Pantry 5/F: Dormitory, Multi-purpose Area, Small Group Activity Room, Nursing Station, Accessible Toilets, Stores, E&M, Isolation/ Sick room, Pantry R/F: Ancillary E&M, Water Tanks, Roof Greening

The provision of greenery of not less than 20% will be provided. The HKPSG standard of provision of a minimum standard of 1m^2 per person of local open space is fulfilled. (***Greenery Plan and Open Space Plan* in Appendix 1**) For safety reasons and in compliance with the height restriction as stipulated in S.20 of Residential Care Homes (Elderly Persons) Regulation, Cap. 459A, the roof level will not be accessible by the future elderly residents.

4.4.2 Comparison with the Previous Approved Schemes

The development parameters of the current proposal is compared against the Second Approved Scheme with approval condition(s) by the Town Planning Board on 29.7.2022. (see **Table 4.2**)

TABLE 4.2 – COMPARISONS OF THE PROPOSED DEVELOPMENT AND THE SECOND APPROVED SCHEME(A/YL/289)

Major Development Parameters	Proposed Scheme **[A]**	Second Approved Scheme (A/YL/289) **[B]**	Difference **[A] – [B]**	Classification of Amendments	Justifications
Site Area (about)	About 1,877.1 sq.m.	About 1,953 sq.m.	- About 75.9 sq.m.	Class A	The site area based on the latest land survey carried out in August 2022 at the processing of land grant has been reflected in the current application
Plot Ratio (PR)	About 3.71	Not more than 3.04	+About 0.67 (22%)	Outside Class A and B	Increased with GFA on G/F of about 1,200 sqm to be double counted as per Building Authority's ruling
Site Coverage (about) (Including Site Coverage of Siu Lo)	Not more than 65%	Not more than 60%	+ About 5%	Class A	Increased due to a reduction in site area and layout re-adjustment upon clarification on design requirements and constraints
Total Gross Floor Area (GFA)	About 6,956 sq.m.	About 5,930 sq.m.	+ About 1,026 sq.m. (17.3%)	Outside Class A and B	Increased with GFA on G/F of about 1,200 sqm to be double counted as per Building Authority's ruling
GFA of RCHE portion	Not more than 6,600 sq.m.	Not more than 5,400 sq.m.	+ About 1,200 sq.m. (excluding covered car park GFA)	-	Increased with to GFA on G/F of about 1,200 sqm to be double counted as per Building Authority's ruling
GFA of Siu Lo	356 sq.m. (excluding covered car park GFA)	368 sq.m. (excluding covered car park GFA)	- about 12 sq.m. (3%)	-	The existing GFA of Siu Lo is clarified to be 356 sq.m. upon detailed survey of the building
GFA of covered internal transport facilities	0 sq.m. (assuming 100% GFA disregarded)	About 162 sq.m. (assumed separate calculation outside RCHE and Siu Lo)	-about 162 sq.m.	-	Reduced due to relocation of private car parking spaces to the uncovered area, rendering 100% GFA disregarded for the covered L/UL associated facilities
Building Height in mPD	Not more than 31.65 mPD	Not more than 28.4mPD	+ About 3.25m (11%)	Outside Class A and B	Increased for reasons stated in Section 4.2
Absolute Building Height (mean street level at 5.75mPD)	About 25.9m	About 22.65m	+ About 3.25m (14%)	Outside Class A and B	Increased for reasons stated in Section 4.2
No. of Storeys (RCHE building)	6 (no basement floor)	6 (no basement floor)	No change	-	-
Total No. of beds (RCHE building)	241 beds (or within a range of 220 – 260)	281 beds (or within a range of 260 – 300)	- about 40 beds	Class A	Adjusted upon clarification on design and operational requirements and constraints, and for an enhanced living quality of future residents to be resided in the RCHE
Provision of internal transport facilities	Private car parking spaces: 2 (including 1 disabled car parking space) Loading and Unloading (L/UL) / Light Bus: 2	Private car parking spaces: 2 (including 1 disabled car parking space) Loading and Unloading (L/UL) / Light Bus: 2	No change	-	-

For the First Planning Application, as mentioned in Section 3.4, some Town Planning Board members shared a view that the site development potential in the First Approved Scheme **has not been fully optimized for the provision of more RCHE places**. In response, the nos. of beds of the proposed RCHE will be increased to 241 beds (or within a range of 220 – 260) in the current scheme from 170 under the

First Approved Scheme (i.e. about 42% increase). Drawings overlaying the amended scheme on the Second Approved Scheme (A/YL/289) for illustration and comparison purposes are in **Appendix 2**.

Most importantly, according to SWD's Code of Practice for Residential Care Homes (Elderly Persons), no part of an RCHE should be situated in the basement floor. In this regard, the First Approved Scheme **is just not a feasible design scheme that satisfies with the relevant licensing requirements**. Working as an RCHE operator for more than 30 years, the Applicant also considers that the First Approved Scheme has numerous drawbacks from users' perspectives in terms of the functional arrangements, spatial relationships and circulation, and some of which are not good for the elderly person's health. The Second Approved Scheme has rectified the drawbacks already and rendered the scheme largely in compliant with the relevant licensing requirements.

4.4.3 Heritage Conservation Strategy

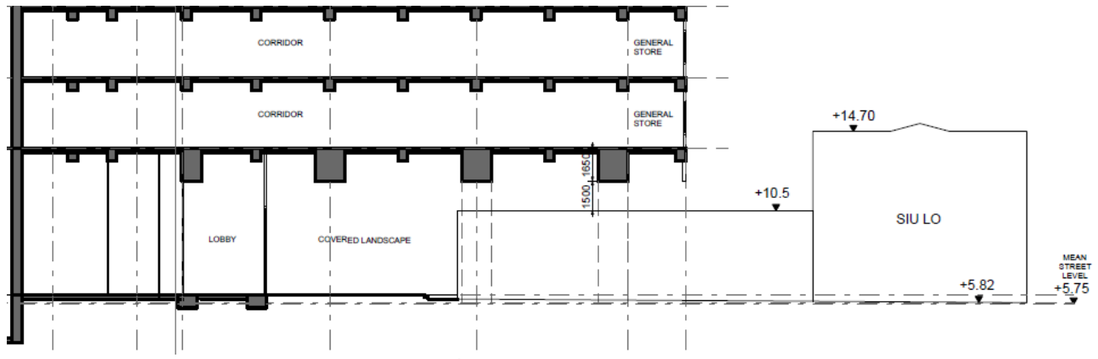
A conservation-cum-development scheme is proposed as the applicant intends to preserve the architectural and cultural merits of Siu Lo for the benefit of the general public. Siu Lo, including its main building and annex block, will be preserved entirely in-situ and will remain as a freestanding building. A Heritage Appraisal is submitted in support of the planning application. (**Appendix 3** refers)

Subject to further liaison with AMO at the post-planning approval stage, the conservation of Siu Lo comprises the following aspects (**Heritage Conservation Strategy in Appendix 1** refers):

a) Siu Lo, including its main building and annex block, will be preserved entirely in-situ, remain as a freestanding building and be maintained and upkeeped in sound condition. With the exception that the later added bathroom next to the transitional space connecting the main and annex block would be removed;
b) Public views to the Siu Lo and its Annex Block from Tai Tong Road (the main road) would be maintained unobstructed and the façade treatment of the new RCHE building fronting Siu Lo will be carefully studied and designed to integrate with Siu Lo. The Applicant will devise a heritage sympathetic and sensible design for the two columns of the RCHE building at detailed design stage.
c) To minimize the need for internal alteration and changes, thus to best reflect its historical nature and appearances, the original use of Siu Lo as "House" will be resumed;
d) The Applicant would reserve the internal area for private use at this stage, except for the arrangement of certain guided tours as stated below;
e) There is an old water well remaining in the backyard and it will become part of the Heritage Garden, and be preserved for interpretation and public visit.
f) The external Heritage Garden will be provided with interpretation display boards to allow public visitors to understand the background of Siu Lo, the original owner's family life, and the history of the Tai Kei Leng and Yuen Long. Self-guided tours with audio guidance, in Cantonese and English, will be provided for visitors on a specific Sunday each month (i.e. once per month and 12 days each year) during the opening hours from 10:00 am – 18:00 pm with maximum 20 visitors each hour, who are allowed to stay at the Heritage Garden with restriction on unattended access to the proposed RCHE building. Among the 8 nos. of hourly sections, one of which will be a guided tour with maximum number of 20 visitors. Personnel with relevant knowledge of heritage conservation will be leading the guided tours, which would also visit some of the interior areas of Siu Lo under the docent's guidance. The number of visitors on that day will be controlled by the advanced booking arrangement.
g) Private tours for non-government organizations ("NGO") and schools would be provided on a need-basis with maximum 20 visitors per group and allowed the visit of some of the internal areas of the Main Building and the Annex Block, including the display area and the historic kitchen;
h) Virtual tours covering the interior and exterior of Siu Lo to be provided online;
i) The above services will be provided free-of-charge for members of the public; and
j) Photographic and cartographic records have been prepared at the applicant's own costs.

A Heritage Appraisal (**Appendix 3**) is submitted in support of this planning application. According to the Heritage Appraisal, **the Character Defining Elements (CDEs) of Siu Lo** (as the materials, forms, location, spatial configurations, uses, and cultural associations or meanings that contribute to the heritage value of a historic place), **which are classified as "high significance", comprise the external architectural features only.** As compared to the external features**,** including but not limited to the Chinese Eclectic style with Western architectural features, open porch with octagonal columns, the name plaques, splayed building corners with decorative patterns, the old water well, etc., the internal elements have relatively minor contribution to the overall significance of the place. As such, the proposed landscaped Heritage Garden will become the area open for the aforementioned public visits with **educational display boards**, thus allowing **photo-taking spots around the external of Siu Lo and offering heritage information for public appreciation**. Nevertheless, while the interior features of historical significance will be preserved as far as practicable as per the Heritage Appraisal, some existing windows of the Annex Block will be converted to **glazed windows** without the security bars to allow visitors to view the interior from the outside. On the other hand, more alternation works to Siu Lo will be required if all the internal area to be open to public visitors, such as accessible facilities for the disabled persons and installations for crowd control, together with the pandemic situation, which is considered not preferrable. While it is intended that the future residency of Siu Lo will be retained for the Applicant itself, the Applicant will very much welcome the aforementioned free public visits in the external area of Siu Lo in future. Information of the interior features of Siu Lo and its Annex Block will be presented to visitors through the provision of virtual tours, guided tours (limited spots only) and display boards or interpretation areas at the "Heritage Garden" or locations that could be accessed by members of the public.

For conservation of the Siu Lo building in detail, major findings of the Heritage Appraisal will be respected. Whilst part of the new RCHE building (1/F and above) will be built over a portion of Siu Lo's annex block, they will have no physical connection with a sufficient headroom on the G/F and no structural load will be added on it.



The distance between the ceiling of the G/F of the proposed RCHE building and the pitched roof of the Annex Block of Siu Lo is ranged from approx. 1.5m (at the ridge) to 3.15m, which has considered the need for future necessary maintenance space for the pitched roof. The proposed space allows enough working space for the workers to stand straight within the space in between. More separation space can be provided at the locations without structural beams. This will allow enough working space for the workers to re-tile of the pitched roof under the deck-over area of the annex block. In addition, a circular form is adopted for the column shape to soften the visual impact when looking at the front façade of the annex block from the site entrance. Every effort would also be made to avoid any physical impact arising from the construction works on Siu Lo.

Thus, the proposed floor-to-floor height of 7.45m at G/F of the proposed RCHE building is considered an optimal height for providing the vertical clearance required while balancing the energy saving merit on G/F for air-conditioning, and the building structural considerations given in Section 4.2 above. An application for modifications / exemptions have been included for the GBP submission to exclude voids/high headroom on G/F from GFA calculations in respect of B(P)R 23(3)(A). CHO & AMO have been invited to grant a support for this exceptional floor-to-floor height due to the reason of historic building conservation on the same site. As per Building Authority's ruling on the first GBP submission, about 1,200 sqm of GFA on G/F needs to be double counted, which has been updated in this application.

Reference has also been made to other projects to study the space needed for the pitched roof maintenance works, which suggest that the 1.5m clearance (with additional 0.3m currently proposed as compared with the Second Approved Scheme) with a slant roof of the Annex Block as the basis will be sufficient for the future maintenance of the Annex Block including its roof.

Tsang Ancestral Hall

Tat Yan Study Hall

As an approval condition of the Second Planning Application, the Applicant has to submit a Conservation Management Plan (CMP) for the conservation of Siu Lo, and a full set of photographic and cartographic records to AMO for its endorsement. Comprehensive aspects of historic building conservation have been covered in the CMP, including but not limited to the following aspects:-

- An outline of the conservation approach of the development project;
- Documentation of the proposed works to 'Siu Lo';
- Evaluation of the impacts of the proposed works on 'Siu Lo';
- Provision of protective measures for 'Siu Lo' throughout the project period;
- Recommendations of mitigation measures for 'Siu Lo' for managing the changes arising from the development project; and
- The interpretation, future maintenance, management, documentation and implementation measures.

4.4.4 The Proposed Floor-to-Floor Heights

An application for "Modification of and/or Exemption from the Provisions of the Buildings Ordinance and/or Regulations Made Thereunder" has been submitted to the Building Department at the stage of General Building Plan submission to obtain the relevant exemption of voids/high headroom at the ground floor of the proposed RCHE building from GFA calculations in respect of B(P)R 23(3)(A) for the purpose of conservation of historic building on the same site. According to PNAP APP-69 "Conservation of Historic Buildings - List of Justifications and Information for Application for Modifications of / Exemptions from Relevant Statutory Requirements", in handling preservation-cum-development proposals, the Building Department will adopt a pragmatic approach when considering applications for modification of or exemption from various building regulations, with due regard to the constraints posed by the original design of the existing buildings and the conservation needs of historic buildings, taking into account the advice from AMO.

A floor-to-floor height of 3.6m is proposed for the typical floors from 1/F to 5/F, which are less than the First Approved Scheme (i.e. 4.2m). The proposed floor-to-floor heights of 3.6m are sufficient. Without the provision of central MVAC system, the minimum headroom requirement stipulated in the Code of Practice for Residential Care Homes (Elderly Persons) will be complied with, which states that the ceiling (the ceiling structure or suspended false ceiling) of every room must be situated at a height not less than 2.5 m measuring vertically from the floor or not less than 2.3 m measuring vertically from the floor to the underside of any beam. The proposed floor-to-floor heights are optimal heights derived after taking into consideration the merits of lowering the overall building height to minimize the visual impact to the surrounding and of energy saving in air-conditioning. Please refer to Section 4.2 above for the rationale of the proposed 3.6m.

4.4.5 Provision of Internal Transport Facilities

2 private car parking spaces (5m (L) x 2.5m (W) x 2.4m (H)) and 2 loading/unloading bay (8m (L) x 3m (W) x 3.3m (H)) for light bus are proposed for the proposed RCHE development and Siu Lo. The nos. of provisions are remained unchanged as per the Second Approved Scheme.

4.4.6 Provision of Quality RCHE Bedspaces

The proposed RCHE will meet all the statutory requirements under the Residential Care Homes (Elderly Persons) Ordinance, Cap. 459 and its regulations, the Code of Practice for Residential Care Homes (Elderly Persons) as well as other related statutory requirements.

All the facilities provided for elderly will be situated at a height of not more than 24m above ground level (measuring vertically from the street level to the floor of the premises in which the RCHE is or is to be situated), as pursuant to the requirements as set out by Social Welfare Department (SWD). In compliance with the said Code of Practice, the ceiling (the ceiling structure or suspended false ceiling) of every room will be situated at a height not less than 2.5 m measuring vertically from the floor or not less than 2.3 m measuring vertically from the floor to the underside of any beam. Proposed facilities and services for the RCHE premise are provided with respect to the "Best Practices in Design and Operation of Residential Care Home for the Elderly" developed by the SWD. The design details of the proposed RCHE are still subject to refinement at the General Buildings Plan (GBP) stage. Should a town planning approval is obtained, the Applicant would review the details with the RCHE licensing requirements and update the relevant technical assessments and ancillary facilities required.

With reference to the Social Welfare Department's Schedule of Accommodation (SoA) for a 250-place RCHE and the bed spacing requirement on the provision of function areas of the proposed RCHE, various function areas will be well provided in the proposed RCHE, including Bathroom/Shower Room to Dormitory Room, Accessible Toilet cum Shower Room to Dormitory Room, Accessible Toilet cum Shower Room attached to each Sick/Isolation/Quiet Room, End-of-life Care Room, Soiled Utility Room, Cleaner's Room, Clean Utility Room, Refuse Room, Conference Room, Female/Male Staff Changing Room and Rest Room cum Pantry, Staff Toilet/Bath Room and Toilet for Communal Use. Cleaner's Room and Clean Utility Room will be provided in two separated functional rooms in achieving better infection control. In accordance with the revised Code of Practice for Residential Home (Elderly Persons) (revised CoP) (Jan 2020), ONE(1) sick/isolation/quiet room is to be provided on each floor with dormitory rooms (i.e. 1/F to 5/F).

4.4.7 Siu Lo as "House" Use

Siu Lo was built in around 1941 for use as "house". An investigation on the building entitlement of Siu Lo has been conducted by Wat & Co., Solicitors in November 2021. As aforementioned, the Original Grant, Lease Term, its date of commencement and Rent cannot be traced in the Land Registry. According to records obtainable from the Public Records Office for sale by auction by the government in the Notice No.S.104 dated 10th June 1910 (cross-referenced to notice C.S.O. 2108/1910), the then Lot 1695 in D.D. 120 was one of the lots sold by an auction subject to the General Conditions as detailed in Gazette No.365 of 1906 ("the General Conditions of Sale"). A copy of such records is attached as **Appendix 4**. The sale of the then Lot 1695 in D.D. 120 is NOT subject to the restrictive clause of "No Buildings of any description shall be erected on the Lot" which had been imposed on the sales of other lots sold in the same auction. The investigation by Wat & Co., Solicitors concludes that the differential treatment in the auction sale of the various lots bears out their opinion that a building right is implied and not ruled out in the General Conditions of Sale of the Lot 1695 in D.D.120. It follows that erection of messuages / tenements/ erections / buildings in Lot 1695 was foreseeable since the commencement of the General Conditions of Sale of the Lot was subject to certain and sensible conditions to be imposed by the Government. The investigation also confirms that the captioned land is still fully vested with all the rights privileges under the General Condition of Sale in spite of the Lot having been sub-divided into many smaller lots. The investigation report will be submitted to the Lands Department at the Land Exchange application stage.

From heritage conservation perspective, for most cases of conservation of graded buildings in private ownership, the area for residence would normally NOT open for public visit, except for the shops/restaurants parts. If the whole historic building is used for residence, such as the case of No. 71 San Wai Tsuen, public access is allowed to the "house" surrounding area and garden by appointment only. Some examples of conservation of graded private historic residences are shown below:

Graded Historic Buildings:	No.71 San Wai Tsuen, San Tin, Yuen Long (Grade 3) 	No.1-3 Playing Field Road, Phase I, Nos.1 & 3 Playing Field Road, Prince Edward (Grade 3) 	Tsang Tai Uk (Northwest Watch Tower), Shan Ha Wai Village, Shatin (Grade 1) 	NO. 8, San Lau Street, Sha Tau Kok (Grade 2) 
Remarks:	Public access is allowed to the house surrounding area and garden only by appointment at once a month.	Public access is allowed for the restaurant on Ground floor only. (residence portion is not opened to the public)	Public access to G/F public area is allowed only.	Public access to the Ground Floor is allowed through prior appointment.

5. PLANNING AND TECHNICAL JUSTIFICATIONS

5.1 In Line with Government Policy to Provide RCHE Premises in New Private Developments

The Proposed Development of RCHE is not only in line with the planning intention of the "G/IC(1)" zone for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory, but also in immediate response to the policy intention to provide more floor area of purpose-built RCHE by developers in new private developments to meet the pressing demand for bedspaces. As a recap of para. 3.2.2, the projected service demand for residential care for elderly would raise from 49,000 places in 2016 to about 68,000 places in 2046. However, the total number of subsidised and non-subsidised RCHE places is only 34,392 as at 31 Mar 2021. The need to continuously allocate resources to strengthen and enhance elderly services in Hong Kong is highly recognized by the Government and the society. The subject proposal for minor relaxation of the BHR of the Site from 3 storeys to 6 storeys to facilitate increase in provision of RCHE places from 170 to 241 beds (or within a range of 220 – 260) (+ about 42%). It addresses the immediate and future shortfall for elderly facilities against the backdrop of ageing population, which can also relieve stress of both the service providers and the carers over the long run.

5.2 Addressing the Present and Future Demand for RCHE Provision in Yuen Long

As a recap of para. 3.2.3 and 3.2.4, it is foreseen that the short, medium and long-term demand for RCHE bedspaces in the district is surging. In short term, despite the current deficit as per HKPSG requirements, a sharp growth in Yuen Long's elderly population is anticipated as per the Projection of Population Distribution, 2021 – 2029 by PlanD. In long term, the comprehensive housing developments in Yuen Long South is estimated to bring about a total population of about 101,200 to the area after year 2030. As stated above, LegCo members have also raised concerns about the inadequate provision of residential care places for the elderly for serving the future residents. Coincidentally, the subject proposed RCHE located in close proximity will very likely be playing a part in addressing the demand arising from the YLS development. The proposed minor relaxation of the BHR of the Site from 3 storeys to 6 storeys to facilitate increase in provision of RCHE places from 170 to 241 beds (or within a range of 220 – 260) (+ about 42%) is more capable of helping to address the present and future shortfall for elderly facilities in the district.

5.3 In Line with Government Policy to Make Better Use of the Valuable Land Resources, Especially on "G/IC" Sites as an Overall Sustainable Mode of Development

The application is in line with the policy intention to provide more floor area to make better use of the valuable land resources. It also dovetails with the idea behind the Government's land supply policy of "single site, multiple use". In particular, "G/IC" lands for standalone development to accommodate "G/IC" facilities have become more uncommon in Hong Kong and the subject site is one of those precious "G/IC" sites in Hong Kong. With the measure of exemption of floor space for G/IC facilities from GFA calculation within housing sites, many of "G/IC" facilities have been accommodated within a larger podium block in new housing projects, rendering a an even more congested living environment, and this higher density mode of developments are expected to be more in future. As mentioned in para. 3.2.1, this is not an ideal spatial arrangement with interfacing problems as reflected by many end users. As such, it is of particular importance and should be a general planning principle to cherish the precious "G/IC" sites for the development of purpose-built social welfare facilities, of which their development potential should be fully optimized through necessary relaxation in BHR.

In the Town Planning Board Meeting on 17.9.2021 on Proposed Amendments to the Draft Yau Ma Tei Outline Zoning Plan No. S/K2/22 (TPB Paper No. 10773), the Town Planning Board Chairman and the Planning Department were of the view that in the absence of concrete redevelopment proposals, it was difficult to predetermine any appropriate BHR for the "G/IC" sites. PlanD would, with the benefit of the redevelopment proposal(s) so put forward, review the BHRs of those sites and make suitable amendments to the OZP. The same principle of "case-by-case" should be applied to other similar "G/IC" sites in Hong Kong as well where the BHR should be imposed based on individual proposals, subject to no significant adverse impact from planning and technical points of view.

5.4 Planning Merits of the Conservation-cum-Development Approach

The application is in line with the policy of heritage conservation for private owners. As mentioned in Para. 3.2.7 above, it is the Government's policy to encourage conservation of privately owned historic buildings while respecting private property rights by providing economic incentives, which include supporting applications to relax the restrictions on plot ratio and/or site coverage. While Siu Lo is a Grade 3 historic building which has no protection under current legislation, to echo the Government's policy to conserve historic buildings in Hong Kong, the Applicant initiates a conservation-cum-development proposal, to restore, manage and maintain the historic building at his own cost, and develop the remaining part of the Site with a compatible use to the benefits of the community. While all the facilities

for the operation of the proposed RCHE are self-contained, Siu Lo is also proposed to resume its original use as “house” to reflect its most genuine state in the past, while allowing for public appreciation and enjoyment of external of the historic building on a regular basis in the proposed Heritage Garden. Special design considerations are deployed to minimize any adverse impact to the historic building as mentioned in para. 4.4.3.

Additional merits are also proposed in the current application, including allowing the future guided tours and private tours for non-government organizations (“NGO”) and schools as previously proposed, to visit some of the interior areas of Siu Lo under the docent’s guidance, showcasing the display area and the historic kitchen.

The Applicant further proposes various added places of interest surrounding and inside Siu Lo with a good view to encourage the general public to fully appreciate the cultural and heritage context of Siu Lo. Newly added places of interest of "Life of Seed", "Life of Water", "Life of Trees" and "Life of Fruit" are proposed. (*Heritage Conservation Strategy* in **Appendix 1** refers) Details of the conservation proposals of these places will be further elaborated at later stage.

Whereas the proposed conservation of Siu Lo is mostly to the public interest, in order to attain the developable GFA of the Site for a financially viable model of operation of RCHE by the private sector, there is a genuine need for a relaxation of BHR to achieve optimized utilization of the Site with maximum 6,600 sq.m according to the updated Incentive Scheme.

5.5 An Optimized Design in Response to Site Constraints

Apart from the preservation of the historic building itself, the current proposal is an optimized design in response to the following site constraints (**Figure 1** refers):

a) According to the Annual Traffic Census 2020 published by the Transport Department, Tai Tong Road is classified as Rural Road. According to HKPSG, a horizontal 10m Setback distance of more than 10m from Tai Tong Road is provided for an acceptable level of air quality impact due to vehicular emission;

b) Sufficient set back distance from Tai Tong Road is required to reduce the noise impact especially to the elderlies to be resided therein;; and

c) The Site is a congested, elongated site with an irregular configuration and minimal street frontage with the existing boundary wall for historical preservation that only the north-eastern side is abutting with street. However, the required load/unloading facilities cannot be provided close to the site entrance at the NE part of the Site in order to maintain an adequately clear space for the public enjoyment of and access to the historic building of Siu Lo, both physically and visually, and for provision of the proposed Heritage Garden. Space also has to be reserved for an EVA capable of serving a major facade having not less than one-fourth of the total length of all the perimeter walls of the building for compliance with B(P)R 41D. Therefore, the internal road has to take up a considerable amount of space at the G/F. (***EVA Plans*** in **Appendix 1** refers)

Taking into account the above considerations, the proposed scheme is an optimized design in achieving the intended 6,600 sq.m of GFA.

5.6 A Compatible and Acceptable Building Height

The building heights of the existing developments in the surrounding comprise a variety of mixes, including the medium-to-high-rise residential estates of Brand (名御), Sereno Verde (蝶翠峰) and the Reach (尚悦) on land parcels zoned “Residential (Group B)” under the OZP subject to a BHR of 25 storeys; high-density residential estates namely Park Signature and La Grove along the Kung Um Road and Shap Pat Heung Road in the outer vicinity to the further south-west of the Site zoned “Residential (Group A)1” (“R(A)1”) under the OZP subject to a BHR of 25 storeys; and villages. The building heights of the planned developments in the near surrounding range from 6 to 8 storeys high, including (1) an 8-storey composite building comprising school and religious institution (church) at +37.9 mPD on the Yuen Long Baptist Church site (No. A/YL/252) and (2) a 6-storey RCHE building at +28.7 mPD on the Ex-Hang-Heung Factory site (No. A/YL/263). Although the subject “G/IC(1)” zone is subject to a max. BH of 3 storeys excluding basement(s) (or max. BH of 8 storeys for “school” or “hospital” uses), the permitted BH of the prevailing “G/IC(1)” zone is actually much lower than those of the “R(A)” and “R(B)” zones in the general context of the urban fringe in Yuen Long. A lower building height than 8 storeys, the maximum building height for the prevailing “G/IC(1)” zone for ‘School’ and ‘Hospital’ use as imposed by the Town Planning Board after careful studies, scrutiny and considerations, should be considered a compatible height in terms of the scale of building blocks.

5.7 No Insurmountable impact on the surroundings

It is anticipated that the Proposed Development would not result in any insurmountable impacts to the surroundings on visual, landscape, heritage, environmental, sewerage, drainage, traffic and risks aspects.

5.7.1 No Adverse Visual Impact

A VIA is conducted on 6 viewpoints in support of this planning application (Appendix 5). It is assessed to compare the visual impact of the Proposed Development against the existing condition. The photomontages from the Second Approved Scheme (No. A/YL/289) are also provided for easy reference. All the viewpoints are adopted to follow the Second Planning Application (No. A/YL/289).

The broader area of the Application Site is a vast piece of flat land, comprising small village blocks and temporary structures in a close distance and high-rise residential developments at a further distance. The setting of the area is typically an urban-village fringe area. Given that there are no open spaces and lookouts with a lack of public activity nodes, the VSRs in this VA mostly represent passers-by, cyclists and the nearby residents/villagers, who are transient/kinetic in nature. In this regard, the visual sensitivity in most viewpoints is not high. VP4 and VP5 are low visual sensitivity and the remaining VPs are considered to have a medium visual sensitivity.

In terms of the overall character and compatibility in mass and scale, the proposed RCHE development is largely comparable with the planned developments of Yuen Long Baptist Church (No. A/YL/252) and Ex-Hang-Heung Factory (No. A/YL/263) in the vicinity. These developments will form a compatible group

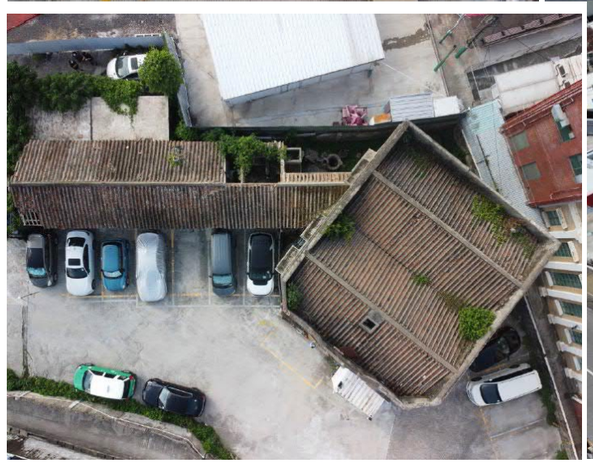
of buildings in this transitional area to the south of Yuen Long town centre. Overall, a visual harmony is hence maintained.

Although the Proposed Development will block partially the open sky view at some viewpoints, the resultant visual impacts are much reduced due to the transient/ kinetic nature of public viewers as the majority at most viewpoints. The opportunities of design merits and landscape features such as G/F heritage garden and R/F with trees and shrubs (see ***Landscape Plans*** in **Appendix 1**), a permeable design on the ground level (subject to detailed design), are maximised under the site constraints and in materializing the conservation-cum-development proposal. All of these features will help mitigate the visual impact.

Based on the above, the visual impacts at all 6 viewpoints are identified from negligible to slightly adverse. Hence, the overall visual impact of the proposed development is considered acceptable. It is anticipated that there is no adverse visual impact from the Proposed Development.

5.7.2 No Adverse Landscape Impact

There is currently no existing tree within the site. (see photos below taken in Jan 2023)



The Site is currently hard paved by concrete and is flat. In the Proposed Development, at-grade periphery planting and landscape treatments will be provided as far as possible to create visual amenity to the surrounding. A Landscape Master Plan is submitted to ensure a quality landscape environment for the Proposed Development. 11 nos. of trees with will be replanted within the Site. The provided total planting area and green ratio are about 380 sq.m and at least 20% respectively. (***Landscape Plans*** **&** ***Greenery Plan*** **in Appendix 1** refer)

It is advised by Heritage Conservation expert that it is not preferable to add new planters in front of Siu Lo at a close distance due to a risk of causing the rising damp to the brick building, with most of them may not have a waterproofing layer underneath the ground floor slab, resulting in risks to the structural stability of the historic building. Similar comments have been provided by AMO on other heritage conservation projects. Therefore, other planting methods such as fixed planters, will be explored in future, subject to further studies and the premise of no adverse impact to the conservation works of Siu Lo.

The Site boundary will be provided with a 2.5m high fence wall to protect the elderly residents within the RCHE and provide privacy screening. As indicated in the ***Landscape Detail*** **in Appendix 1** , a pleasant bamboo strip is proposed at the western edge of the site which is considered an effective means of maximizing greenery opportunities within the narrow space, also bringing an elegance and an oriental sense to the landscape. Seating facilities/benches will be provided for visitors' enjoyment.

In short, it is considered that there is no adverse landscape impact will be brought about by the Proposed Development.

5.7.3 No Adverse Heritage Impact

A Heritage Appraisal has been conducted in support of this planning application (**Appendix 3** refers). It has revealed that Siu Lo is a historic building with a high level of authenticity. Most parts of the buildings remain unaltered in the past 70 years. The interesting hybrid architectural design is hidden by unattended vegetation since then.

The Heritage Appraisal concludes that the proposed conservation-cum-development scheme provided an opportunity to revitalize Siu Lo. The in-situ conservation of Siu Lo (both the main building and the annex block) will bring along public benefits as Siu Lo will be preserved to ensure the building's integrity and safety, and provided for free public visits with guided tours around the historic building with the interpretation display boards for public visitors at regular intervals. While the proposal will help solve the shortage of elderly facilities in Hong Kong and its intention is in line with governmental policies, any negative impacts and alternation to the historic building has been minimized since Siu Lo will remain as a freestanding building to which no physical connection by the proposed building will be resulted.

5.7.4 No Insurmountable Environmental Impacts

Preliminary analysis and assessment on environmental impacts have been conducted in relation to the air, noise and land contamination respectively.

Air Impact Consideration

There are two potential sources of air pollution: (a) chimney emissions from adjacent industrial operations and (b) motor vehicles. Potential air nuisance will be mitigated by careful building disposition and building design.

Potential Chimney Emission

According to HKPSG, a recommended buffer distance of 200m from the industrial chimney(s) to the air sensitive uses is required. A site visit has been conducted in March 2023 and only one industrial chimney can be identified at Man Cheong Metals and Building Materials Co. Ltd. It is currently a warehouse storage for building materials and the chimney is no longer in use. No major industrial emission source has been identified within 200m from the Site.

Potential Vehicular Emission and Mitigation Measures

In addressing potential vehicular emission impact from adjacent road from Tai Tong Road, the mitigation measures are taken as -

No air sensitive uses of the Proposed Development will be located within the required 10m buffer distance from Tai Tong Road (**Figure 1** refers) based on the latest design.

Potential Air Impact During Construction Stage

During construction stage, construction dust and gas emissions from construction equipment and vehicles are possibly generated. Dust control measures as stipulated under the Air Pollution Control (Construction Dust) Regulation, together with proper site management and good housekeeping practices, will be implemented to minimize potential air impact during construction stage.

Noise Impact Consideration

Some of the habitable rooms in the eastern portion of the RCHE building under the Second Approved Scheme are subject to the application of acoustic windows as mitigation measures against traffic noise fixed noises from the nearby vehicle repairing workshops and warehouses, as well as the planned fixed plant of the Proposed Development. An updated Noise Impact Assessment is submitted for the current planning application from road traffic and fixed noise perspectives. (**Appendix 6** refers)

The updated NIA results indicate that after implementation of recommended mitigation measures, the predicted noise levels at all residential units comply with HKPSG L 10(1 hour) 70dB(A) noise criterion.

Fixed noise impact assessment has been carried out. The future residents are subjected to noises from the nearby vehicle repairing workshops and warehouses, as well as the planned fixed plant of the proposed Site. Based on the findings of site investigation and assessment results the predicted fixed noise levels of the proposed Site would comply with the relevant noise criteria.

Land Contamination

Historical Review of Land Use

A review of historical aerial photographs obtained from Survey and Mapping Office of Lands Department (LandsD) was undertaken in December 2021. It aims to identify potential land contaminated areas associated with previous land uses from 1963 to 2021. The reviewed aerial photographs are listed below:

TABLE 5.1 – REVIEW OF HISTORICAL AERIAL PHOTOS

Year	Height (feet)	Reference No.	Observations
1963	3900	63_8447	House and Agriculture
1979	6900	E064339C	House and vacant land with vegetations
1988	1400	A12529	House and vacant land with vegetations
1993	3000	CN03425	House and vacant land with vegetations
2009	2000	CW85470	House and vacant land with vegetations
2015	2500	CW116289	House and car park
2021	6900	E130378C	House and car park

Based on the aerial photographs reviewed, the historic building of Siu Lo exists since 1963 and the remaining portion of the Site is suspected to be in agricultural use at that time. From 1979 to 2009, the remaining portion of the Site was filled with vegetations and no land use was traceable within the Site aside from Siu Lo. From 2015 to present, the remaining portion of the Site aside from Siu Lo has been used as car park

No Polluting Activities

According to the Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management from EPD, contaminated land is caused by spillage, leakage or disposal of toxic chemical to the ground. Based on the history of land uses as observed from the aerial photos, there is no visible sign of land contamination within the Site and no potential land contamination issue is anticipated.

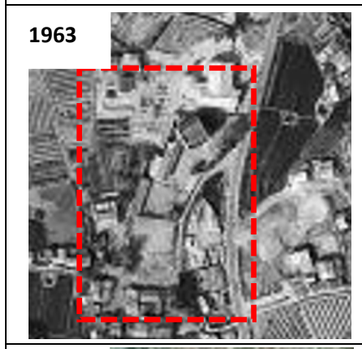
In summary, it is concluded that no insurmountable impact on the environment is anticipated in respect of air, noise and land contamination.

Site Photo (as at July 2021)

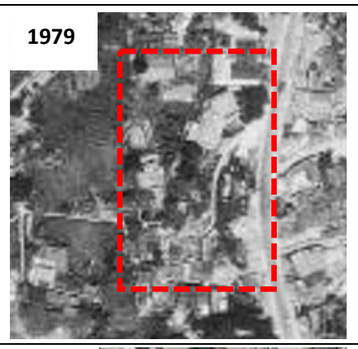


Aerial Photos

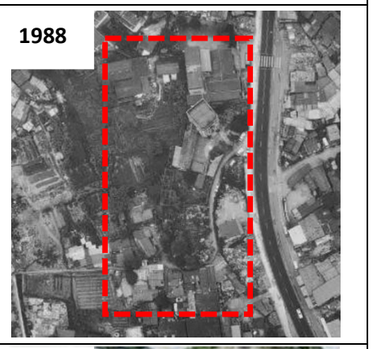
1963



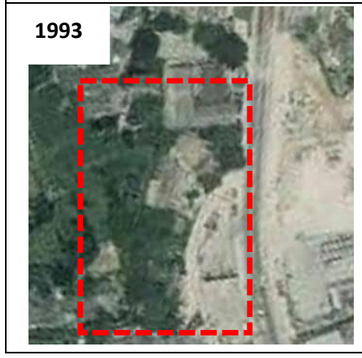
1979



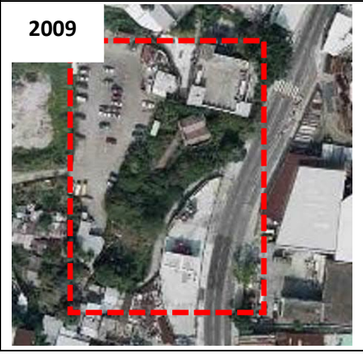
1988



1993



2009



2015

2021

5.7.5 No Insurmountable Sewerage and Drainage Impact

The potential sewerage and drainage impact of the Proposed Development has been quantitatively addressed in the Sewerage and Drainage Impact Assessment. (**Appendix 7** refers) It concludes that no insurmountable sewerage and drainage impact to the existing drainage system is anticipated after the Proposed Development.

5.7.6 No Insurmountable Traffic Impact

A Traffic Impact Assessment (TIA) has been conducted to study the traffic impact of the Proposed Development on the surrounding road network under the Second Planning Application. (**Appendix 8** refers) The TIA concludes that the related traffic trips related to the Proposed Development can be absorbed by the nearby road network and no significant traffic impact will be induced. A Traffic Statement is submitted under the current application which justifies that the proposed amendments to the Second Approved Scheme will induce no insurmountable traffic impact. (**Appendix 8A** refers)

5.7.7 No Adverse Risk from Nearby Petrol Filling Station

A Quantitative Risk Assessment (QRA) Report conducted by Cundall Hong Kong Limited was previously submitted and approved by the EPD and Town Planning Board (hereafter called as approved QRA) in the First Planning Application. Given the proposed minor relaxation of BHR, additional population and the rescheduling of the construction period from 2021 to 2023, and the operation period from 2023 to 2025, a justification review has been conducted (**Appendix 9** refers) to evaluate if any changes in the key assessment parameters and thus the major risk levels associated with Caltex PFS compared with the approved QRA Study. This review has been conducted in compliance with the Hong Kong Risk Guidelines in terms of the individual risk and societal risk regarding the operation phase in 2025. It includes the updated data of Projection of Population, AADT, Road Traffic Accidents.

Individual Risk
The individual risk contour according to the approved QRA of 10^{-5}per year with consideration of exposure factor of 10% was unchanged and confined within the unchanged site boundary of Caltex PFS. Therefore, the individual risks of Caltex PFS are still in compliance with the Hong Kong Risk Guidelines.

Societal Risk
Comparing the data for 2025 and that for 2023, the two set of data was with high resemblance that the result had proven to be effective. Therefore, it could be concluded that the additional information in the review would not incur significant impact to the simulation result on the exiting risk. The societal risks associated with Caltex PFS during both Construction and Operation Phases are in compliance with Hong Kong Risk Guidelines in terms of societal risk.

The justification review concludes that the approved QRA report is still acceptable and valid for the operation phase of PFS by 2025 and no particular mitigation measures are required to manage the risks. In response to the letter from Fire Services Department (FSD), ref. no. (21) in FSD PG 242/791/98 Pt. 2 dated 3 Feb 2023, the following mitigation measures are proposed for FSD's consideration (see **Appendix 9A**):

- A solid reinforced concrete wall, with a Fire Resistance Rating of at least 2 hours and a thickness of at least 300 mm, to be built from G/F to 2/F along the wall of the proposed building facing the nearby Petrol Filling Station (PFS);
- No intake / exhaust openings of the proposed building should be built within 12m from the dispenser of the PFS; and
- No emergency exit/ entrance of the proposed building should be built within 12m from the dispenser of the PFS.

5. 8 Merits of the Proposed Amendments to the Approved Scheme (A/YL/289)

As detailed in Section 4.2, the proposed increase in the floor-to-floor heights to 7.45m at G/F and to 3.6m at typical floors of the RCHE building have the merits of:

I. Materializing the conservation-cum-development proposal and conservation of the Siu Lo Annex Block in-situ by allowing sufficient vertical space for thicker building structural elements as quintessential to enable the RCHE floor plates above to span over the Siu Lo Annex Block with a limited no. of columns to minimize the visual impact;

II. Enhancing the design compatibility with Siu Lo and allowing more space for occasional roof maintenances for the Annex Block in future, by an increased vertical separation between the RCHE building and the Siu Lo Annex Block; and

III. Enabling a larger ventilation system to comply with the latest guideline on prevention of communicable diseases in RCHE provided by the Department of Health, by an increased typical floor-to-floor height.

As detailed in Section 4.3 above, the re-arrangement in the layouts of the building blocks and internal transport facilities has the merits of enhancing the compatibility and integration between Siu Lo and the new RCHE building through:

IV. Further setting back the internal road/EVA to enable a larger space around the Annex Block for the enjoyment of visitors and an EVA compliant with the relevant building regulations and fire safety requirements;

V. An adjusted angle of the RCHE block for a more recessive and orderly design in response to Siu Lo; and

VI. The pocket open space along the southeastern boundary is utilized as RCHE floor space such that less new building area will be close to Siu Lo.

6. CONCLUSION

This application is to seek planning permission from the Town Planning Board for proposed amendment to the Second Approved Scheme (i.e. application no. A/YL/289) as approved by the Town Planning Board on 29.7.2022 for minor relaxation of BHR from 3 storeys to 6 storeys for permitted social welfare facility (RCHE). In view of the presence of an existing Grade 3 historic building 'Siu Lo' currently occupying the northern portion of the Site, the Applicant proposes a conservation-cum-development approach in which Siu Lo will be preserved in-situ and a 6,600 sq.m of GFA for the RCHE building is proposed at the southern remaining portion of the Site to fully optimize the development potential according to the Incentive Scheme.

The proposal is in line with the Government's heritage conservation policy which also premises on respecting the private property rights. Siu Lo will be used for private "house" use as per its original purpose. According to the Heritage Appraisal submitted, as compared to the external "Character Defining Elements" (CDEs), the internal features have relatively minor contribution to the overall significance of the place. As such, while the interior features of historical significance will be preserved as per the Heritage Appraisal, **the proposed landscaped Heritage Garden will become the area open for free public visits with guided and self-guided tours, educational display boards, thus allowing photo-taking spots around the external of Siu Lo, while glazed doors/ windows will be provided at the Siu Lo building to allow the public visitors to see-through the internal area from outside**.

To fully optimize on its convenient location in Yuen Long, the Applicant intends to increase development scale of the proposed RCHE licensing portion to a maximum gross floor area (GFA) of 6,600 sq.m as per the policy of LandsD's Incentive Scheme. **With an optimized design under the proposed scheme while conserving Siu Lo, the new RCHE building is required to have 6 storeys to achieve the intended RCHE GFA of 6,600 sq.m.** Under the current proposal, the nos. of beds of the proposed RCHE will be increased to 241 beds (or within a range of 220 – 260) from 170 under the First Approved Scheme (i.e. about 42% increase).

The Town Planning Board is cordially invited to note that the Applicant has a genuine intention to submit a development proposal to suit the prevailing town planning context of Hong Kong and to tally with multiple policy objectives of the Government. In short, the proposed relaxation of BHR is justified based on the following planning grounds:

1 In line with Government Policy to provide RCHE premises in new private developments

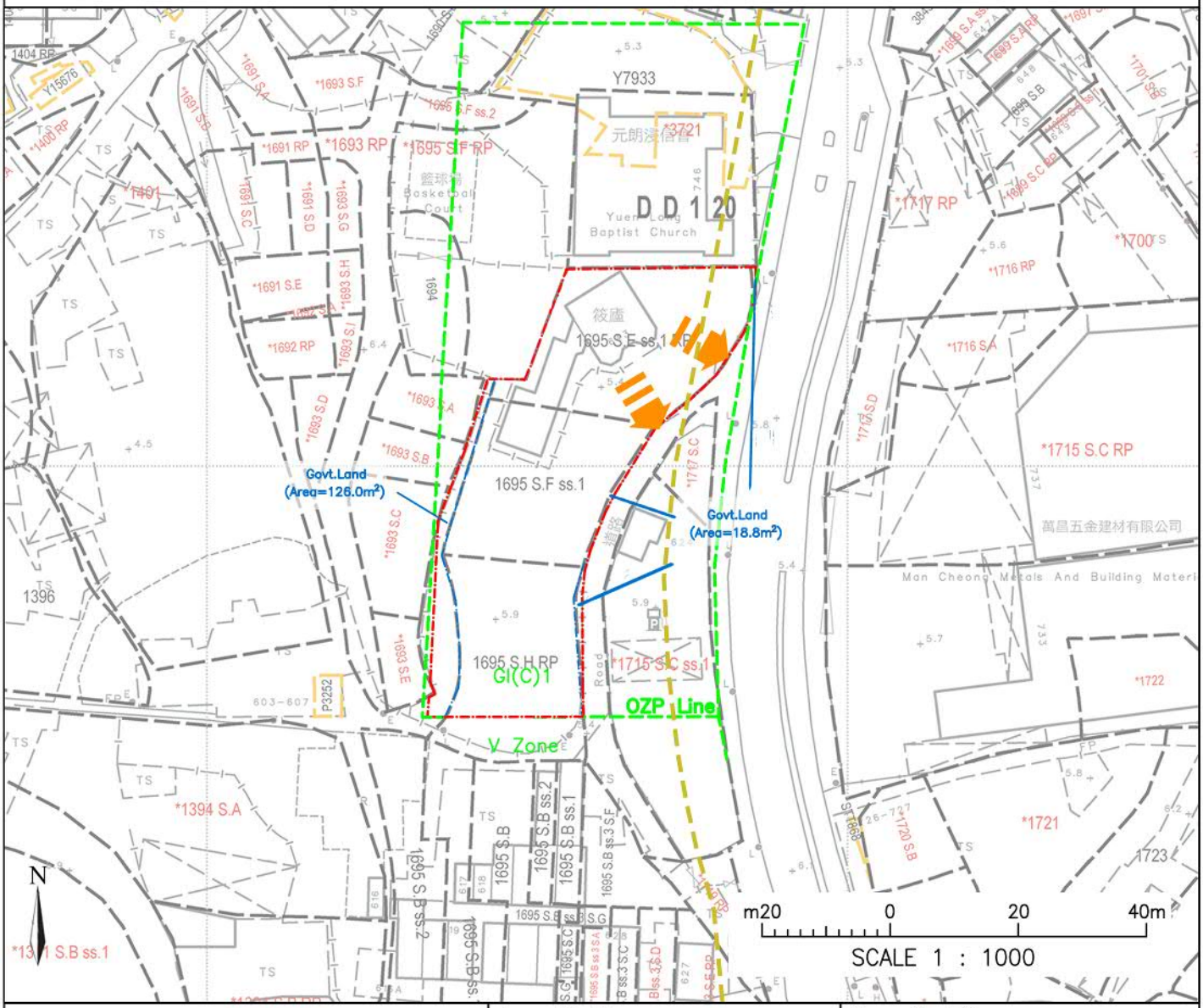
2 Addressing the present and future demand for RCHE Provision in Yuen Long
3 In line with Government Policy to make better use of the valuable land resources, especially on "G/IC" site as an overall sustainable mode of development
4 Planning merits of the conservation-cum-development approach
5 An optimized design in response to site constraints
6 A compatible and acceptable building height
7 No insurmountable impact on the surroundings
8 Merits of the Proposed Amendments to the Approved Scheme

The front façade of the Main Building is unobstructed for public appreciation in the Second Approved Scheme. The subject amendments to the Second Approved Scheme is considered a further enhancement to the schematic design and a resolution to complying with the technical requirements of EVA. The setting of Siu Lo is further respected with the additional vertical and horizontal setback measures. Apart from the above schematic changes, additional merits are also proposed, including allowing the future guided tours and private tours for NGOs and schools as previously proposed, to visit some of the interior areas of Siu Lo under the docent's guidance.

In view of the above, members of the Town Planning Board are respectfully requested to favourably consider this application.

Site Plan

Figure 1



LEGEND

Application Site (1877.1m²)

Existing Lot Boundary

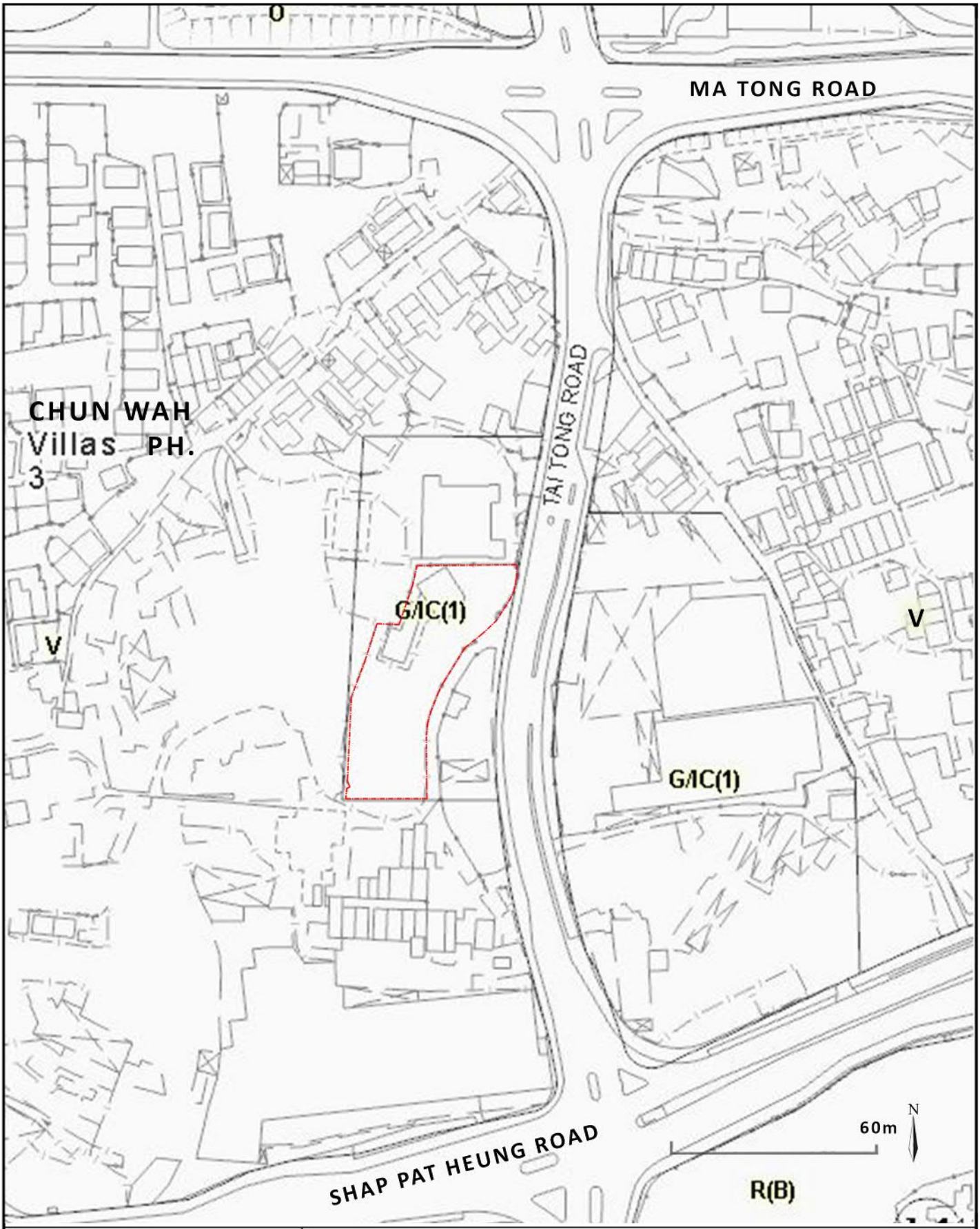
"G/IC(1)" Zoning Boundary

Clearance at Siu Lo frontage for visual and physical access

10m Setback from Tai Tong Road for air quality

Survey District: Yuen Long	Survey Sheet No.: 6–NW–15A
Scale: As shown	Plan No.: LSC/YL/3722/1695/GL/R1
Ref. SRP No.: —	Date: 20/3/2023

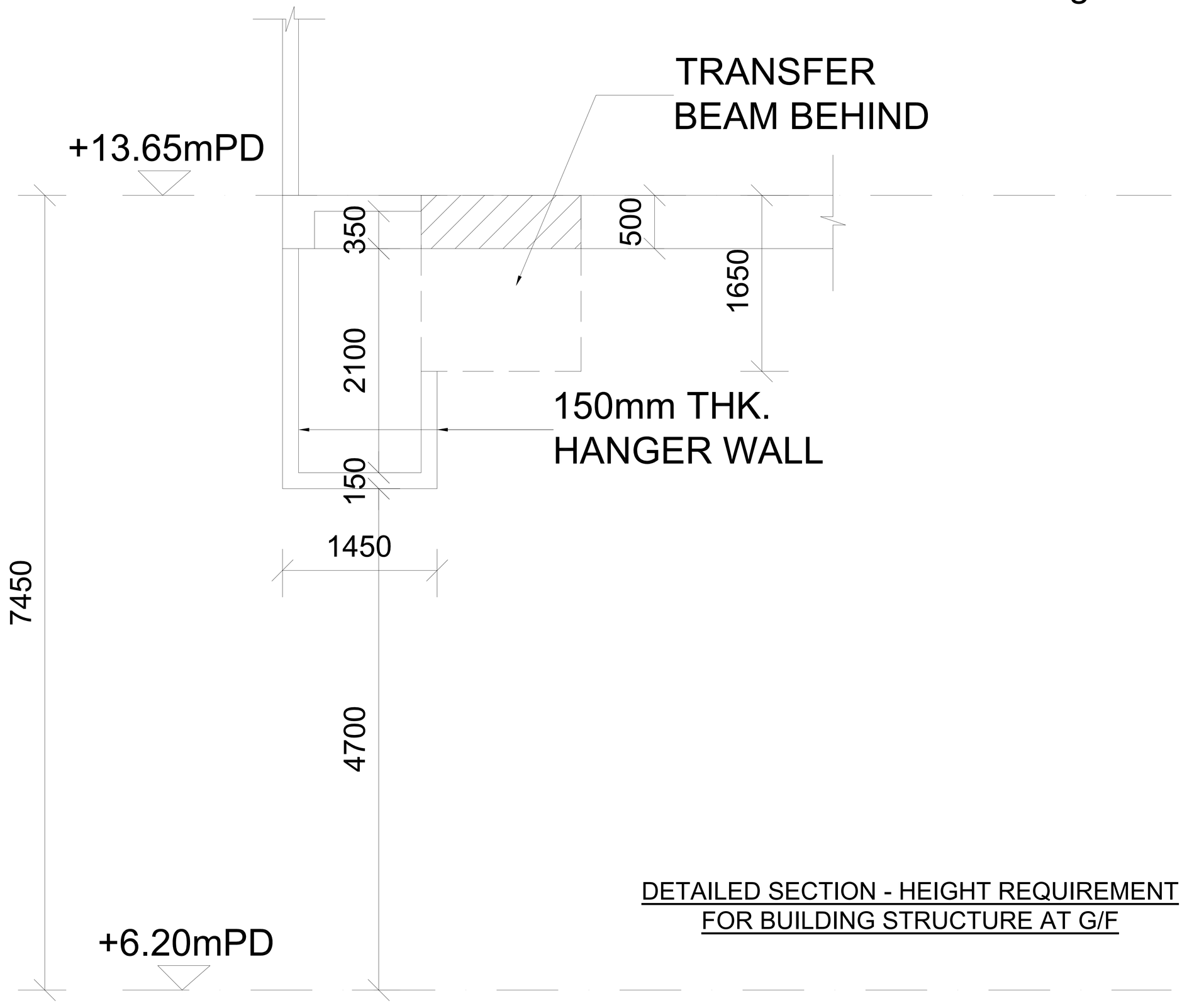
DeSPACE (International) Limited



Legend	Location
Application Site	Lot Nos.1695 S.E ss. 1 RP, 1695 S.F ss.1, 1695 S.H RP (Part) and Adjoining Government Land in D.D. 120, Tai Kei Leng, Yuen Long, New Territories

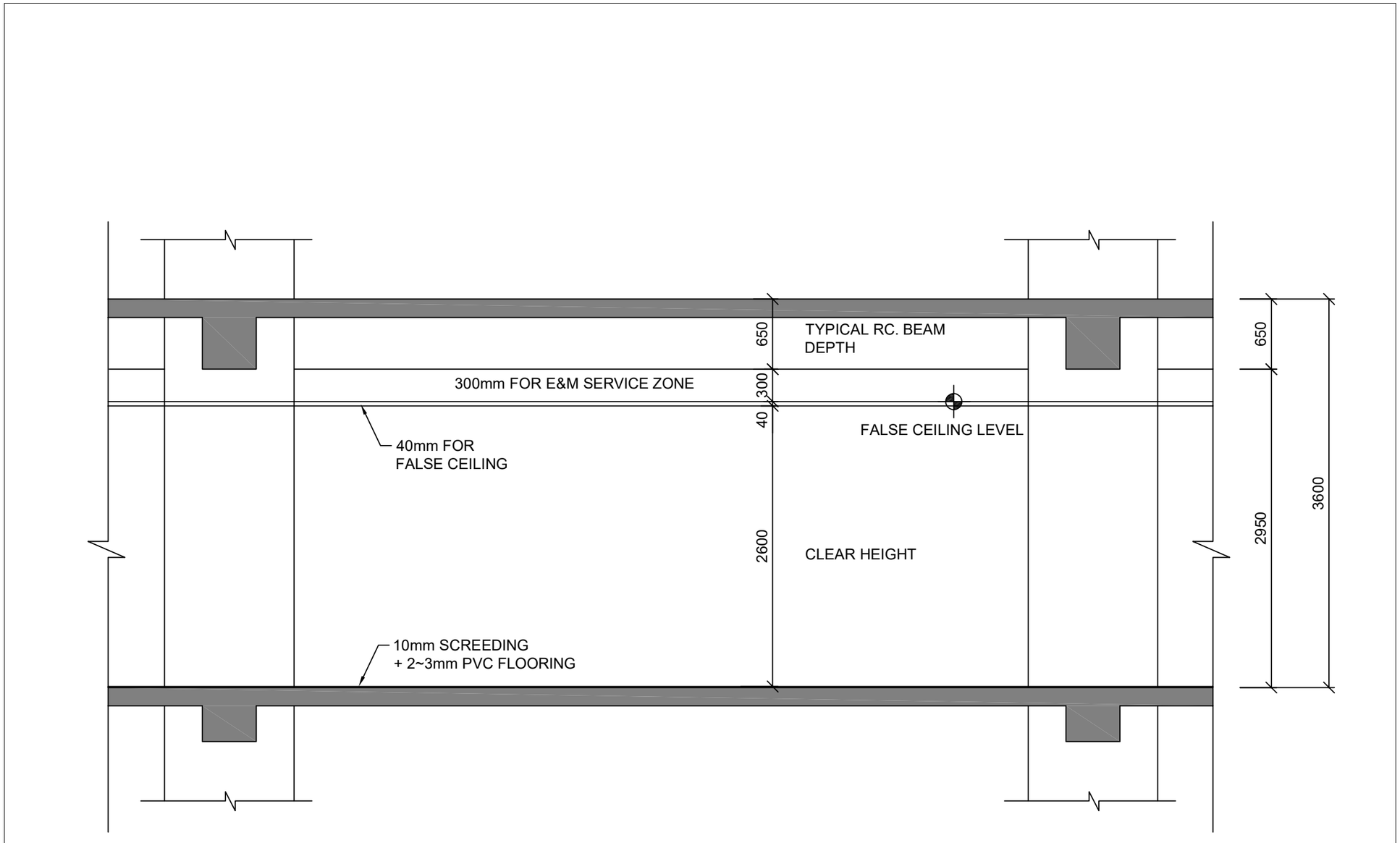
Figure No.	Figure Title	Date	Scale	Prepared by
FIGURE 2	Location Plan	Feb 2023	As Shown	DeSPACE (International) Limited

Figure 3



DETAILED SECTION - HEIGHT REQUIREMENT
FOR BUILDING STRUCTURE AT G/F

Figure 4



DETAILED SECTION - CLEAR HEIGHT
FOR TYPICAL FLOORS

GFA on G/F of about 1,200m^2 to be double counted as per Building Authority's ruling

Proposed Right of Way (outside the planning application boundary and for indicative only)

NOs. of BED = 55

1:250 @ A3 2023.07.03

G/F LAYOUT PLAN
SIU LO RCHE 1:250

Figure 5: Drawing No. P-101 - Showing GFA to be Doubled Counted and Proposed Right of Way (for indicative only)

PROJECT NO. 項目編號 : HK-A22006

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I	DESIGN	20230809

TOWN PLANNER & SURVEYOR 城市規劃師及測量師 :
DeSPACE (International) Limited
E-mail 電郵 : despaceinternational@gmail.com
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ARCHITECT 建築師 :
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TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME 項目名稱 :
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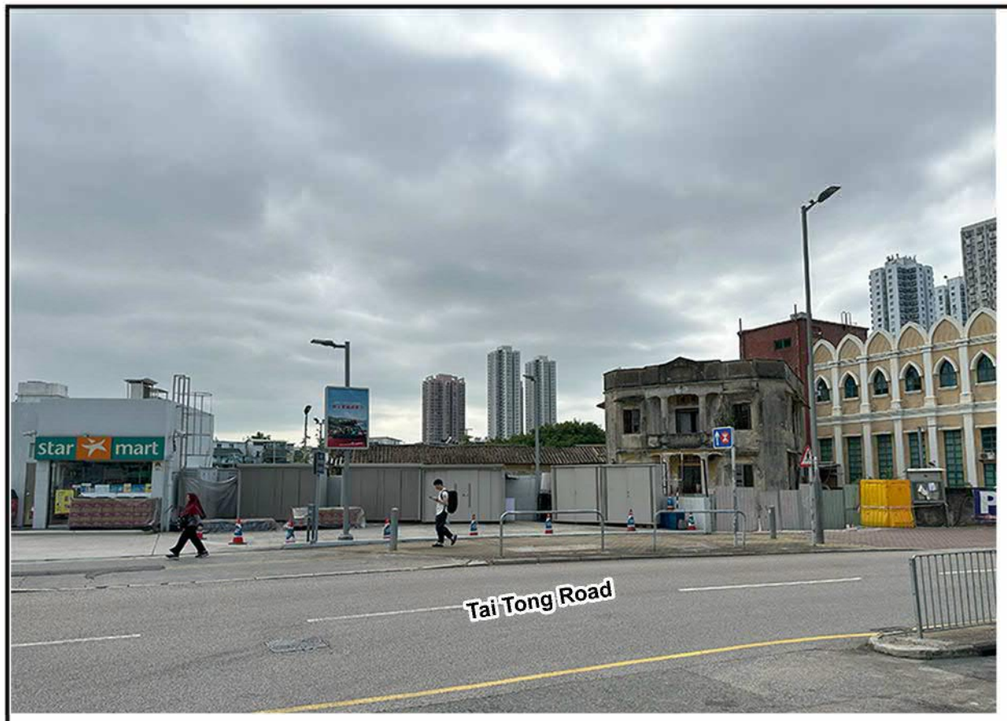
DRAWING TITLE 圖紙名稱 : G/F LAYOUT PLAN

DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號 : P-101

SCALE 比例 : 1:250@A3

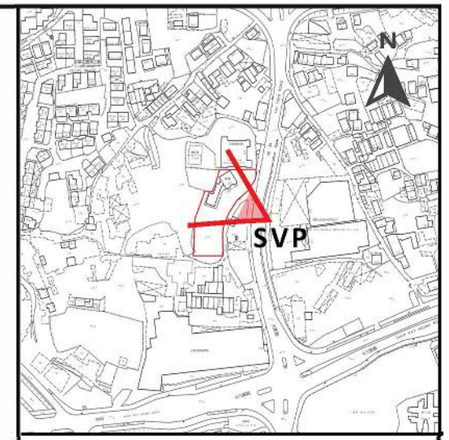
DATE 日期 : 20230705



Existing Scheme

Proposed Scheme

Approved Scheme (A/YL/289)



General Notes:

1. Renderings are indicative and for reference only.

Town Planner & Surveyor

DeSPACE (International) Limited

Architect

MINOR 細 CREATIVE 作室

Project	Title	Date	Scale	Figure No.
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long	**View looking westward at the adjacent walkway along Tai Tong Road (for AMO only)**	July 2023	/	Figure 6

General Notes:

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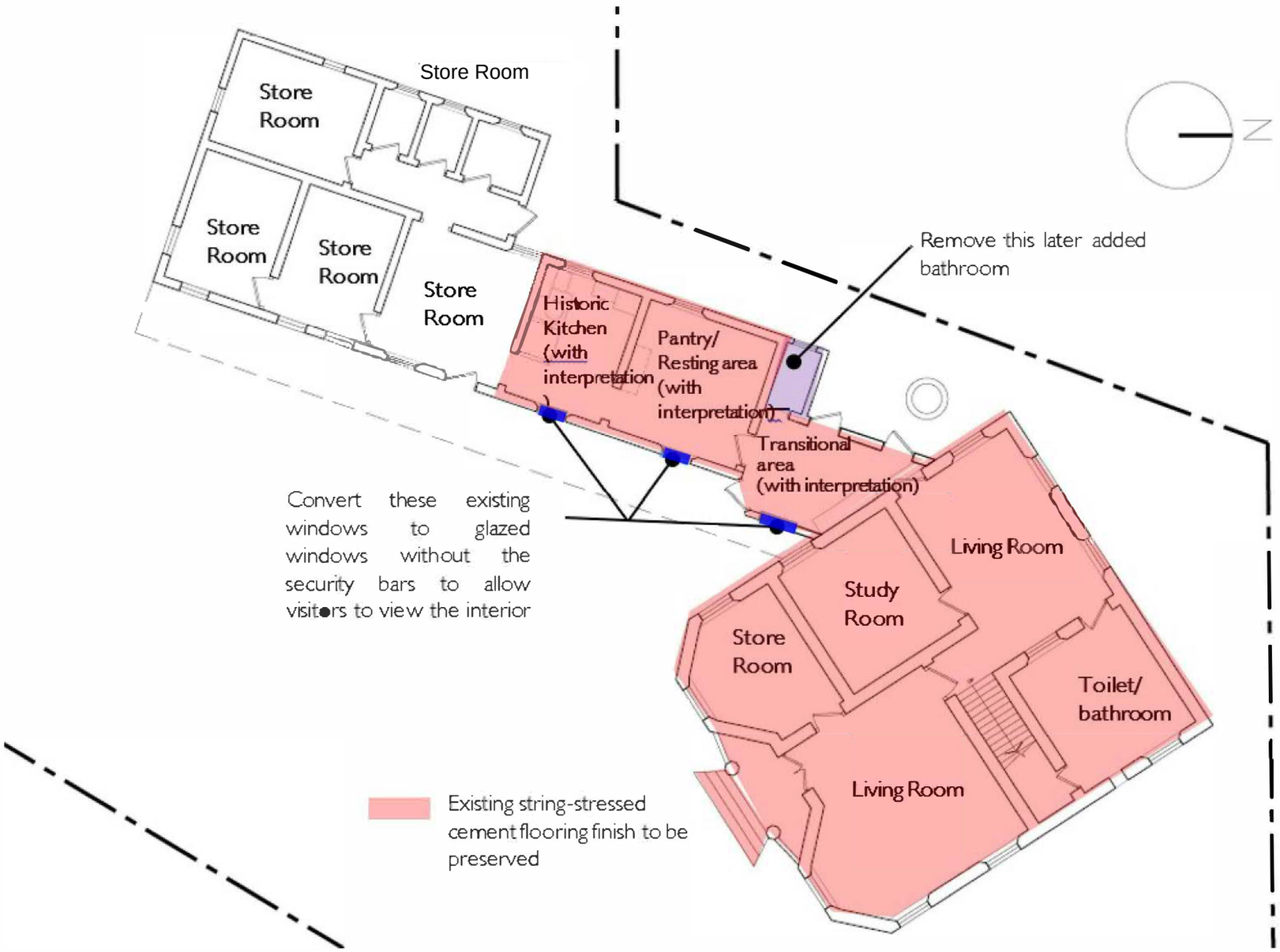
Town Planner & Surveryor

DeSPACE (International) Limited

Architect

MINOR 細 CREATIVE 作室

Project	Title	Date	Scale	Figure No.
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long	**Proposed Uses and Works in Siu Lo, Ground Floor 1**	**May 2023**	**/**	**Figure 7**



General Notes:

1. *Renderings are indicative and for reference only.*

Heritage and Conservation Consultant

REVIVAL
Heritage Consultants Limited

Town Planner & Surveyor

DeSPACE (International) Limited

Architect

MINOR 細
CREATIVE 作室

Project	Title	Date	Scale	Figure No.
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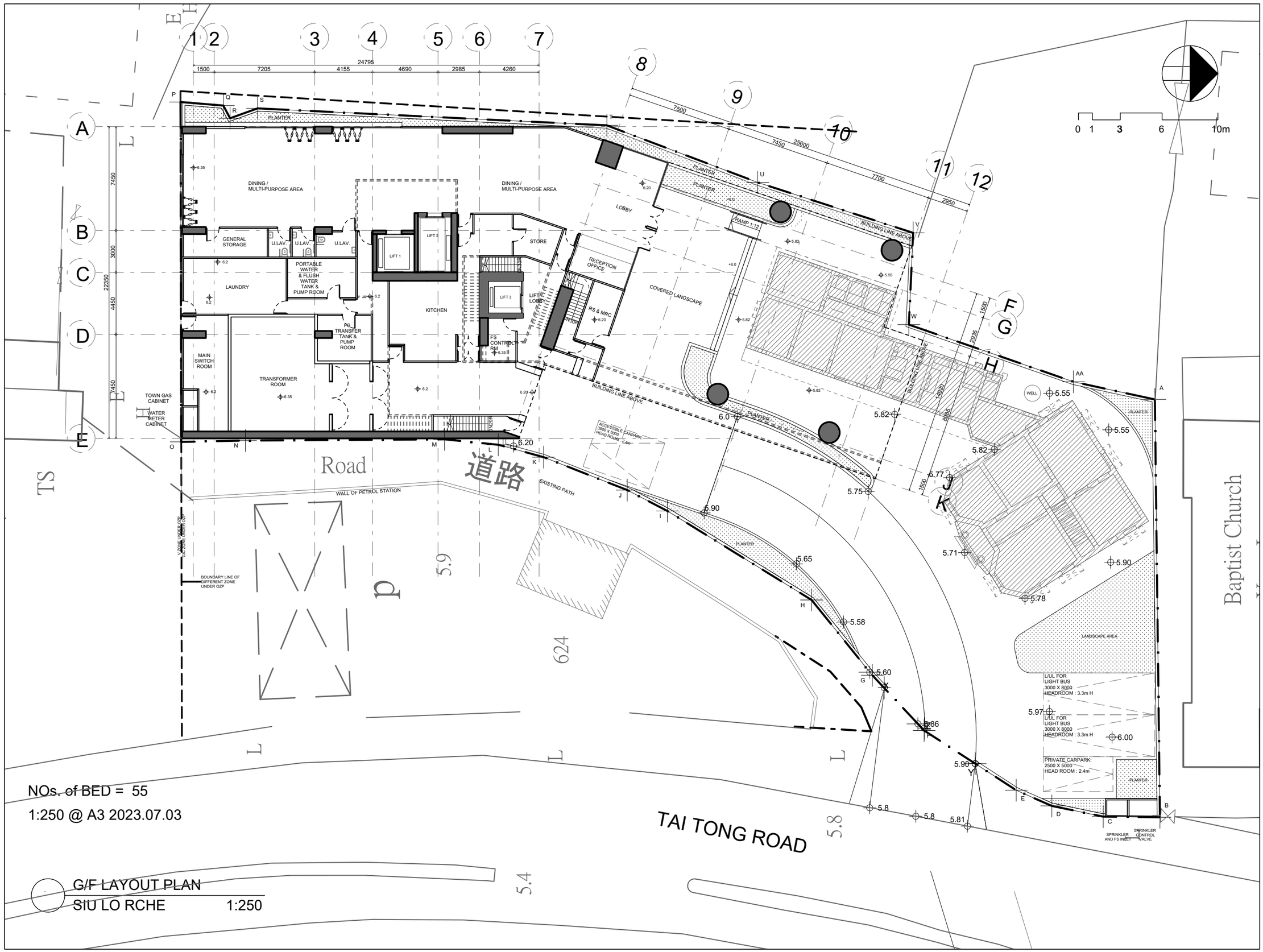
APPENDIX 1

DEVELOPMENT SCHEME -

PLANS & DRAWINGS



NOs. of BED = 55

1:250 @ A3 2023.07.03

G/F LAYOUT PLAN

SIU LO RCHE 1:250

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城市規劃師及測量師：
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■ E-mail 電郵：despaceinternational@gmail.com
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ARCHITECT 建築師：
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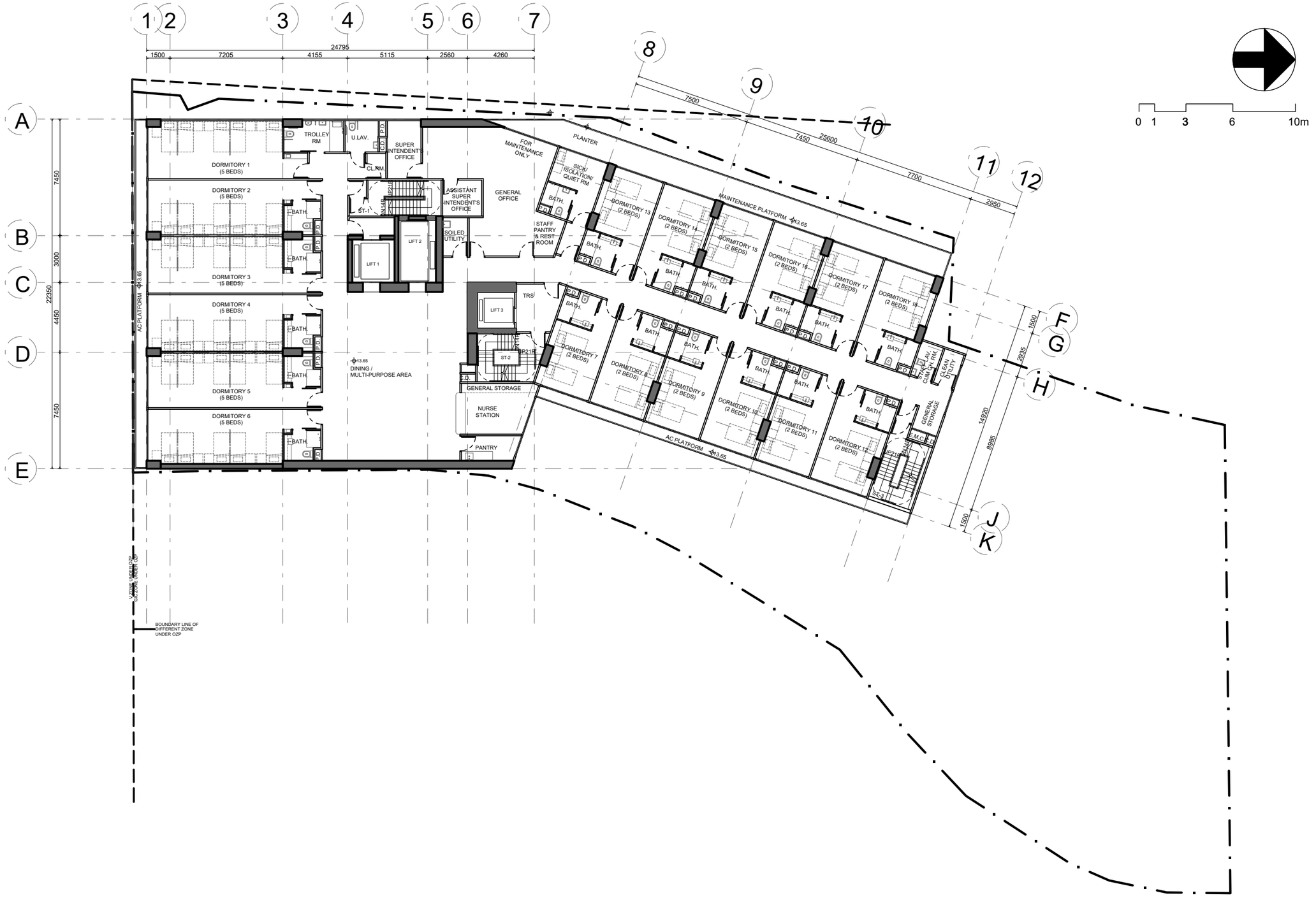
DRAWING TITLE
圖紙名稱： G/F LAYOUT PLAN

DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號：
P-101

SCALE
比例： 1:250@A3

DATE
日期： 20230705



1/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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ARCHITECT 建築師 :
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■ E-mail 電郵 : info@minorcreative.com

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S.T. WONG & PARTNERS LIMITED
STRUCTURAL ◆ GEOTECHNICAL ◆ ARCHITECTURAL ◆ PROJECT MANAGEMENT CONSULTANT
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DRAWING TITLE
圖紙名稱 : 1/F LAYOUT PLAN

DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-102

SCALE
比例 : 1:250@A3

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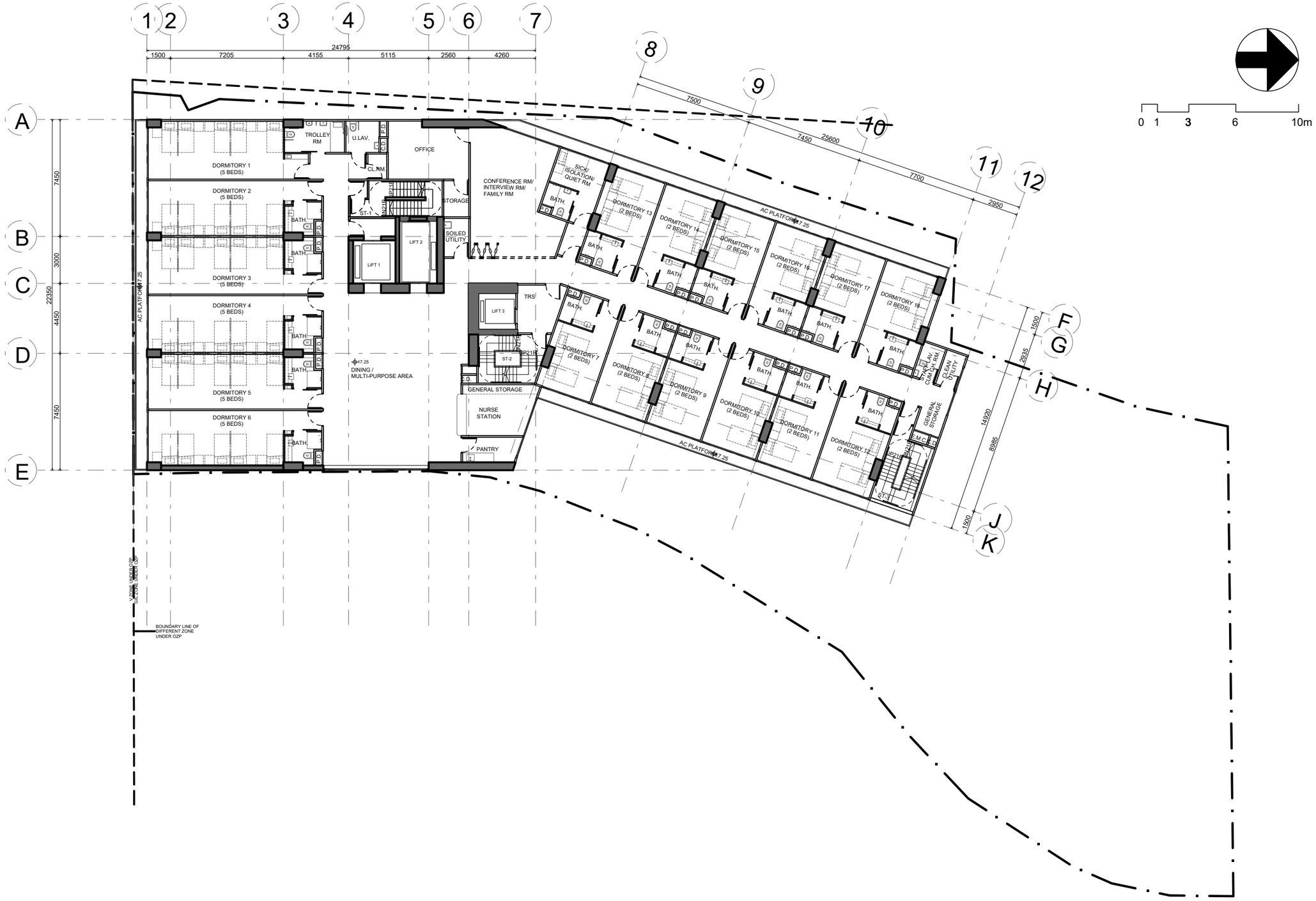
日期 : 20230705



2/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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DRAWING TITLE
圖紙名稱 : 2/F LAYOUT PLAN

DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-103

SCALE
比例 : 1:250@A3

DATE
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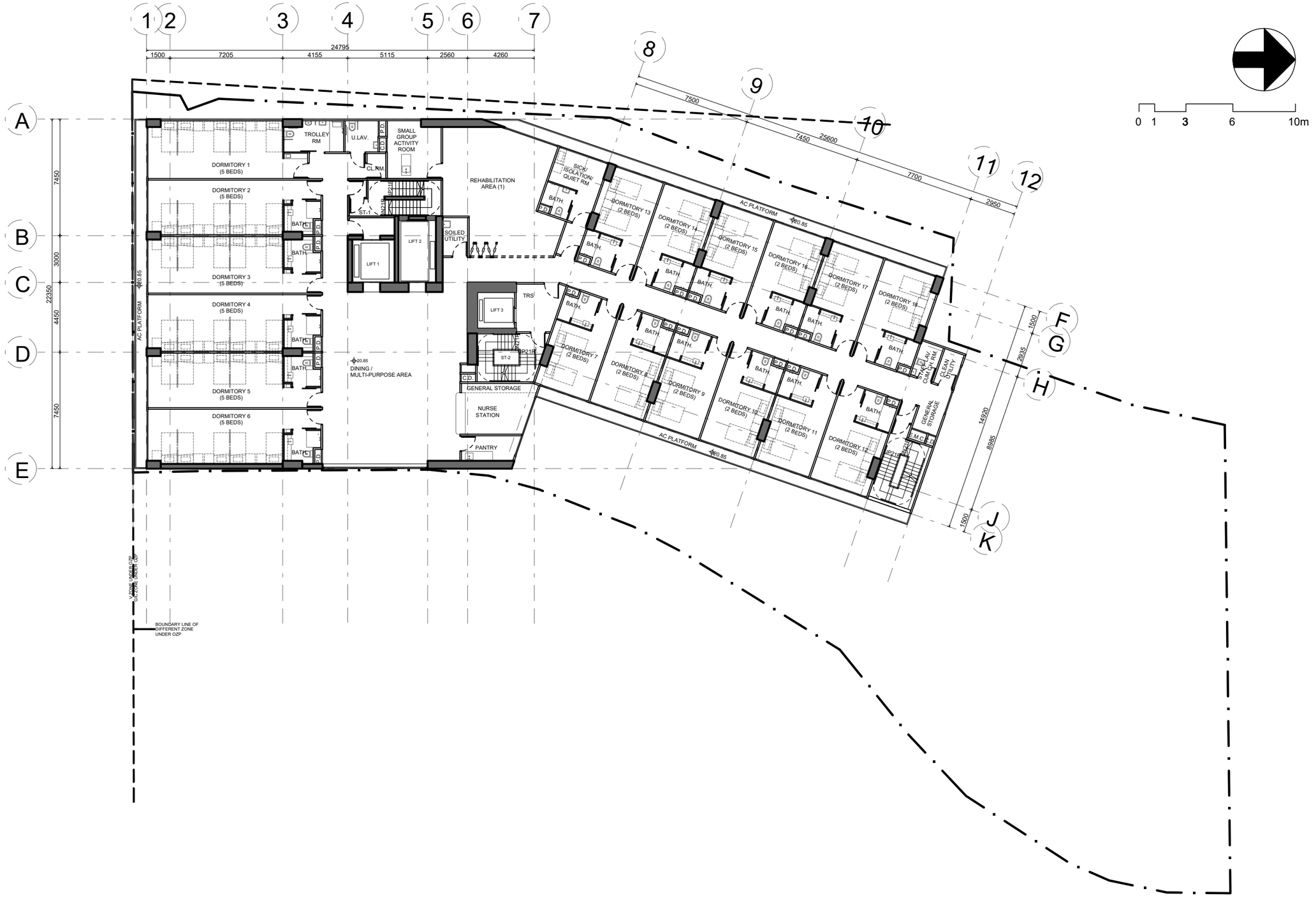

3/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO.
項目編號 : HK-A22006

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DRAWING TITLE
圖紙名稱 : 3/F LAYOUT PLAN

DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-104

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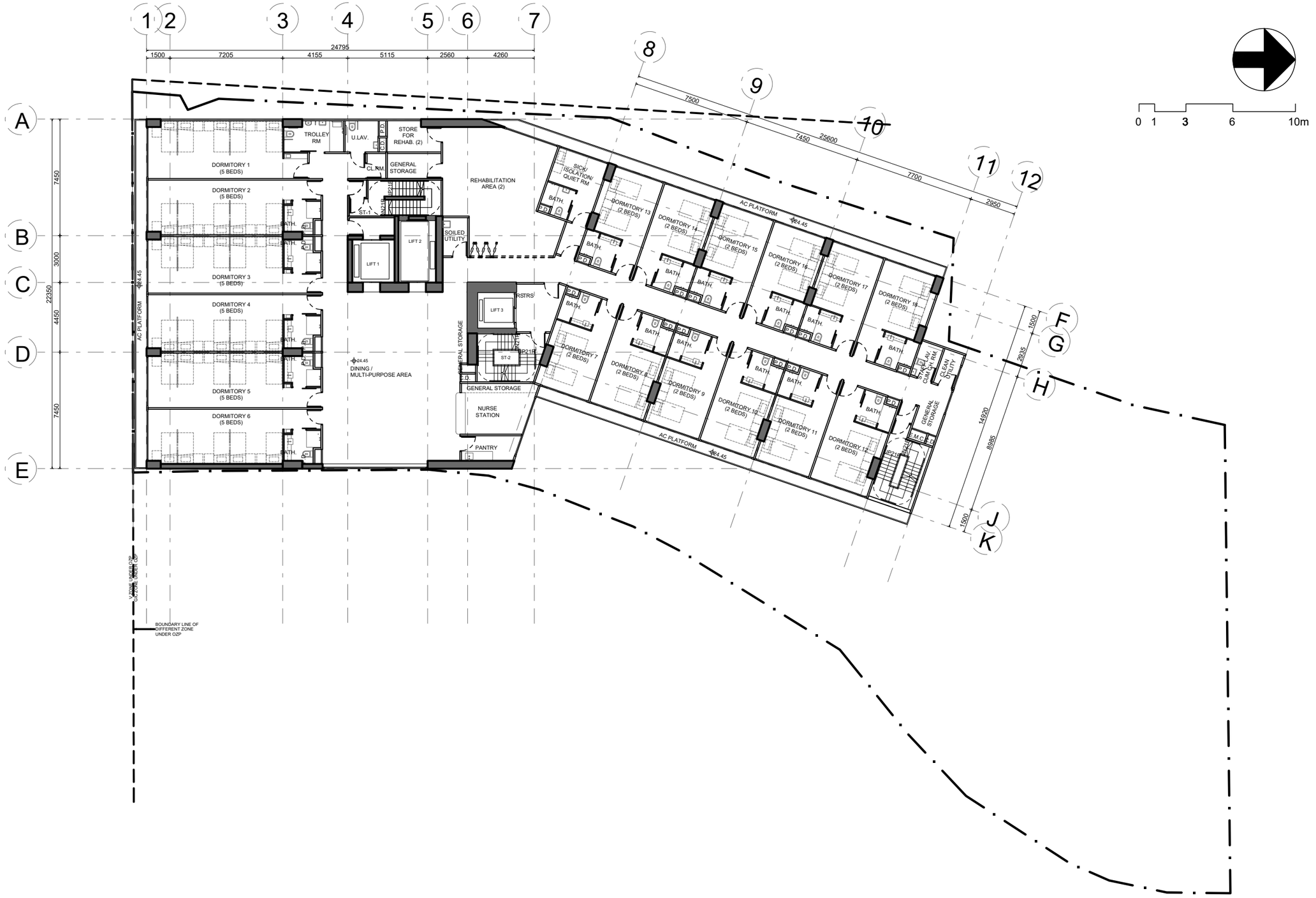

4/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO.
項目編號 : HK-A22006

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△	DESIGN	20221116
A	DESIGN	20221118
B	DESIGN	20221128
C	DESIGN	20221205
D	DESIGN	20221227
E	DESIGN	20221230
F	DESIGN	20230210
G	DESIGN	20230315
H	DESIGN	20230705

TOWN PLANNER & SURVEYOR
城市規劃師及測量師 :
DeSPACE (International) Limited
■ E-mail 電郵 : despaceinternational@gmail.com
■ Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 作室
■ E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
STRUCTURAL ◆ GEOTECHNICAL ◆ ARCHITECTURAL ◆ PROJECT MANAGEMENT CONSULTANT
■ E-mail 電郵 : irstwong@gmail.com
■ Tel 電話 : 2625 1776
■ Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
■ Fax 傳真 : 2399 0066
■ Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME
項目名稱 :
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

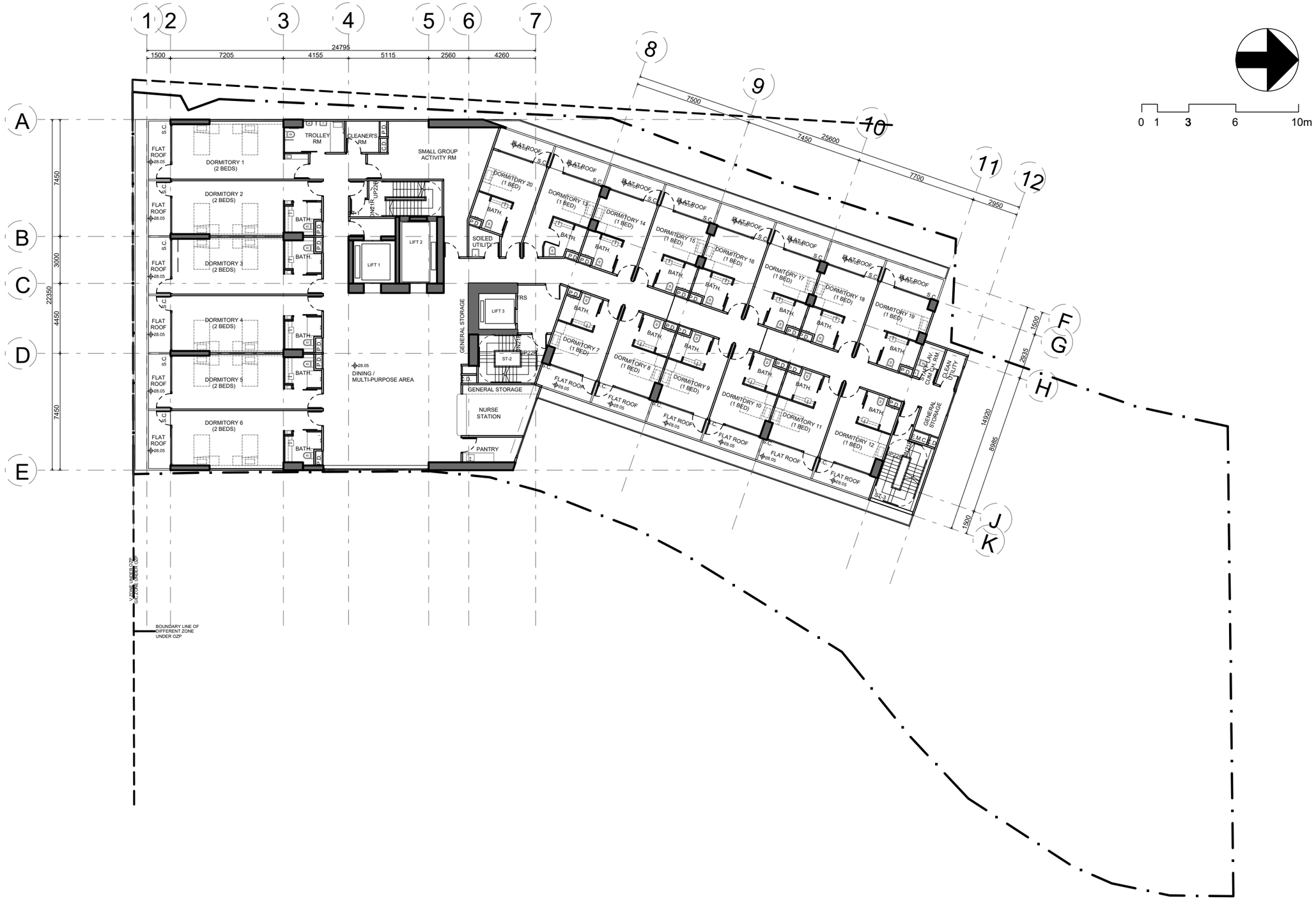
DRAWING TITLE
圖紙名稱 : 4/F LAYOUT PLAN

DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-105

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705



5/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO.
項目編號： HK-A22006

- Do not scale drawings: figured dimensions are to be taken in preference.
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AMENDMENT PARTICULARS
更改細節：

Revision 修正版	Description 內容	Date 日期
1	DESIGN	20221116
A	DESIGN	20221118
B	DESIGN	20221128
C	DESIGN	20221205
D	DESIGN	20221227
E	DESIGN	20221230
F	DESIGN	20230210
G	DESIGN	20230315
H	DESIGN	20230705

TOWN PLANNER & SURVEYOR
城市規劃師及測量師：
DeSPACE (International) Limited
- E-mail 電郵：despaceinternational@gmail.com
- Tel 電話：2493 3626

ARCHITECT 建築師：
MINOR 細 CREATIVE 作室
- E-mail 電郵：info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師：
S.T. WONG & PARTNERS LIMITED
- E-mail 電郵：irstwong@gmail.com
- Tel 電話：2625 1776
- Fax 傳真：2467 9618

E&M CONSULTANT 機電顧問：
WEC Engineering Consultants (International) Limited
- Fax 傳真：2399 0066
- Tel 電話：2393 8688

TRAFFIC CONSULTANT 交通顧問：
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME
項目名稱：
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

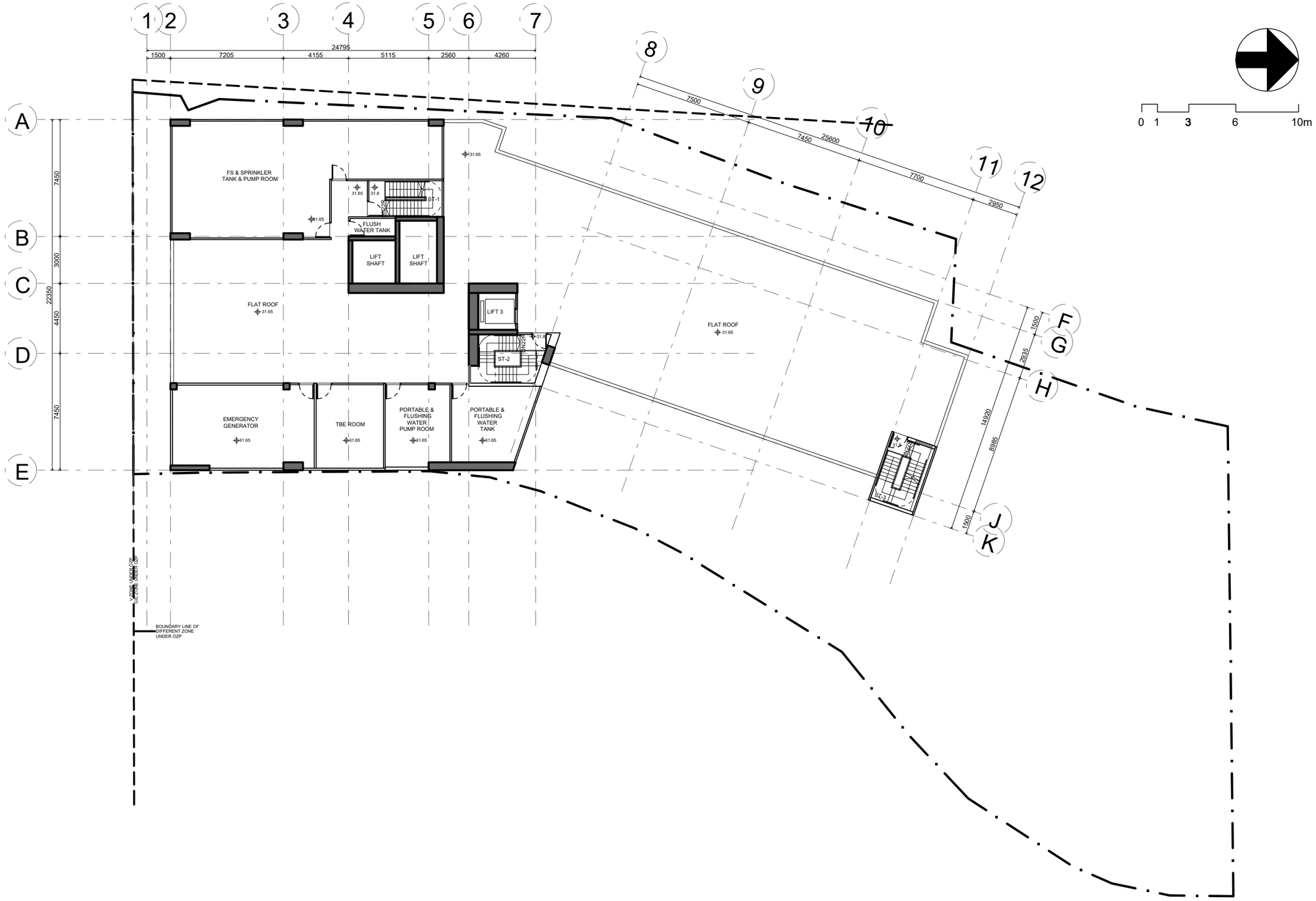
DRAWING TITLE
圖紙名稱： 5/F LAYOUT PLAN

DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號：
P-106

SCALE
比例： 1:250@A3

DATE
日期： 20230705



R/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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AMENDMENT PARTICULARS
更改細節 :

Revision 修正版	Description 內容	Date 日期
1	DESIGN	20221116
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G	DESIGN	20230315
H	DESIGN	20230705

TOWN PLANNER & SURVEYOR
城市規劃師及測量師 :
DeSPACE (International) Limited
- E-mail 電郵 : despaceinternational@gmail.com
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ARCHITECT 建築師 :
MINOR 細 CREATIVE 作室
- E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
- E-mail 電郵 : irstwong@gmail.com
- Tel 電話 : 2625 1776
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E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
- Fax 傳真 : 2399 0066
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TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME
項目名稱 :
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

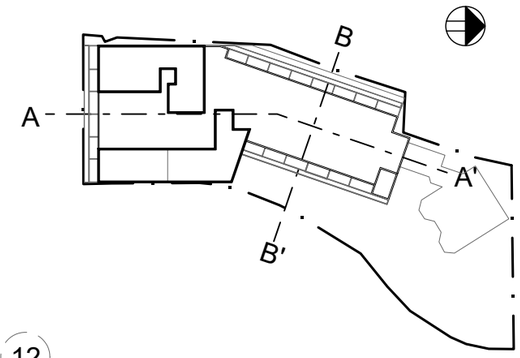
DRAWING TITLE
圖紙名稱 : R/F LAYOUT PLAN

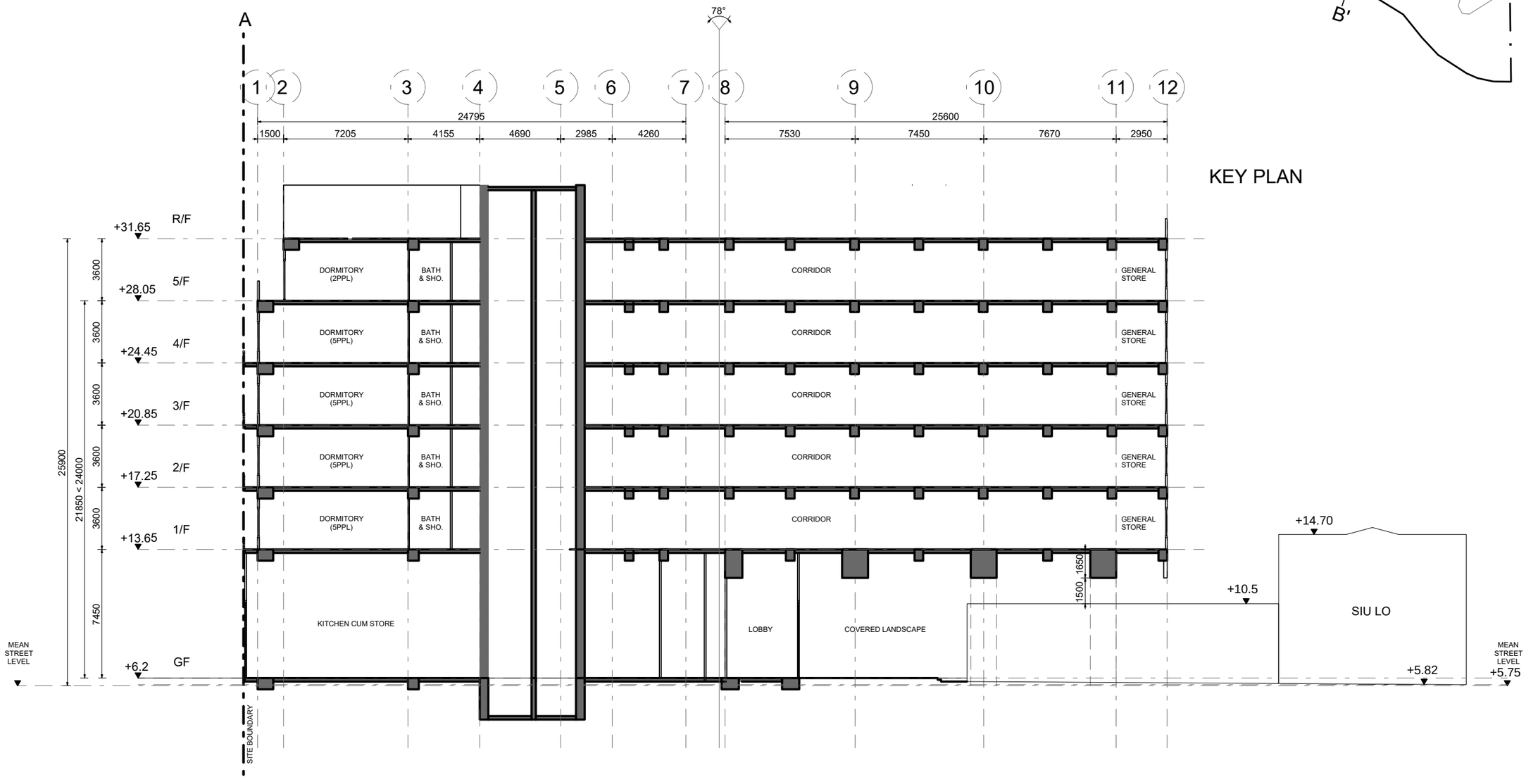
DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-107

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705





KEY PLAN

PROJECT NO.
項目編號 : HK-A22006

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AMENDMENT PARTICULARS
更改細節 :

Revision 修正版	Description 內容	Date 日期
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F	DESIGN	20221230
G	DESIGN	20230210
H	DESIGN	20230315
I	DESIGN	20230707

TOWN PLANNER & SURVEYOR
城市規劃師及測量師 :
DeSPACE (International) Limited
E-mail 電郵 : despaceinternational@gmail.com
Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 創意
E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
E-mail 電郵 : irstwong@gmail.com
Tel 電話 : 2625 1776
Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
Fax 傳真 : 2399 0066
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TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME
項目名稱 :
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

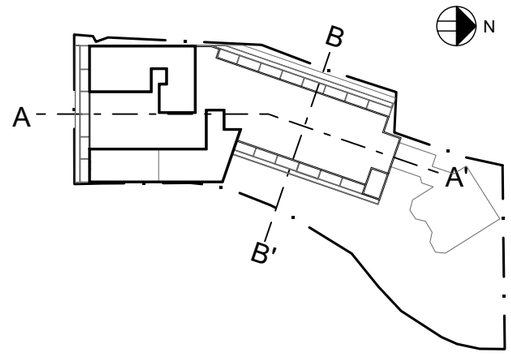
DRAWING TITLE
圖紙名稱 : SCHEMATIC SECTION A

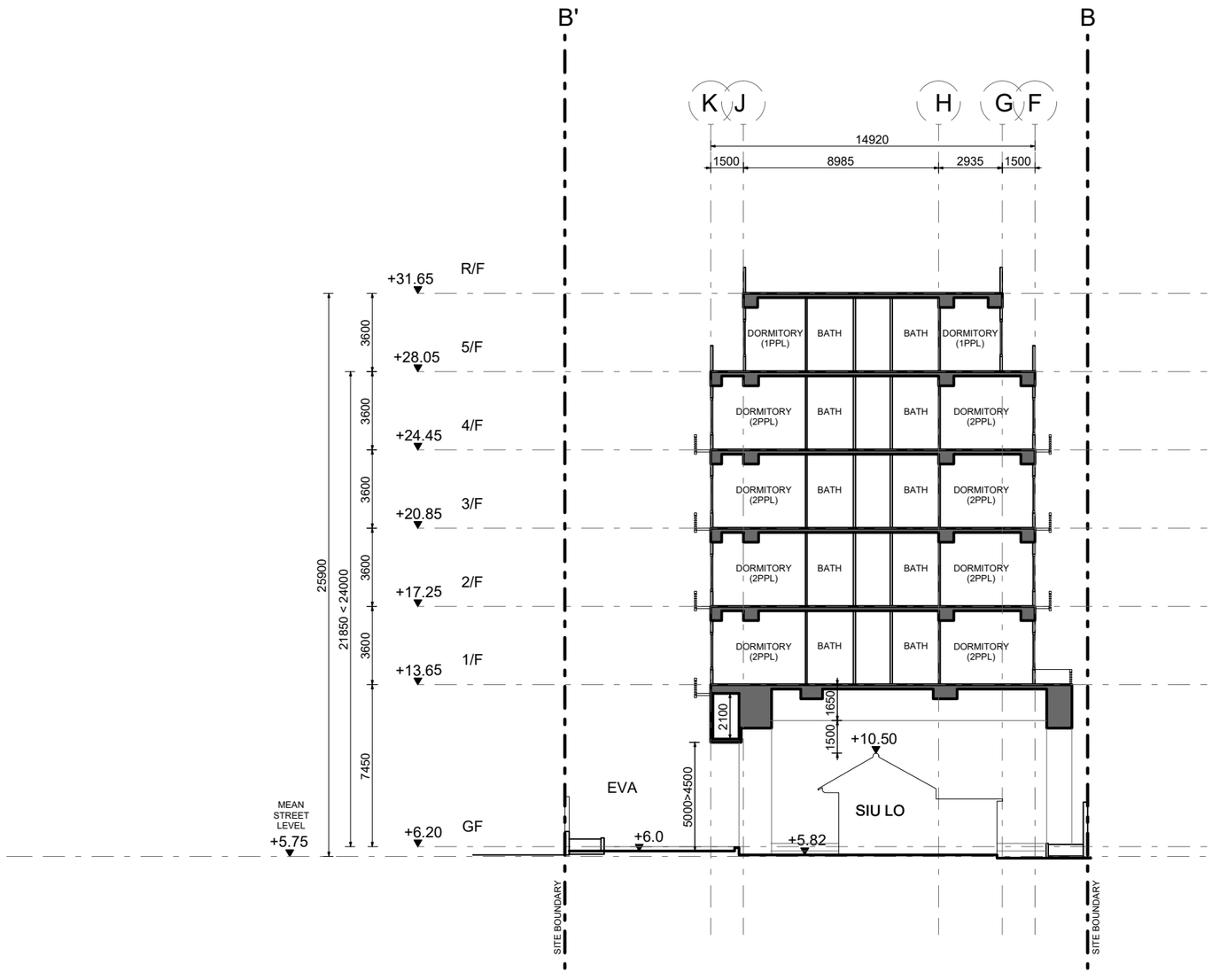
DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : S-101

SCALE
比例 : 1:250@A3

DATE
日期 : 20230707





- SCHEMATIC SECTION BB'

SIU LO RCHE 1:200

PROJECT NO.
項目編號 : HK-A22006

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更改細節 :

Revision 修正版	Description 內容	Date 日期
1	DESIGN	20221116
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G	DESIGN	20230315
H	DESIGN	20230707

TOWN PLANNER & SURVEYOR
城市規劃師及測量師 :
DeSPACE (International) Limited
E-mail 電郵 : despaceinternational@gmail.com
Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 創意
E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
E-mail 電郵 : irstwong@gmail.com
Tel 電話 : 2625 1776
Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
Fax 傳真 : 2399 0066
Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME
項目名稱 :
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

DRAWING TITLE
圖紙名稱 : SCHEMATIC SECTION B

DESIGN IN CHARGE
設計負責人 KL

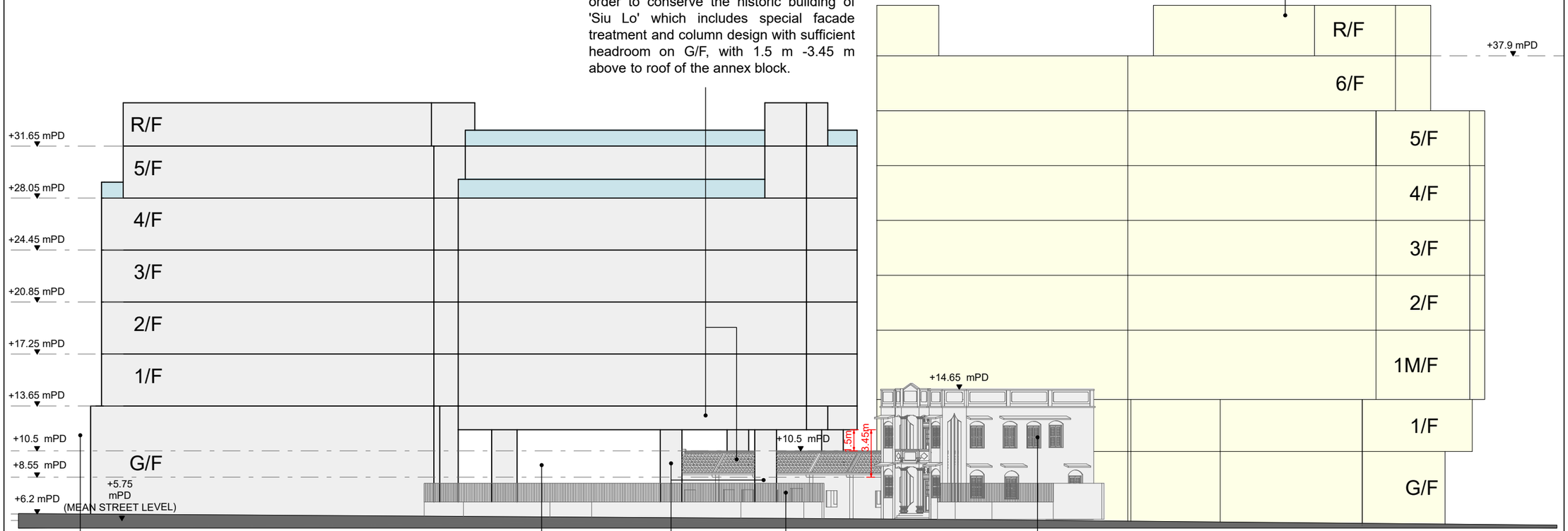
DWG NO.
圖紙編號 : S-102

SCALE
比例 : 1:250@A3

DATE
日期 : 20230707

Special design considerations have been given to the proposed RCHE building in order to conserve the historic building of 'Siu Lo' which includes special facade treatment and column design with sufficient headroom on G/F, with 1.5 m -3.45 m above to roof of the annex block.

Proposed Development of Yuen Long Baptist Church
(8 storeys)(Approved under A/YL/252)



"High headroom" of G/F with a minimum of 1.5m vertical clearance hovering above the height of 'Siu Lo' Annex Block for occasional maintenance while balancing the energy saving merit on G/F for air-conditioning.

Permeable design on ground level to allow an unobstructed view to 'Siu Lo'.

The public's view to 'Siu Lo' from the main road, i.e. Tai Tong Road can be maintained.

The character defining elements on the exterior will be preserved, and those in the interior will be preserved as far as practicable , subject to the Conservation Management Plan to be conducted.

The positioning and design of the 2 columns are subject to detailed design and evaluation of structural loading, to the satisfaction of AMO. (i.e. lighter column design and use of materials to minimise the visual impact.)

PROJECT NO.
項目編號 : HK-A22006

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AMENDMENT PARTICULARS
更改細節 :

Revision 修正版	Description 內容	Date 日期
1	SUBMISSION	20230822
A		
B		
C		
D		
E		
F		
G		
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I		

TOWN PLANNER & SURVEYOR
城市規劃師及測量師 :
DeSPACE (International) Limited
■ E-mail 電郵 : despaceinternational@gmail.com
■ Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 作畫
■ E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
■ E-mail 電郵 : irstwong@gmail.com
■ Tel 電話 : 2625 1776
■ Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
■ Fax 傳真 : 2399 0066
■ Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME
項目名稱 :
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

DRAWING TITLE
圖紙名稱 : SITE ELEVATION

DESIGN IN CHARGE
設計負責人 : KL

DWG NO.
圖紙編號 : S-103

SCALE
比例 : 1:300@A3

DATE
日期 : 20230822

G/F LAYOUT
SIU LO RCHE 1:250

PROJECT NO.
項目編號: HK-A22006

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AMENDMENT PARTICULARS
更改細節:

Revision 修正版	Description 內容	Date 日期
-	SUBMISSION	20230315
A	SUBMISSION	20230707
B	SUBMISSION	20230829
C		
D		
E		
F		
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TOWN PLANNER & SURVEYOR
城市規劃師及測量師:
DeSPACE International Limited
■ E-mail 電郵 : despaceinternational@gmail.com
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ARCHITECT 建築師:
MINOR 細
CREATIVE 創意
■ E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師:
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■ Fax 傳真 : 2467 9818

E&M CONSULTANT 機電顧問:
WEC Engineering Consultants (International) Limited
■ Fax 傳真 : 2399 0086
■ Tel 電話 : 2393 8888

TRAFFIC CONSULTANT 交通顧問:
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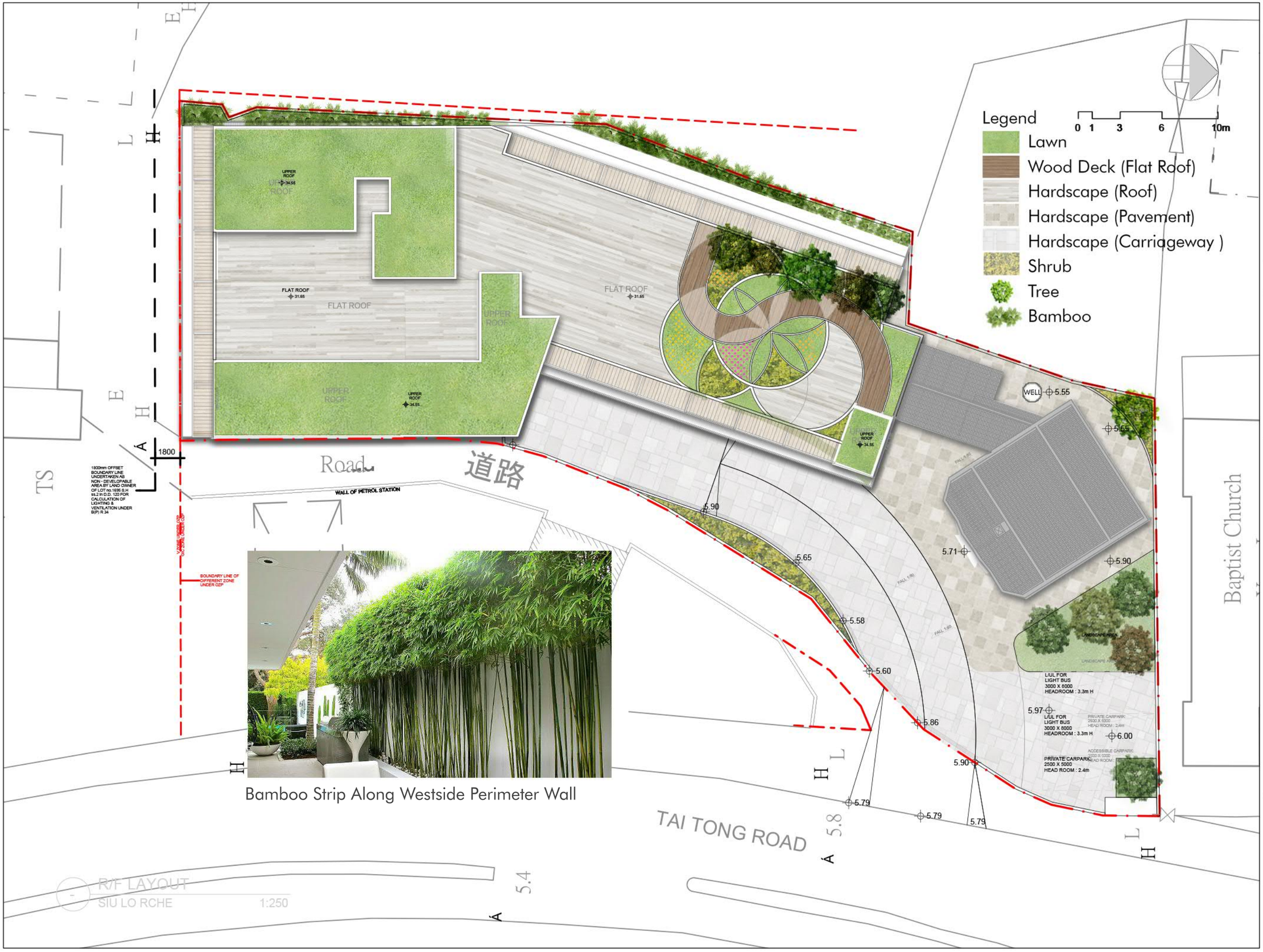
DRAWING TITLE
圖紙名稱: LANSCAPE PLAN (G/F)

DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號: LMP-102

SCALE
比例: 1:250@A3

DATE
日期: 20230829



Bamboo Strip Along Westside Perimeter Wall

PROJECT NO. 項目編號： HK-A22006

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AMENDMENT PARTICULARS
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TOWN PLANNER & SURVEYOR
城市規劃師及測量師：
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■ E-mail 電郵：info@minorcreative.com

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DRAWING TITLE
圖紙名稱：
LANSCAPE PLAN (MASTER LAYOUT PLAN)

DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號：

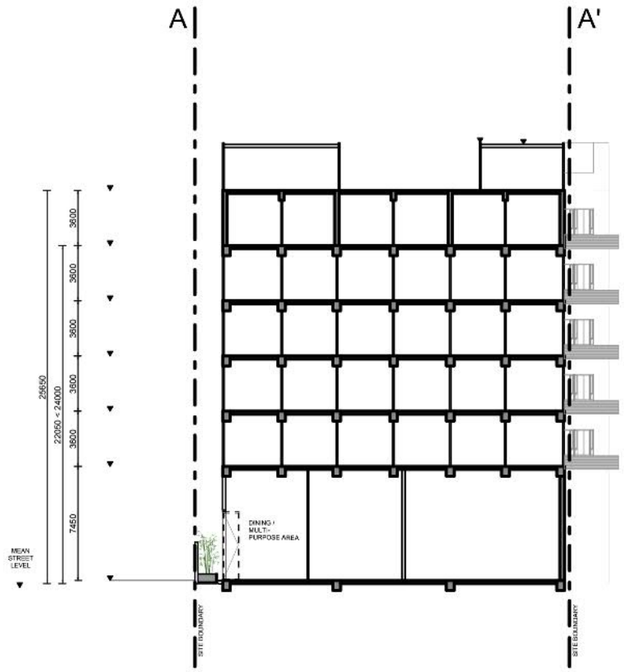
SCALE 比例： 1:250@A3

DATE 日期： 20230829

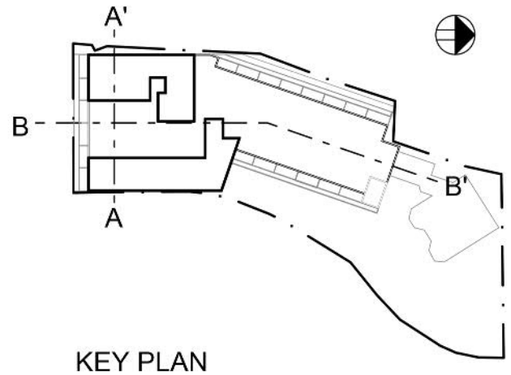
LMP-101

Bamboo Strip Along Wall

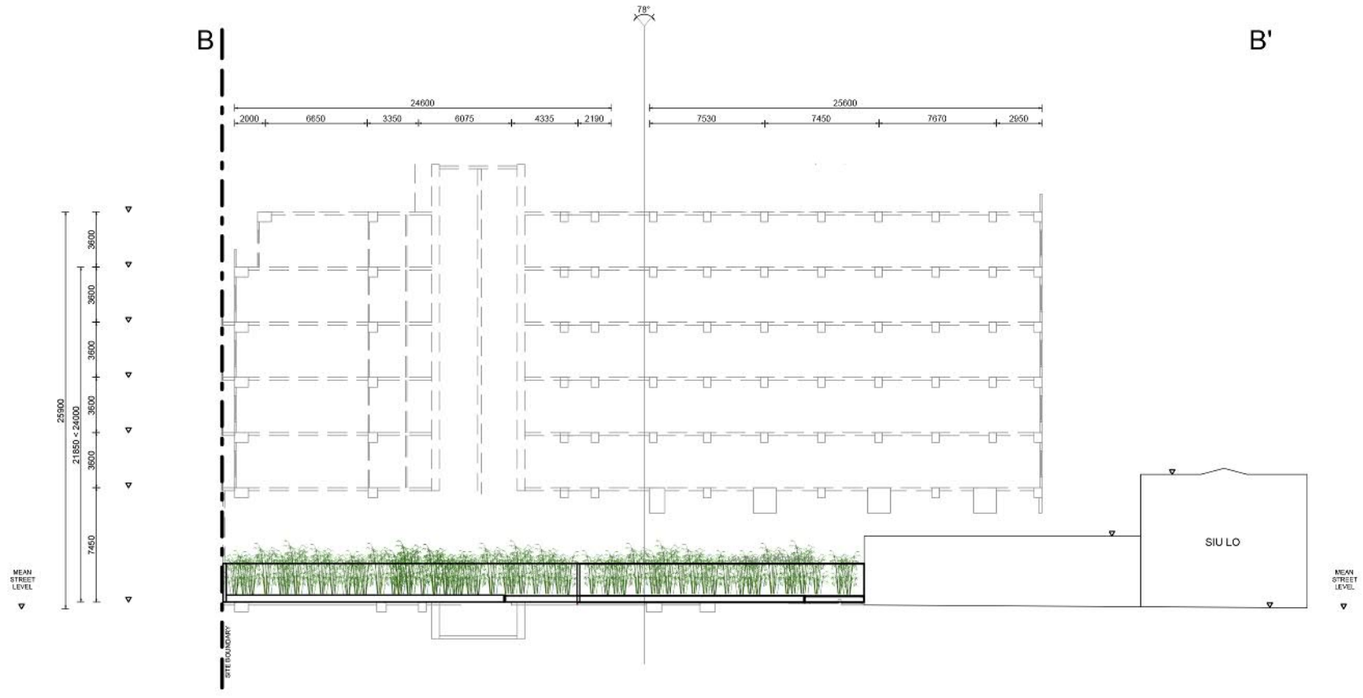
Wall Finish



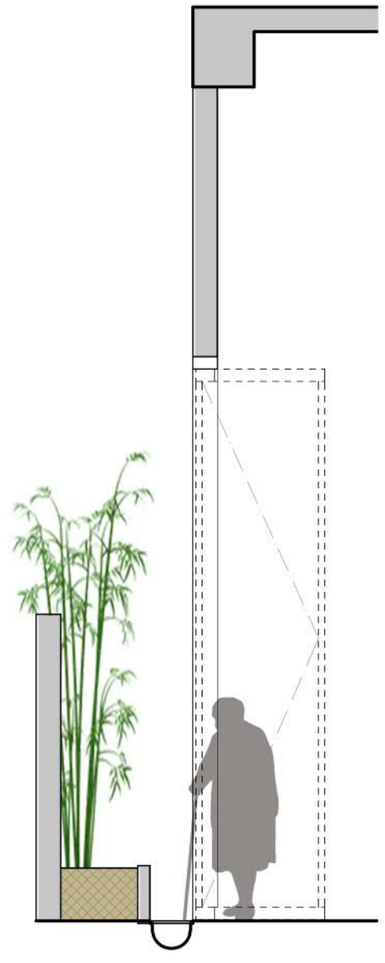
SECTION AA'



KEY PLAN



SECTION BB'



DETAILED SECTION
BAMBOO STRIP 1:50

PROJECT NO. 項目編號 : HK-A22006

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Revision 修正版	Description 內容	Date 日期
-	SUBMISSION	20230315
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城市規劃師及測量師 :
DeSPACE (International) Limited
E-mail 電郵 : despaceinternational@gmail.com
Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細
CREATIVE 創意
E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
E-mail 電郵 : irstwong@gmail.com
Tel 電話 : 2625 1776
Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
Fax 傳真 : 2399 0066
Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME
項目名稱 :
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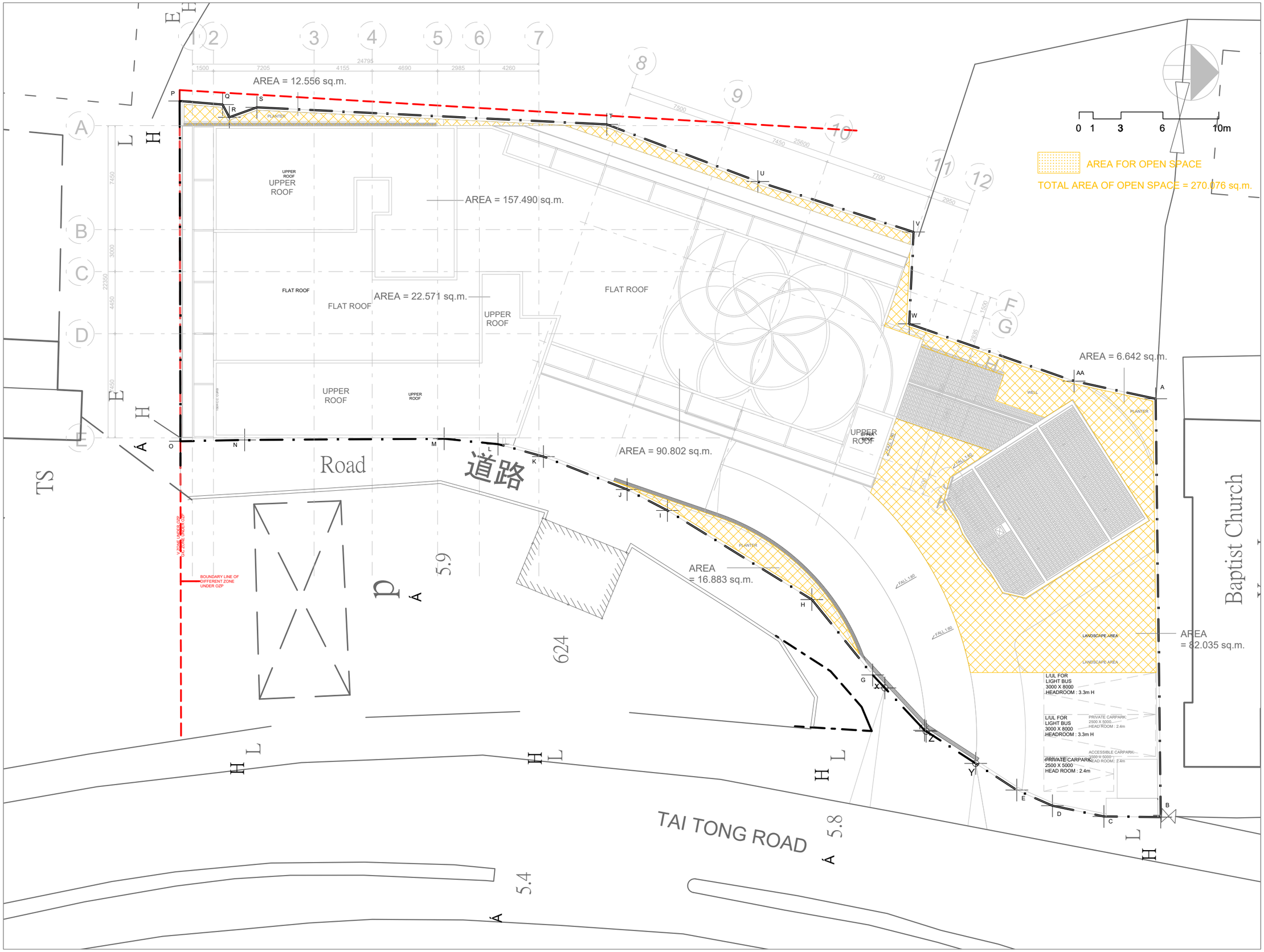
DRAWING TITLE
圖紙名稱 : LANSCAPE DETAIL

DESIGN IN CHARGE
設計負責人 : KL

DWG NO.
圖紙編號 : D-101

SCALE
比例 : 1:250@A3

DATE
日期 : 20230707



PROJECT NO.
項目編號 : HK-A22006

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城市規劃師及測量師 :
DeSPACE (International) Limited
- E-mail 電郵 : despaceinternational@gmail.com
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ARCHITECT 建築師 :
MINOR 細 CREATIVE 創意
- E-mail 電郵 : info@minorcreative.com

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認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
- E-mail 電郵 : irstwong@gmail.com
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- Fax 傳真 : 2399 0066
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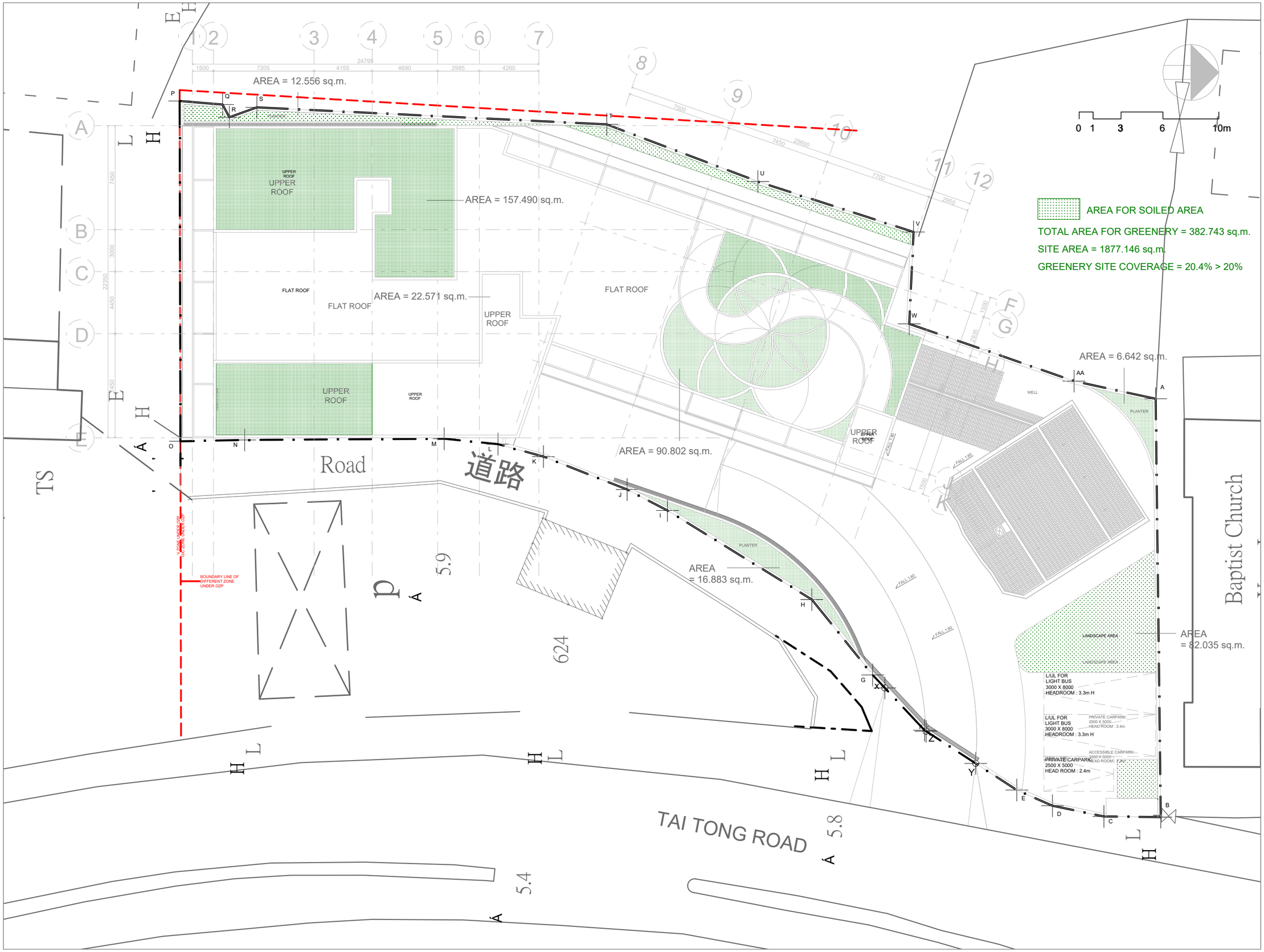
DRAWING TITLE
圖紙名稱 : OPEN SPACE PLAN

DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : OS-101

SCALE
比例 : 1:250@A3

DATE
日期 : 20230829



PROJECT NO. 項目編號 : HK-A22006

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- E-mail 電郵 : info@minorcreative.com

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認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
- E-mail 電郵 : irstwong@gmail.com
- Tel 電話 : 2625 1776
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WEC Engineering Consultants (International) Limited
- Fax 傳真 : 2399 0066
- Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
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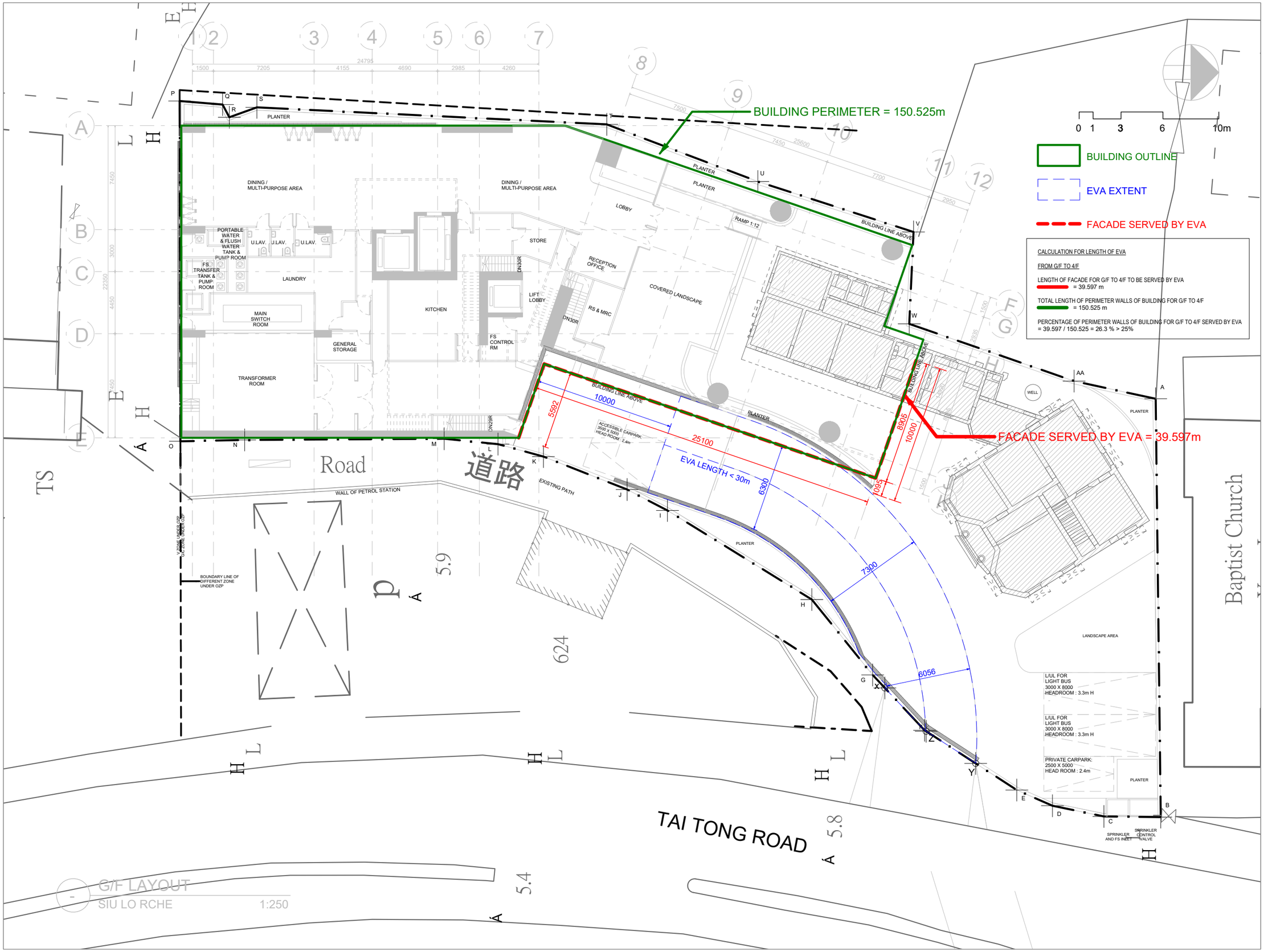
DRAWING TITLE 圖紙名稱 : G/F LAYOUT PLAN (GREENERY PLAN)

DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號 : GC-101

SCALE 比例 : 1:250@A3

DATE 日期 : 20230829



PROJECT NO. 項目編號 : HK-A22006

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DeSPACE (International) Limited
E-mail 電郵 : despaceinternational@gmail.com
Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 創意
E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER 認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
E-mail 電郵 : irstwong@gmail.com
Tel 電話 : 2625 1776
Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
Fax 傳真 : 2399 0066
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TRAFFIC CONSULTANT 交通顧問 :
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DRAWING TITLE 圖紙名稱 : G/F LAYOUT PLAN (EVA PLAN)

DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號 : EVA-101

SCALE 比例 : 1:250@A3

DATE 日期 : 20230829

5/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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DeSPACE (International) Limited
E-mail 電郵 : despaceinternational@gmail.com
Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 作室
E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER 認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
E-mail 電郵 : irstwong@gmail.com
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WEC Engineering Consultants (International) Limited
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DRAWING TITLE 圖紙名稱 : 5/F LAYOUT PLAN (EVA PLAN)

DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號 : EVA-102

SCALE 比例 : 1:250@A3

DATE 日期 : 20230707

Heritage Garden - Sight points highlight

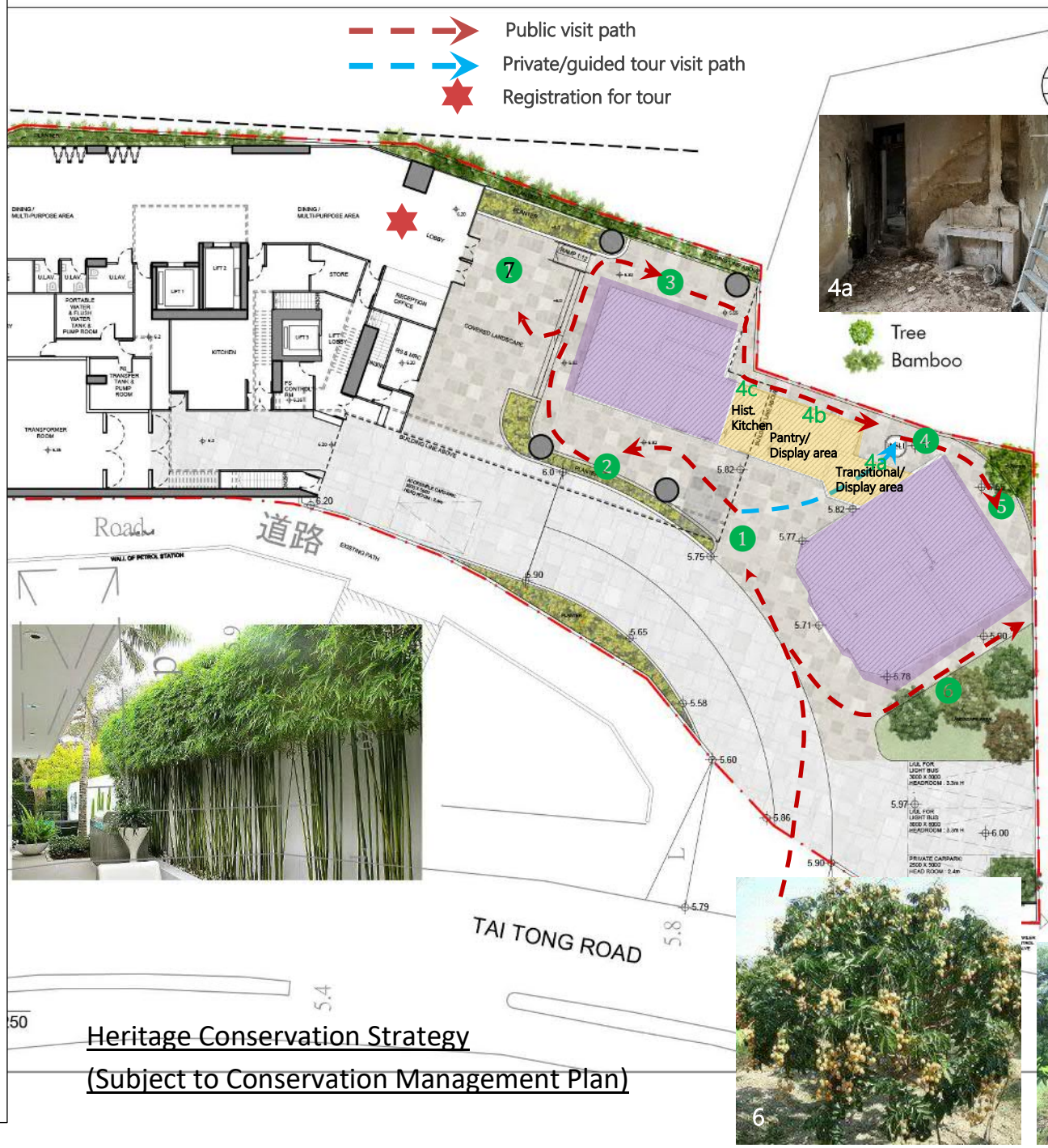
1. In front of the Main Building and the Annex Block - architectural essence of Siu Lo
2. In front of the Annex Block – old setting of Siu Lo, farming activities
3. Rear of Annex Block – "Life of Seed" (生命種子) planting the seeds, portable planting corner for the elderly and their family
4. Backyard with the old well – " Life of Water" (生命之水), story of the founder, Mr. Chan's family, their shop in Indonesia, old life of Mr. Chan's family in Siu Lo,

4a. Interior of the Annex Block – story of the founder of Siu Lo, Mr. Chan's family, the old drawings shows the original setting of Siu Lo, the rattan tray with the shop name "Mei Tung"

4b. New Pantry and sitting area – context of Yuen Long, Tai Kei Leng, photos of some festivals, nearby heritage

4c Historic kitchen – old life of Mr. Chan family in Siu Lo

5. The rear of the Main Building– " Life of Trees" (生命樹下) quiet seatings corners under trees
6. Fruit trees garden – "Life of fruit" (生命果子) - planting fruit trees, Mr. Chan's family grew lychee and wampee
7. Covered Heritage Landscape Garden – "Revival" 再生 – Transformation of Siu Lo, before and after"

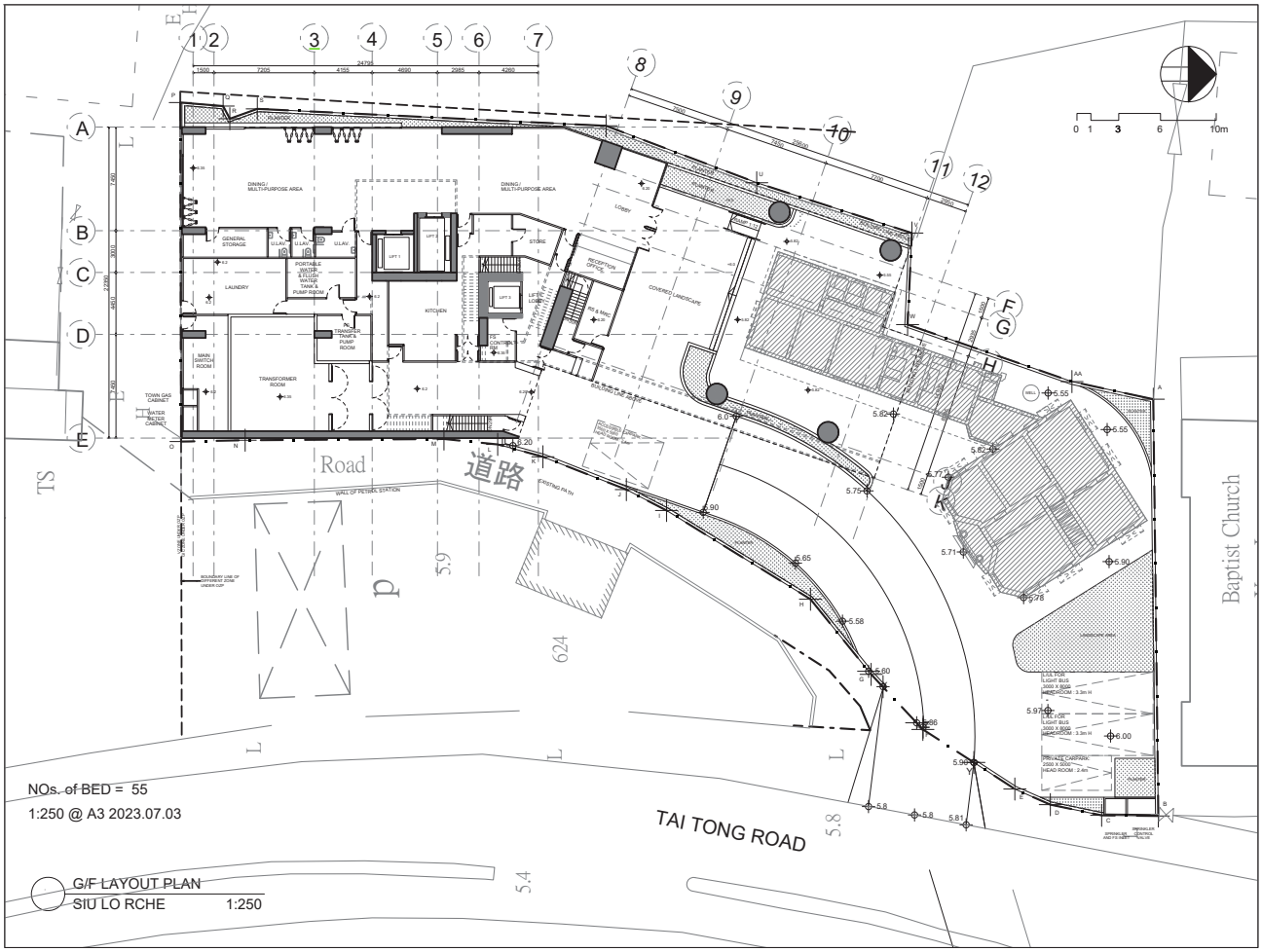


Heritage Conservation Strategy
(Subject to Conservation Management Plan)

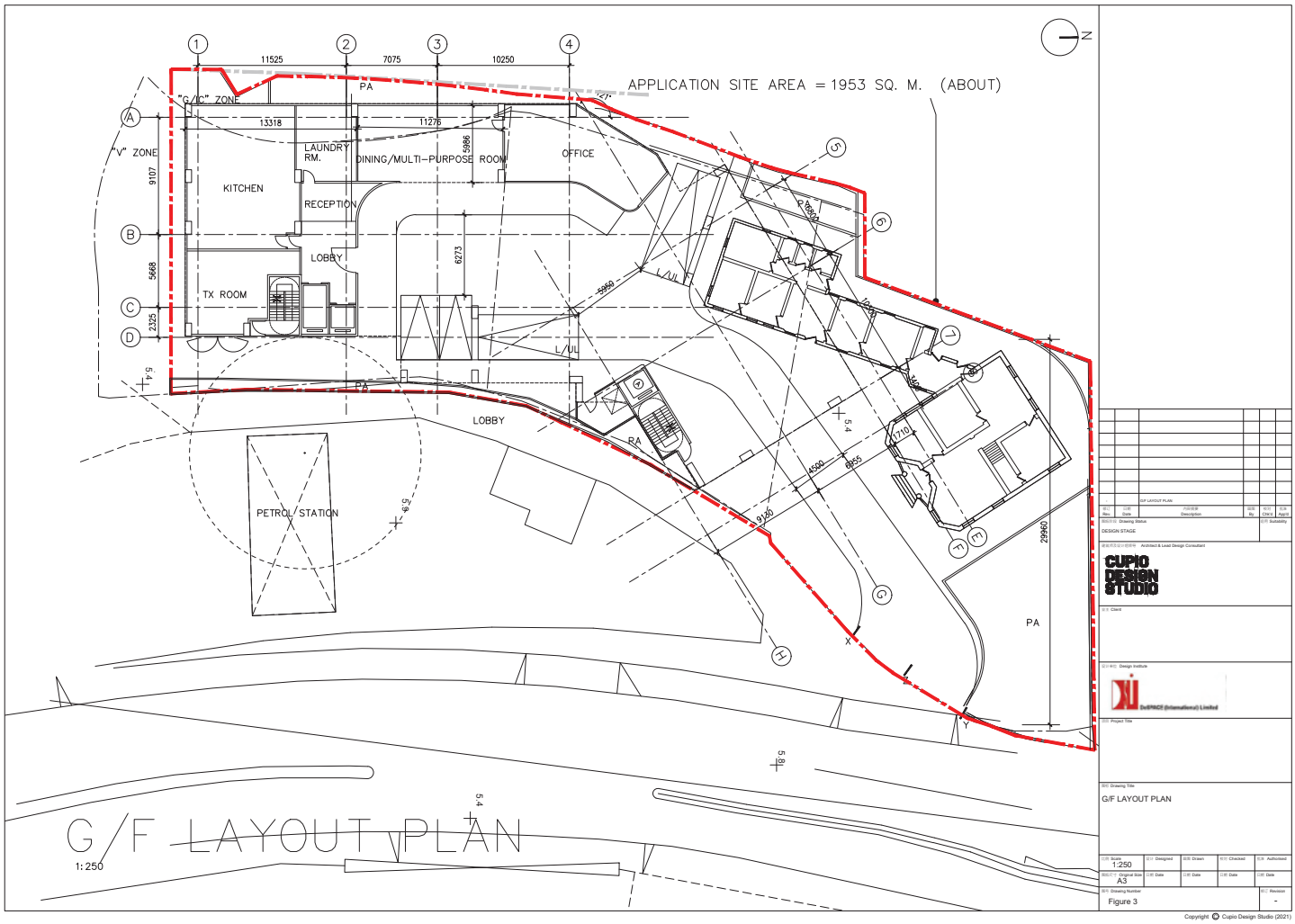
APPENDIX 2

COMPARISON OF THE PROPOSED DEVELOPMENT AGAINST THE PREVIOUS SECOND APPROVED SCHEME (A/YL/289)

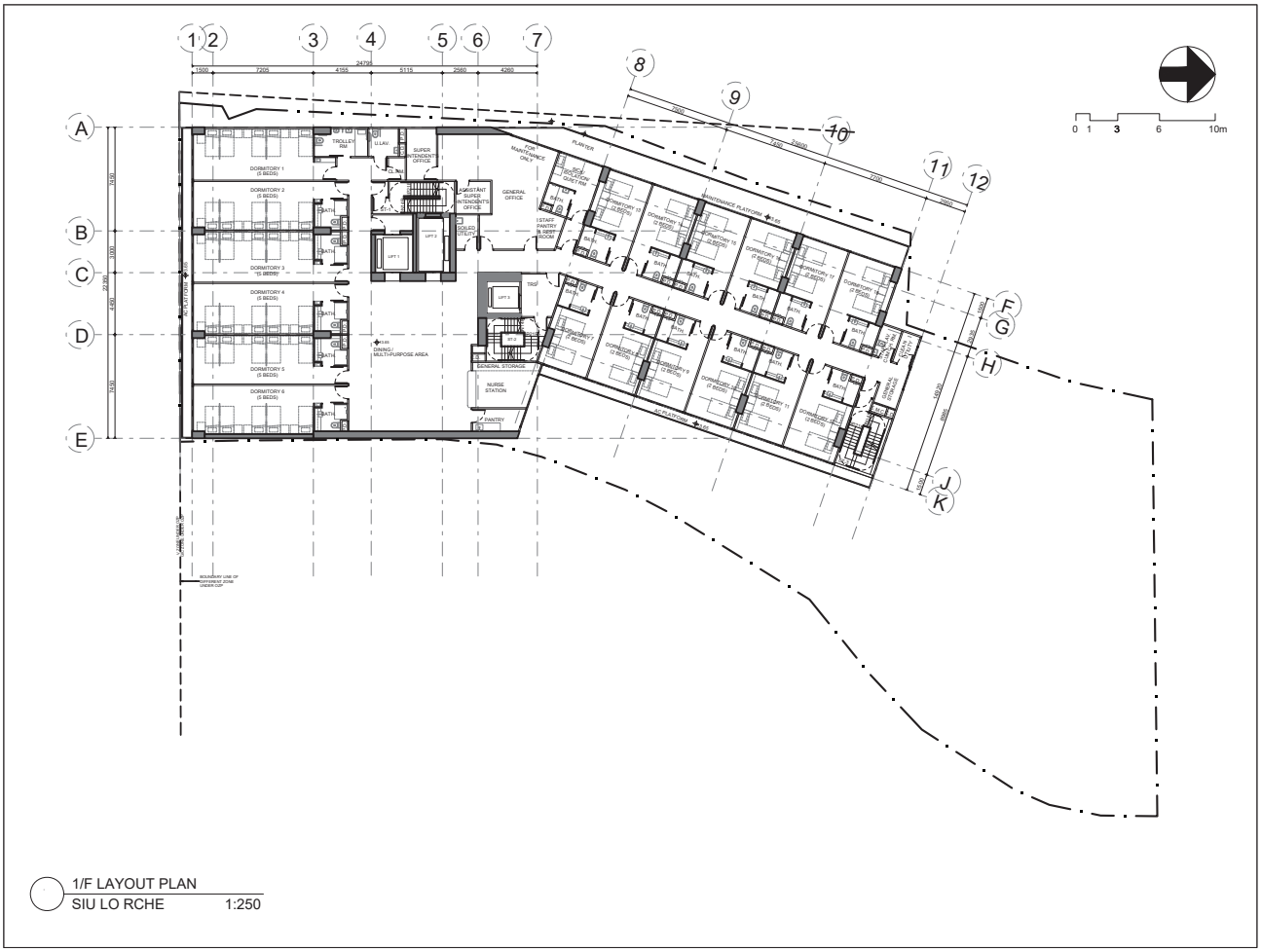
Proposed Development - G/F Layout Plan



Previous Approved Scheme (A/YL/289) - G/F Layout Plan



Proposed Development - 1/F Layout Plan



PROJECT NO. 項目編號: HK-A22006

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A	DESIGN	20221116
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C	DESIGN	20221128
D	DESIGN	20221205
E	DESIGN	20221227
F	DESIGN	20221230
G	DESIGN	20230210
H	DESIGN	20230315
J	DESIGN	20230705

TOWN PLANNER & SURVEYOR 城市規劃師及測量師:
E-mail 電郵: despaceinternational@gmail.com
Tel 電話: 2493 3626

ARCHITECT 建築師
MINOR CREATIVE
E-mail 電郵: info@minorcreative.com

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DRAWING TITLE 圖紙名稱: 1/F LAYOUT PLAN

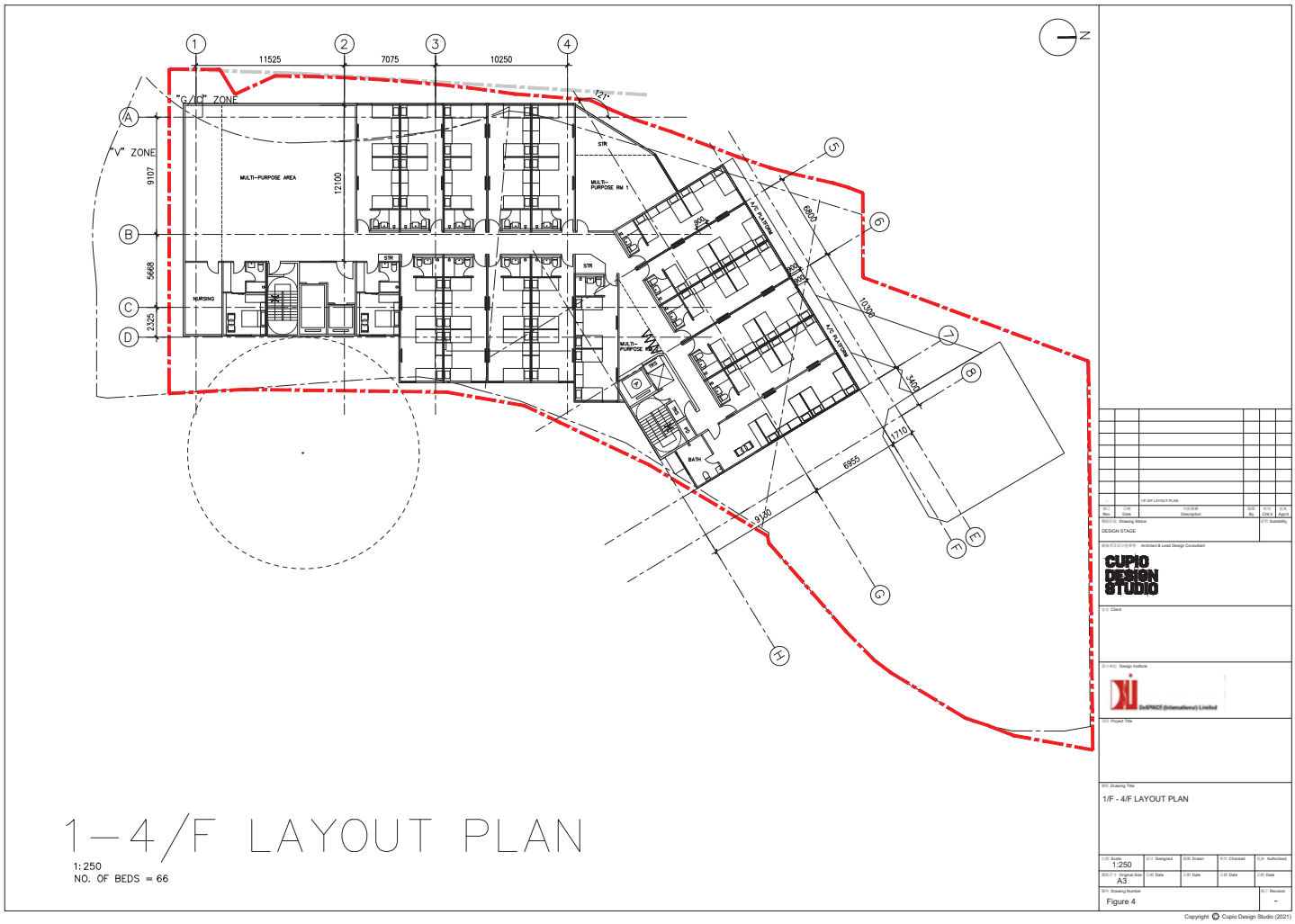
DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號: P-102

SCALE 比例: 1:250@A3

DATE 日期: 20230705

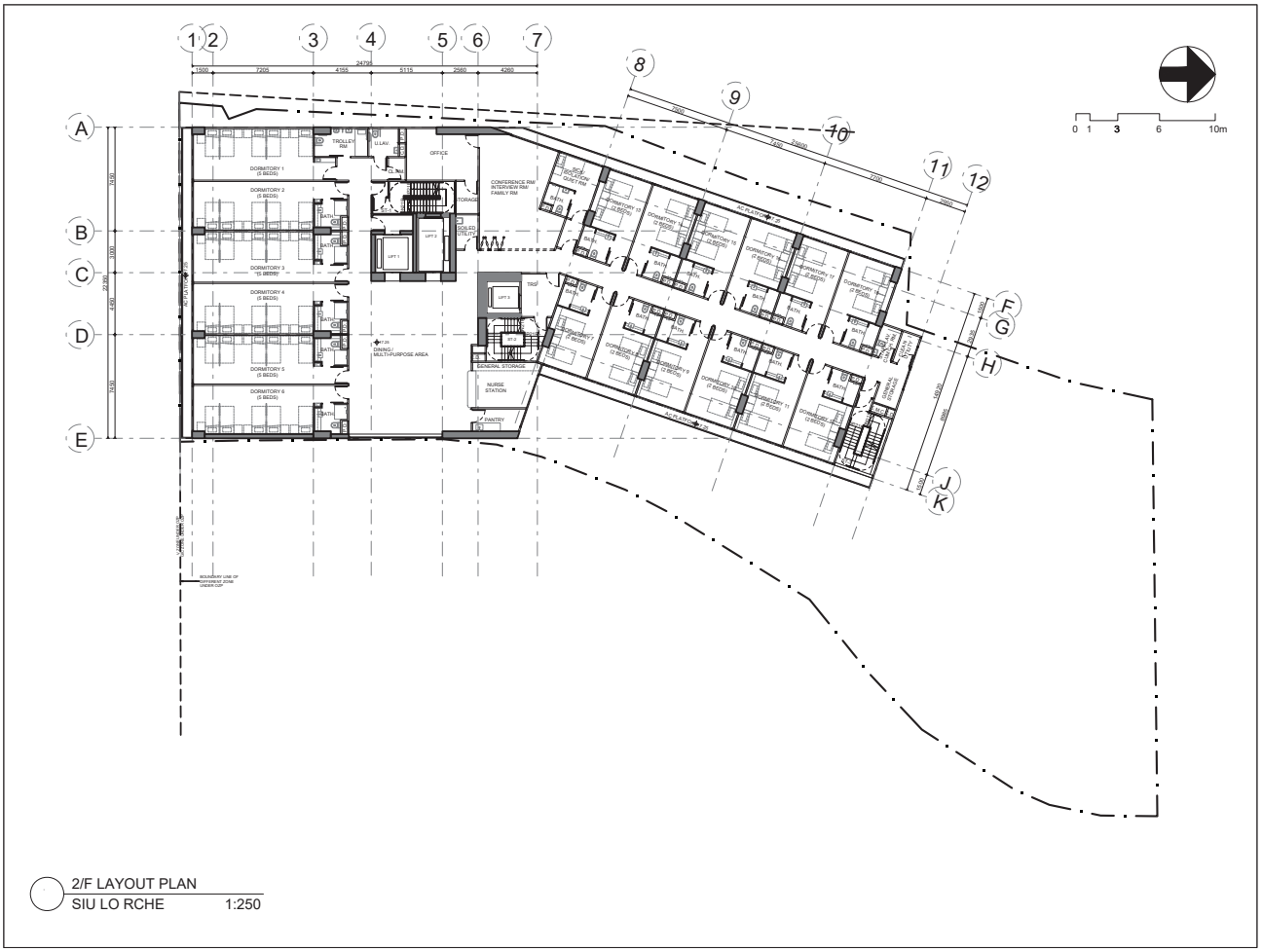
Previous Approved Scheme (A/YL/289) - 1/F Layout Plan



1/F - 4/F LAYOUT PLAN

Figure 4

Proposed Development - 2/F Layout Plan



PROJECT NO. 項目編號: HK-A22006

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G	DESIGN	20230210
H	DESIGN	20230315
I	DESIGN	20230705

TOWN PLANNER & SURVEYOR 城市規劃師及測量師:
E-mail 電郵: despaceinternational@gmail.com
Tel 電話: 2493 3626

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MINOR CREATIVE
E-mail 電郵: info@minorcreative.com

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DRAWING TITLE 圖紙名稱: 2/F LAYOUT PLAN

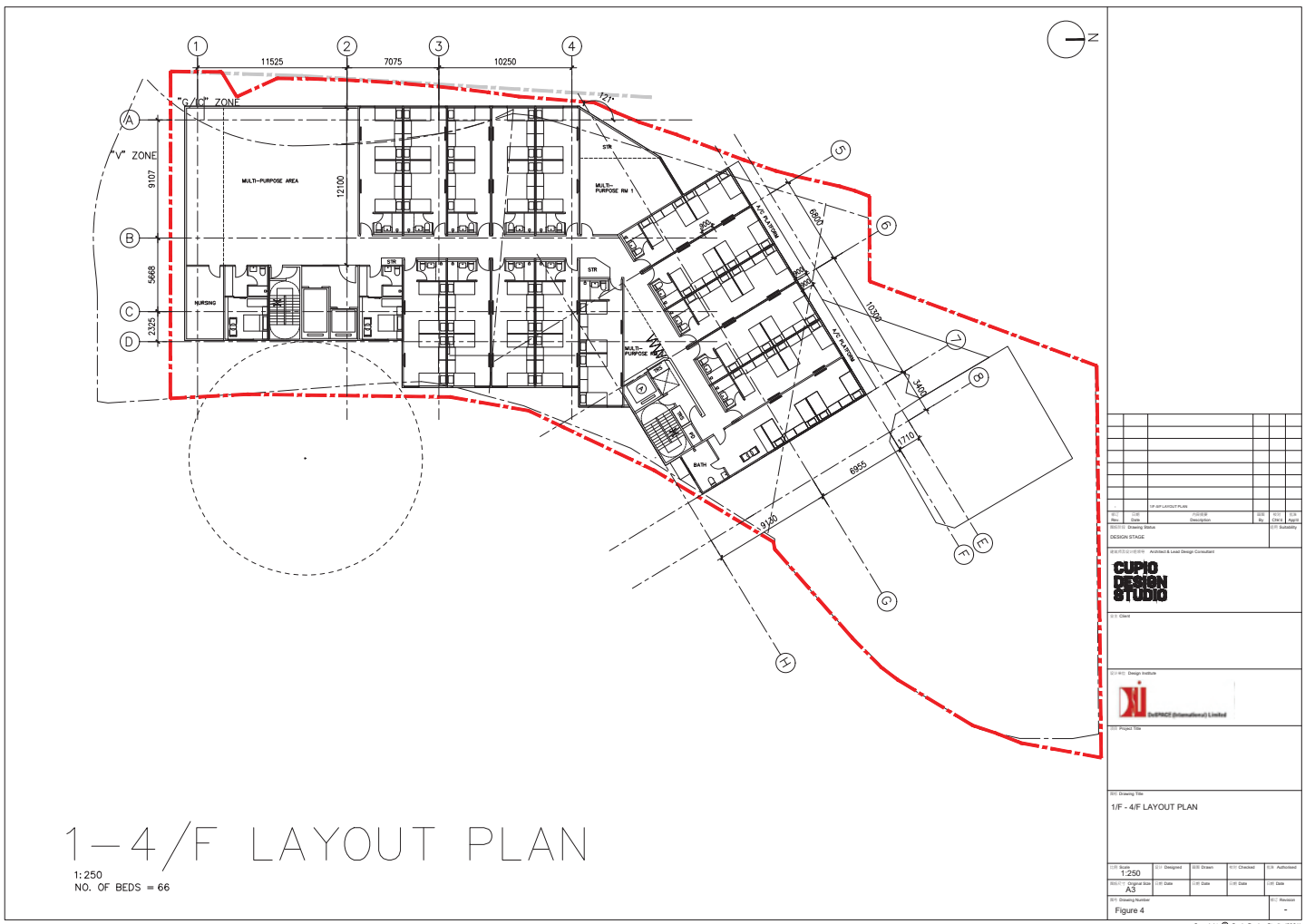
DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號: P-103

SCALE 比例: 1:250@A3

DATE 日期: 20230705

Previous Approved Scheme (A/YL/289) - 2/F Layout Plan



1—4/F LAYOUT PLAN

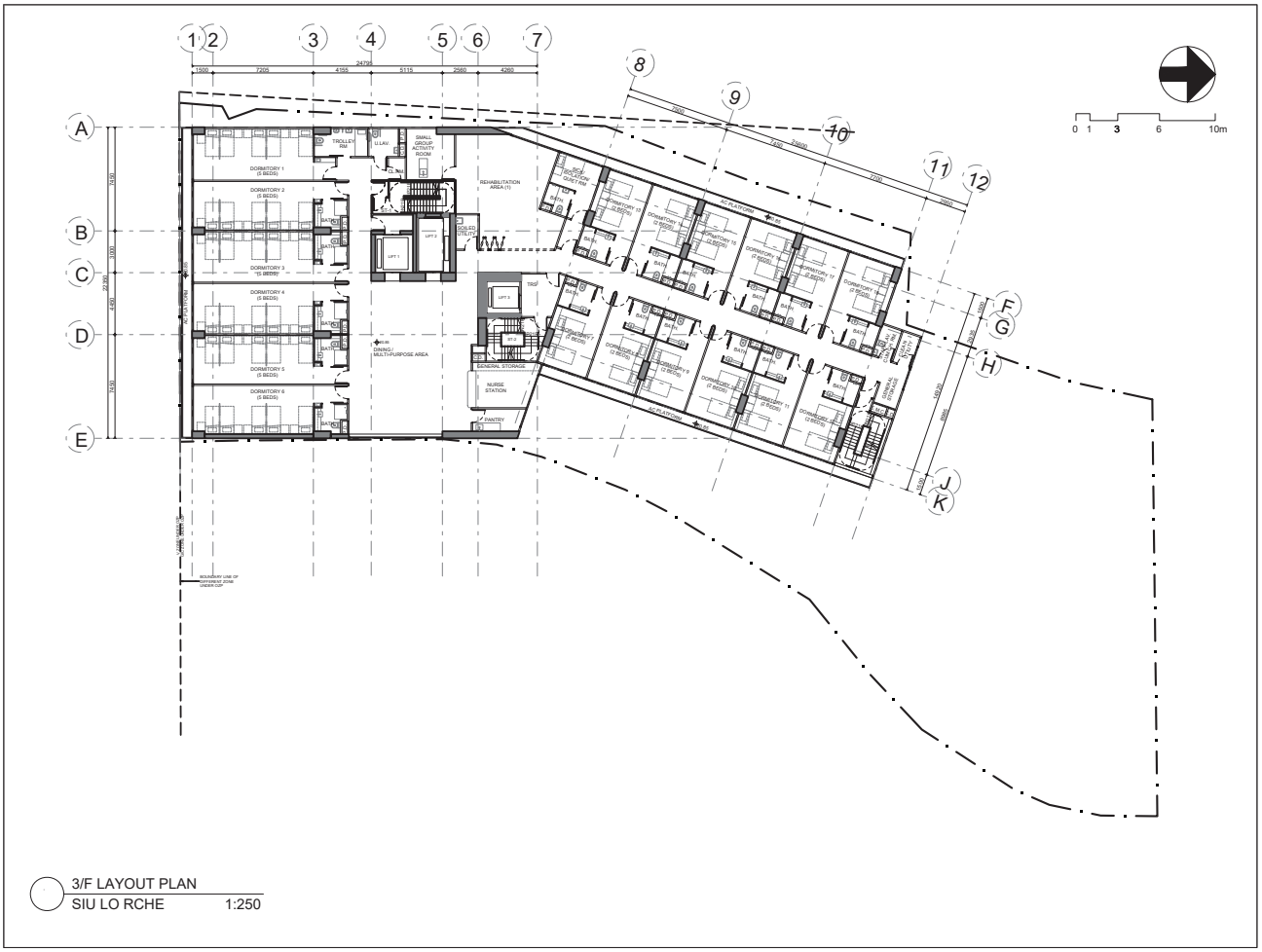
1:250
NO. OF BEDS = 66

1/F - 4/F LAYOUT PLAN

CUPIO DESIGN STUDIO

Figure 4

Proposed Development - 3/F Layout Plan



PROJECT NO. 項目編號: HK-A22006

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AMENDMENT PARTICULARS 更改細節:

Revision 修訂版	Description 內容	Date 日期
1	DESIGN	20221116
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3	DESIGN	20221128
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8	DESIGN	20230315
9	DESIGN	20230705

TOWN PLANNER & SURVEYOR 城市規劃師及測量師:
E-mail 電郵: despaceinternational@gmail.com
Tel 電話: 2493 3626

ARCHITECT 建築師
MINOR CREATIVE
E-mail 電郵: info@minorcreative.com

AP, STRUCT ENGINEER 認可人士, 結構工程師:
S.T. WONG & PARTNERS LIMITED
E-mail 電郵: stwong@gmail.com
Tel 電話: 2625 1776
Fax 傳真: 2467 9618

E&M CONSULTANT 機電顧問:
WEC Engineering Consultants (International) Limited
Fax 傳真: 2399 0066
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CTA Consultants Limited 香港顧問有限公司

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DRAWING TITLE 圖紙名稱: 3/F LAYOUT PLAN

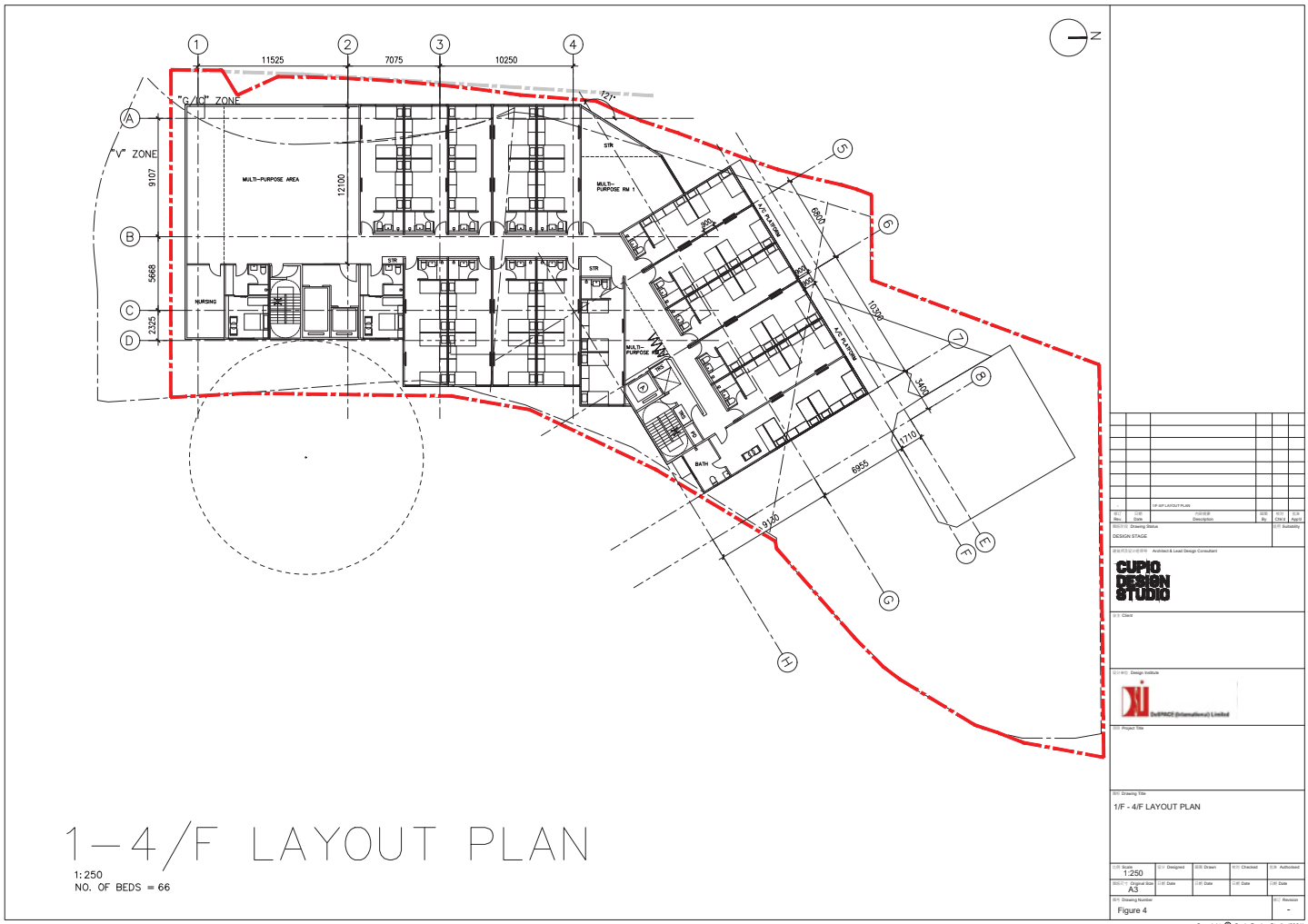
DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號: P-104

SCALE 比例: 1:250@A3

DATE 日期: 20230705

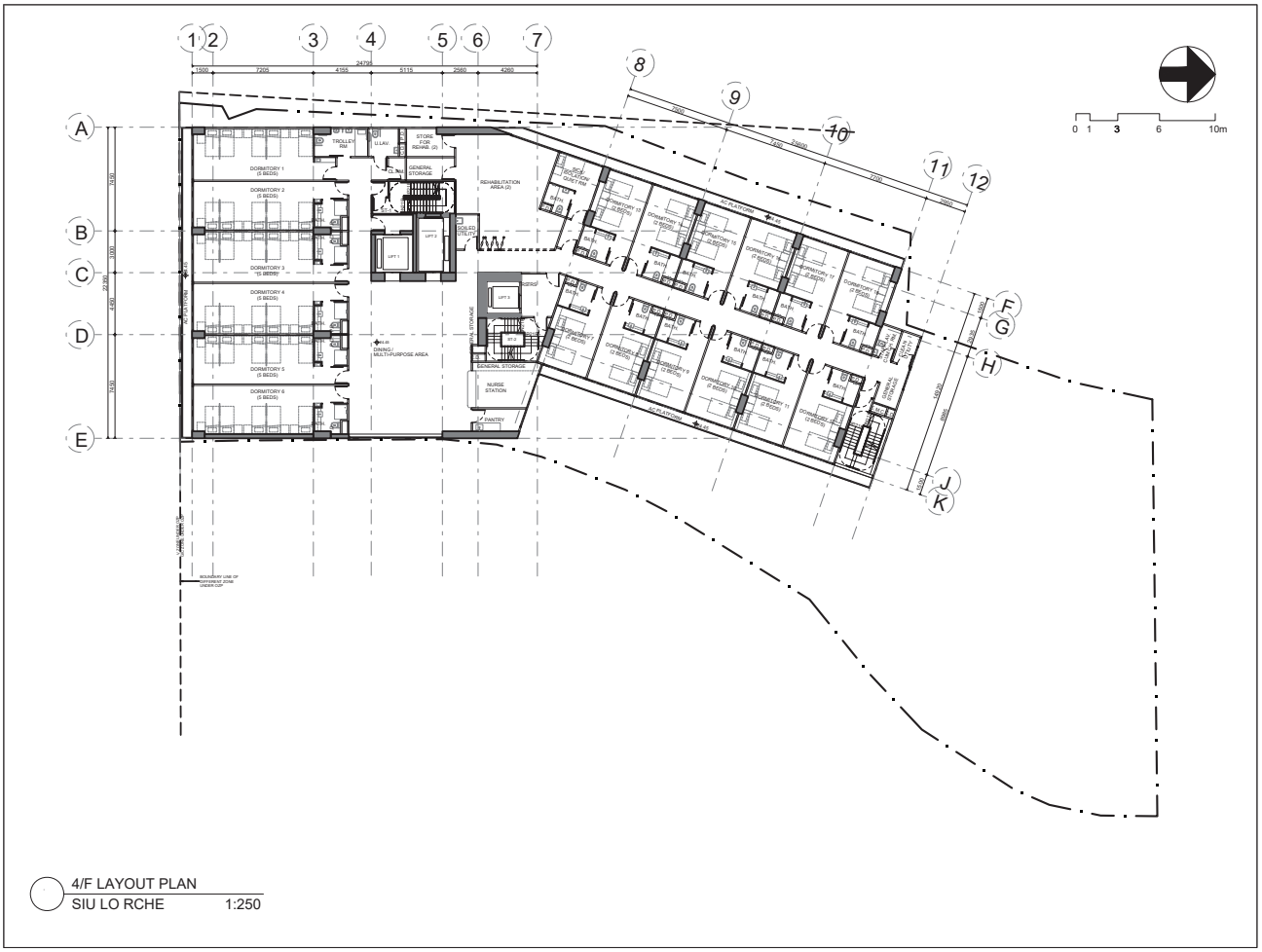
Previous Approved Scheme (A/YL/289) - 3/F Layout Plan



1/F - 4/F LAYOUT PLAN

Figure 4

Proposed Development - 4/F Layout Plan



PROJECT NO. 項目編號: HK-A22006

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E-mail 電郵: despaceinternational@gmail.com
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DRAWING TITLE 圖紙名稱: 4/F LAYOUT PLAN

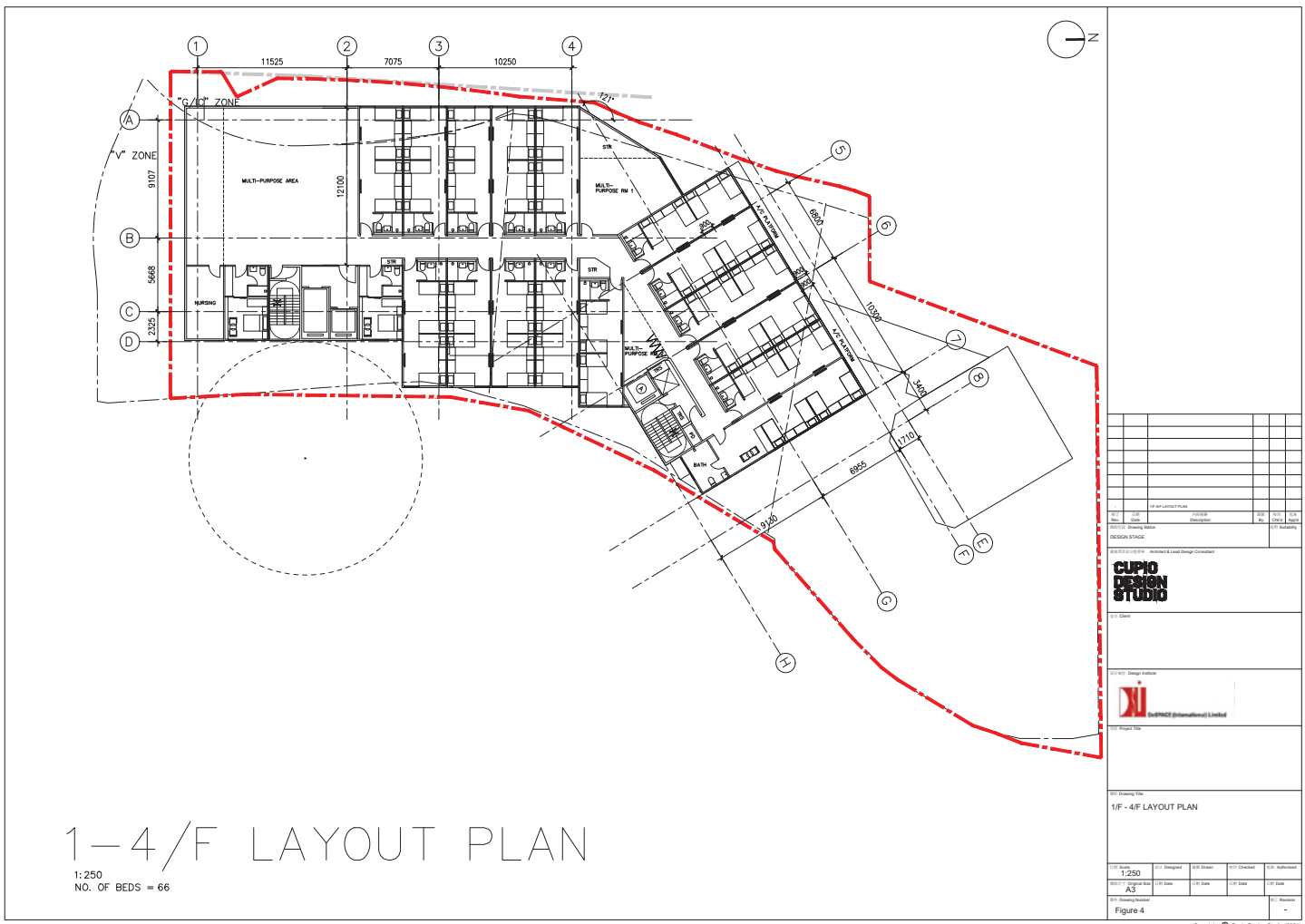
DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號: P-105

SCALE 比例: 1:250@A3

DATE 日期: 20230705

Previous Approved Scheme (A/YL/289) - 4/F Layout Plan



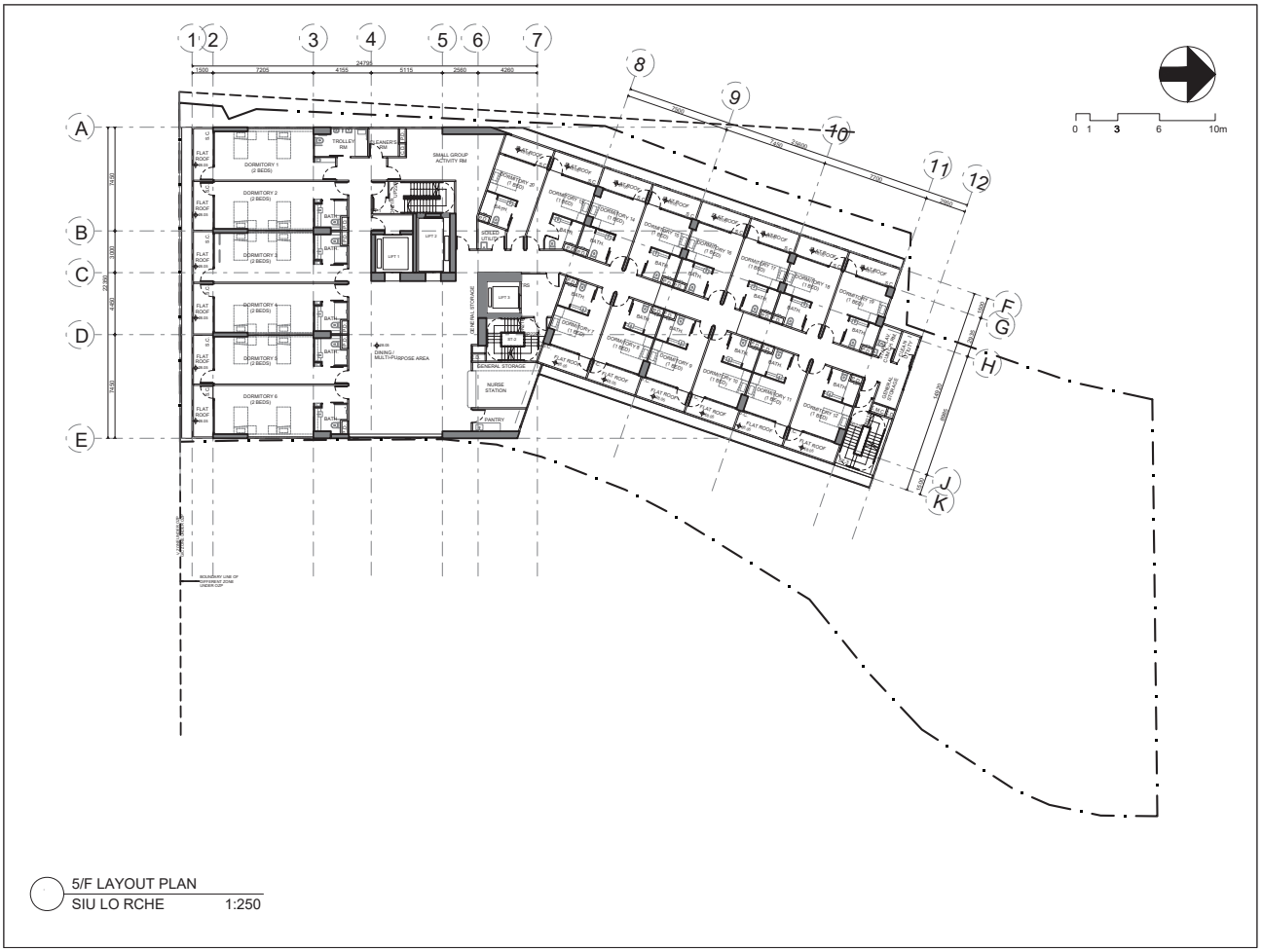
1—4/F LAYOUT PLAN

1:250
NO. OF BEDS = 66

1/F - 4/F LAYOUT PLAN

Scale 1:250 | Designed | Drawn | Checked | Authorised
Original Size A3 | Date | Date | Date | Date
Drawing Number Figure 4 | Revision -

Proposed Development - 5/F Layout Plan



PROJECT NO. 項目編號: HK-A22006

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DRAWING TITLE 圖紙名稱: 5/F LAYOUT PLAN

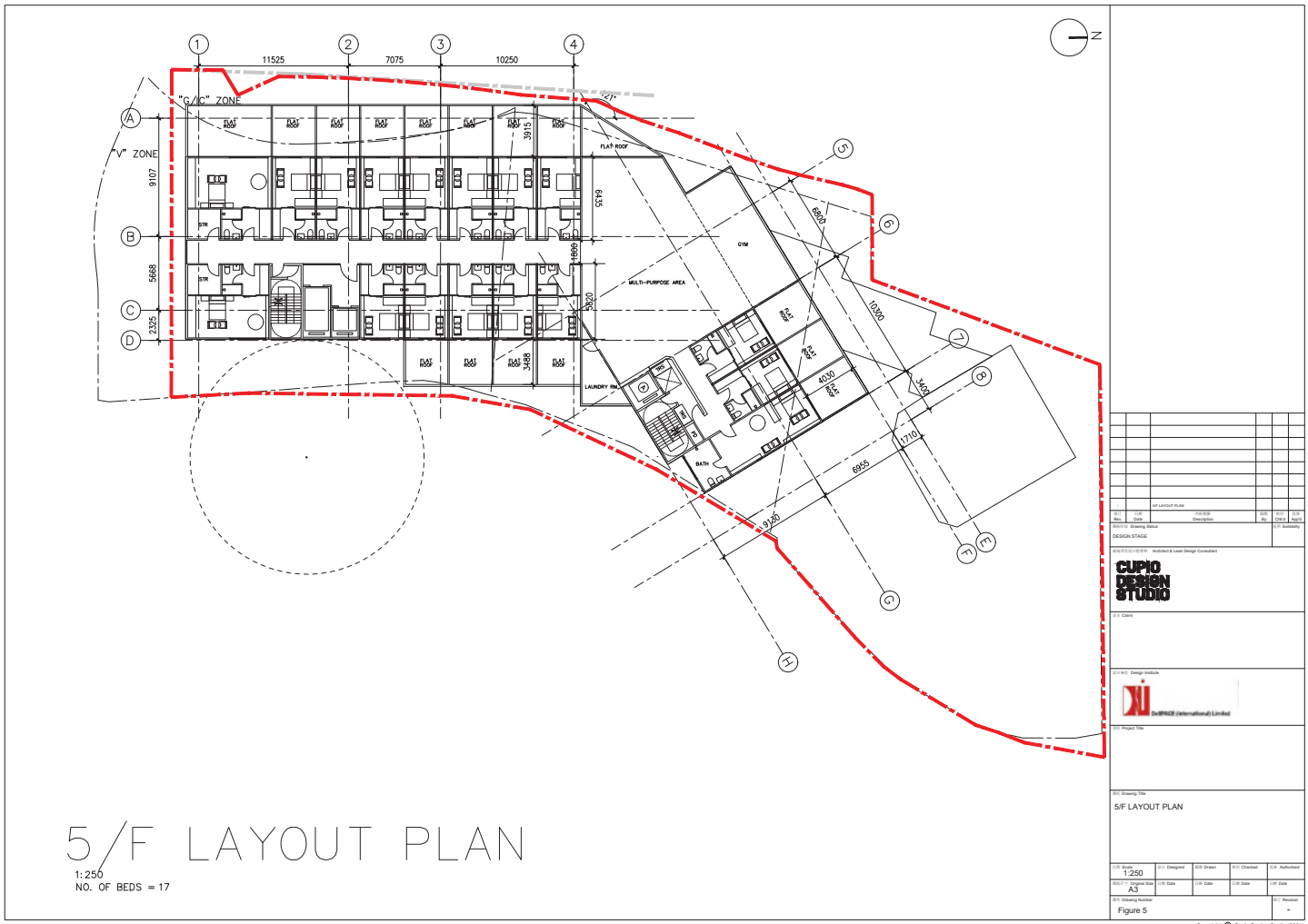
DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號: P-106

SCALE 比例: 1:250@A3

DATE 日期: 20230705

Previous Approved Scheme (A/YL/289) - 5/F Layout Plan

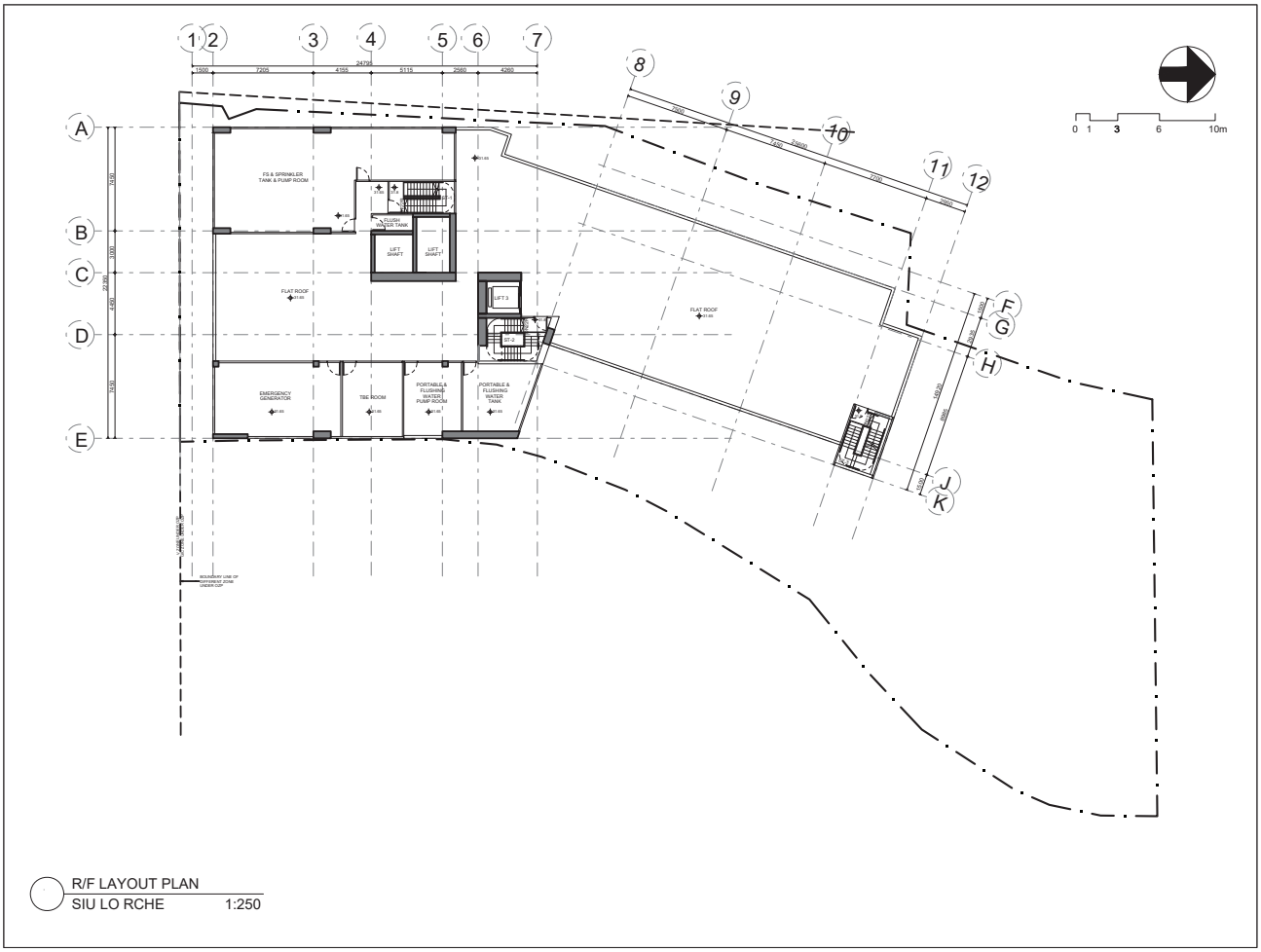


5/F LAYOUT PLAN

CUPIO DESIGN STUDIO

Figure 5

Proposed Development - R/F Layout Plan



PROJECT NO. 項目編號: HK-A22006

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MINOR CREATIVE
E-mail 電郵: info@minorcreative.com

AP, STRUCT ENGINEER 認可人士, 結構工程師:
S.T. WONG & PARTNERS LIMITED
E-mail 電郵: stwong@gmail.com
Tel 電話: 2625 1776
Fax 傳真: 2467 9618

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DRAWING TITLE 圖紙名稱: R/F LAYOUT PLAN

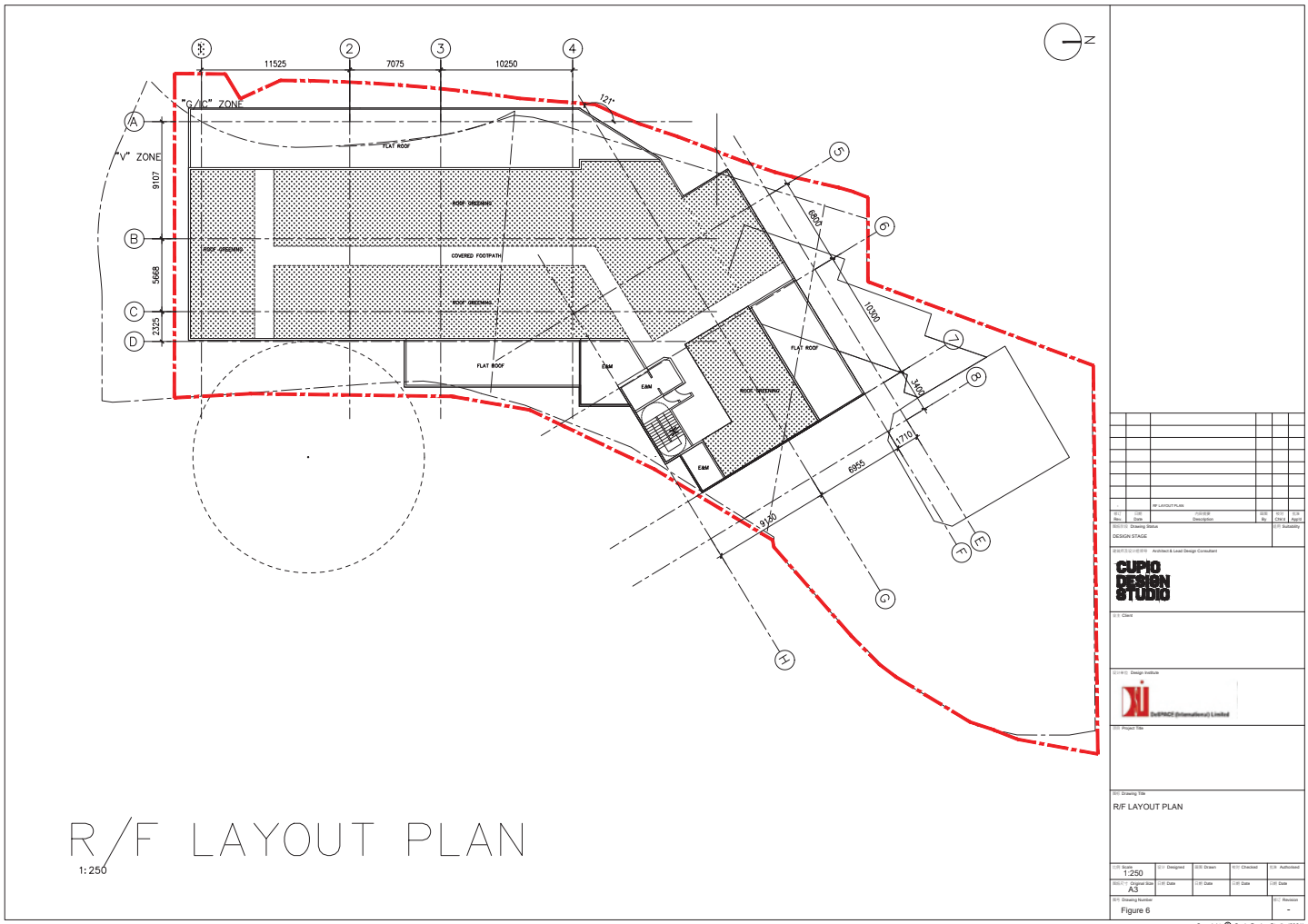
DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號: P-107

SCALE 比例: 1:250@A3

DATE 日期: 20230705

Previous Approved Scheme (A/YL/289) - R/F Layout Plan



R/F LAYOUT PLAN

Drawing Status: DESIGN STAGE

Architect & Lead Design Consultant: CUPIO DESIGN STUDIO

Design Institute: DeSPACE (International) Limited

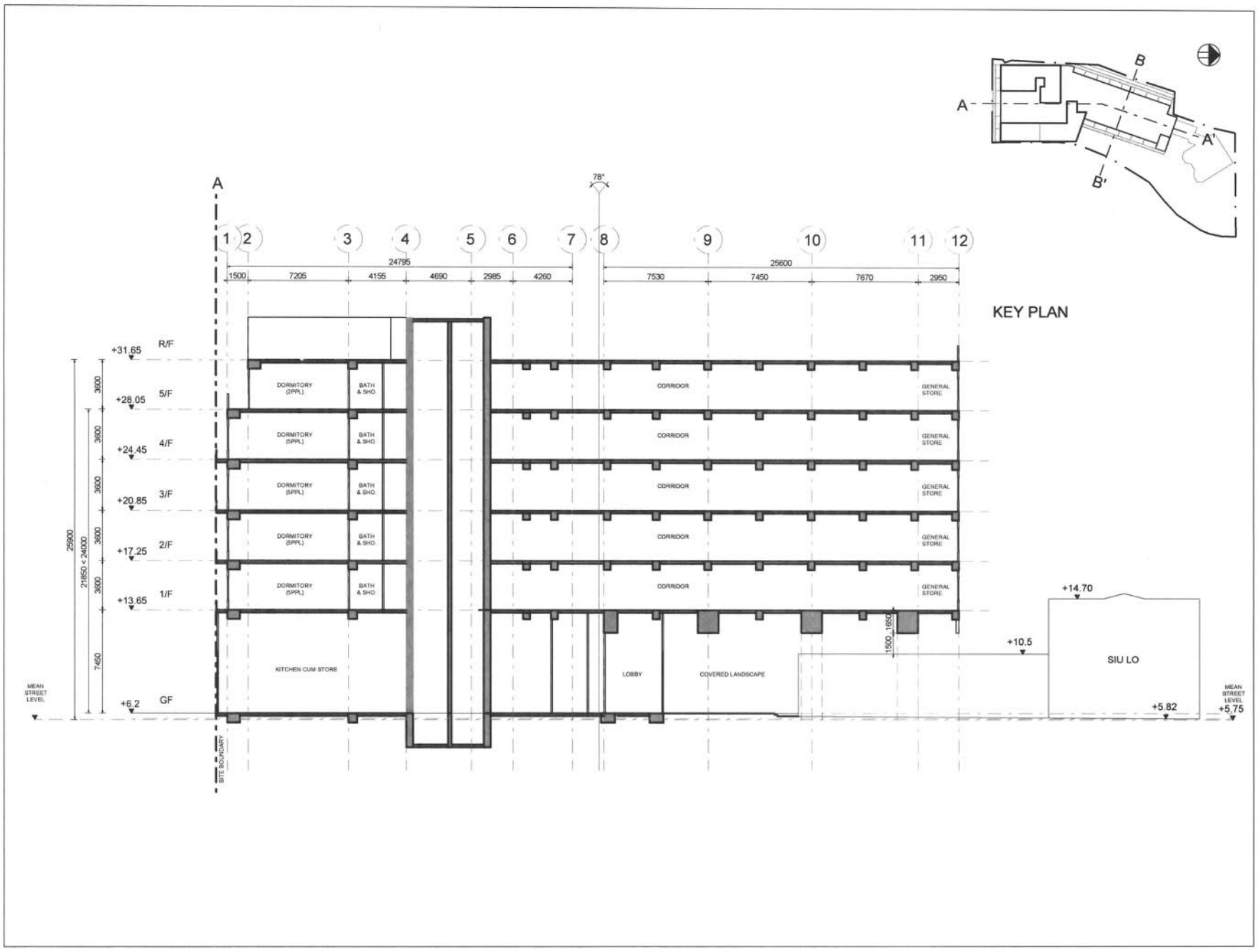
Drawing Title: R/F LAYOUT PLAN

Scale: 1:250 | Designed | Drawn | Checked | Authorised

Original Size: A3 | Date | Date | Date | Date

Drawing Number: Figure 6 | Revision: -

Proposed Development - Section AA'



PROJECT NO. 項目編號: HK-A22006

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8	DESIGN	20230315
9	DESIGN	20230707

TOWN PLANNER & SURVEYOR 城市規劃師及測量師:
■ E-mail 電郵: despacenternational@gmail.com
■ Tel 電話: 2493 3626

ARCHITECT 建築師:
MINOR 細 CREATIVE 作室
■ E-mail 電郵: info@minorcreative.com

AP, STRUCT ENGINEER 認可人士, 結構工程師:
S.T. WONG & PARTNERS LIMITED
■ E-mail 電郵: stswong@gmail.com
■ Tel 電話: 2625 1776
■ Fax 傳真: 2467 9618

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■ Fax 傳真: 2399 0066
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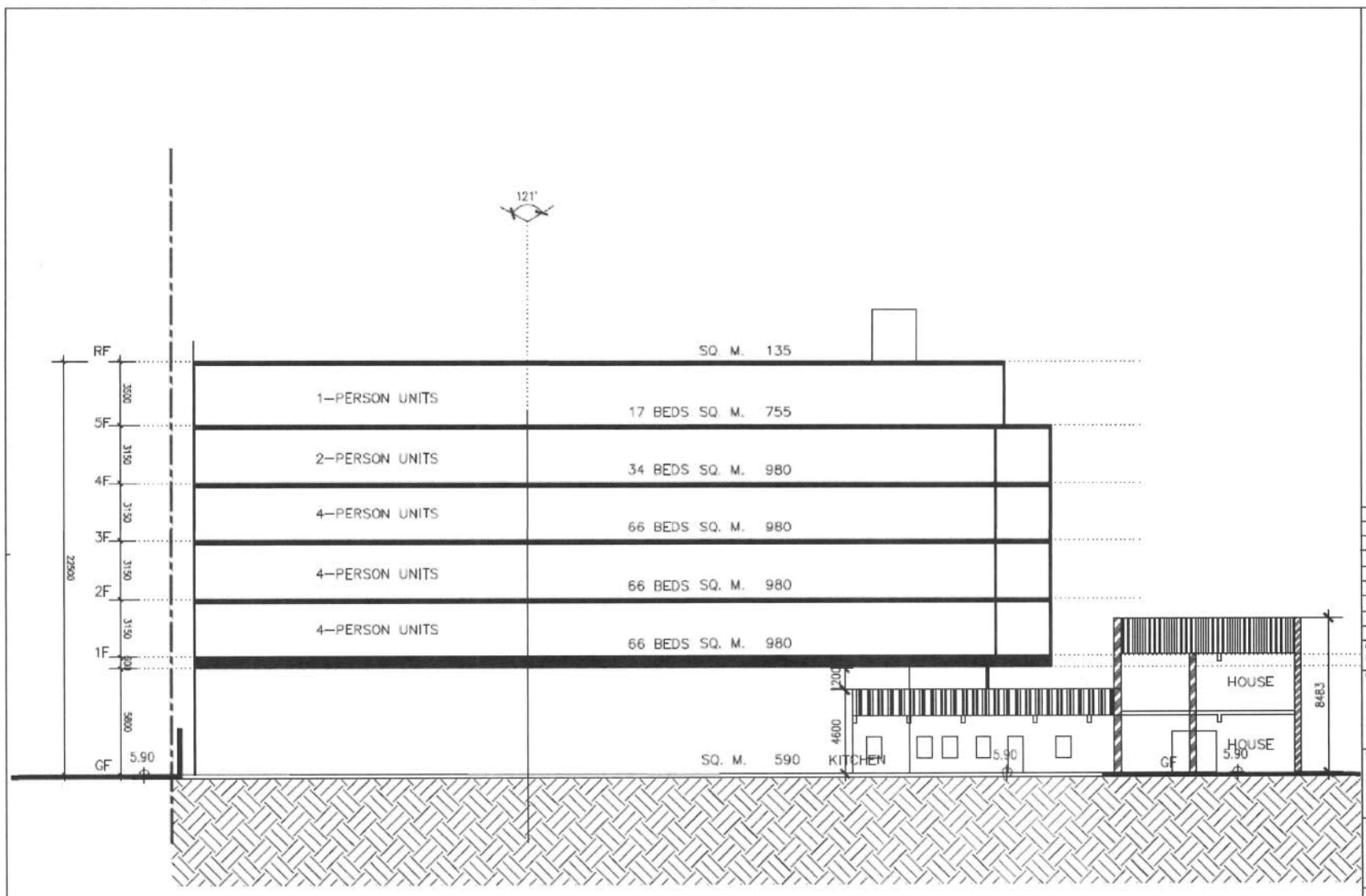
DRAWING TITLE 圖紙名稱: SCHEMATIC SECTION A

DESIGN IN CHARGE 設計負責人	DWG NO. 圖紙編號:
KL	S-101

SCALE 比例: 1:250@A3
DATE 日期: 20230707

Previous Approved Scheme (A/YL/289) - Section AA

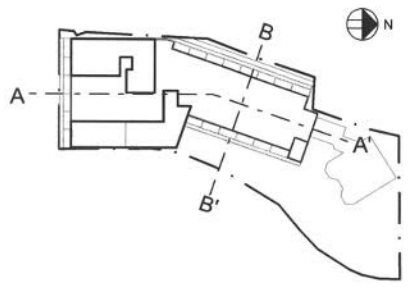


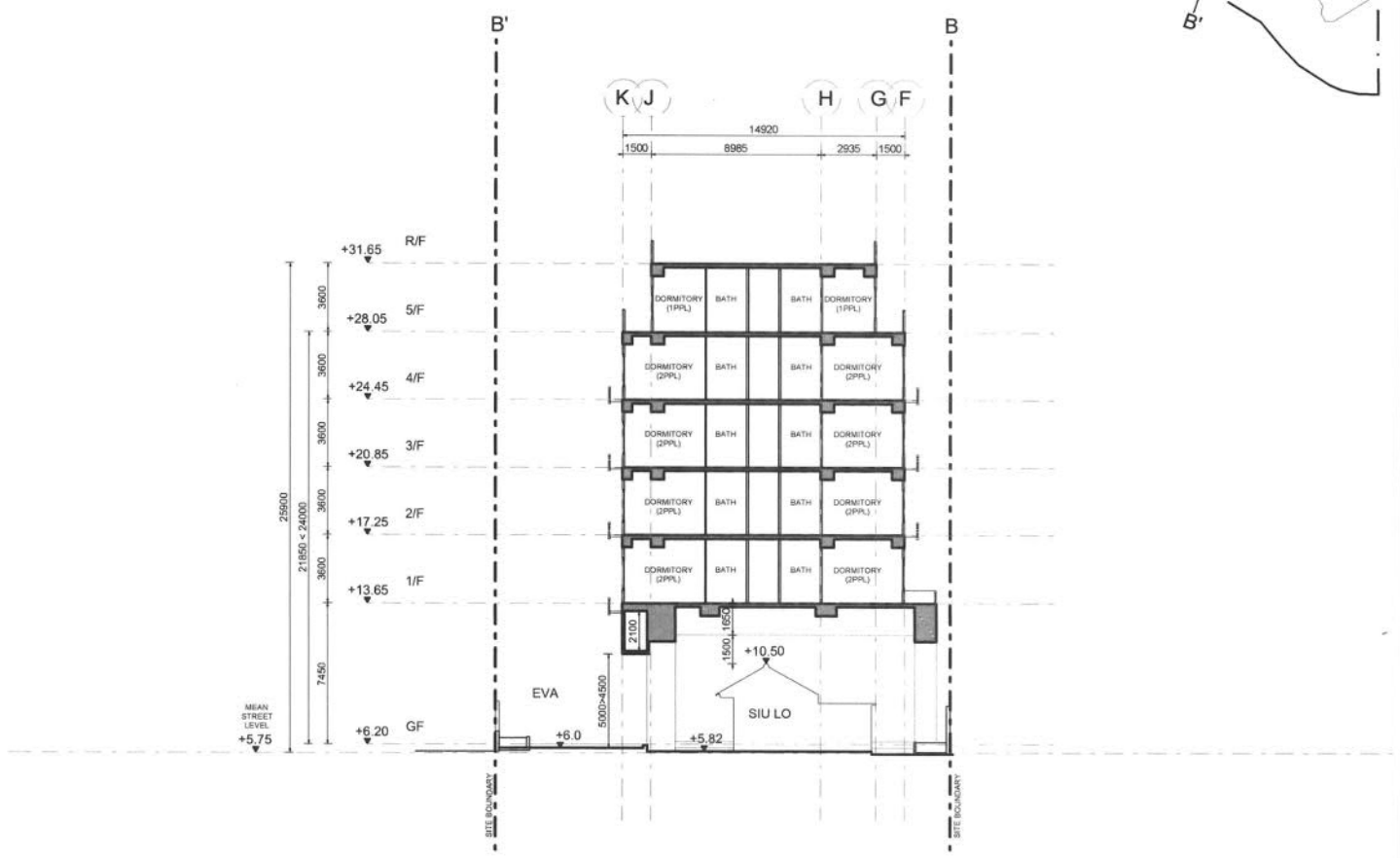
SECTION OF RCHE AND SIU LO BUILDING

1:400 | A3

Figure 7

Proposed Development - Section BB'





PROJECT NO. 項目編號: HK-A22006

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DRAWING TITLE
圖紙名稱： SCHEMATIC SECTION B

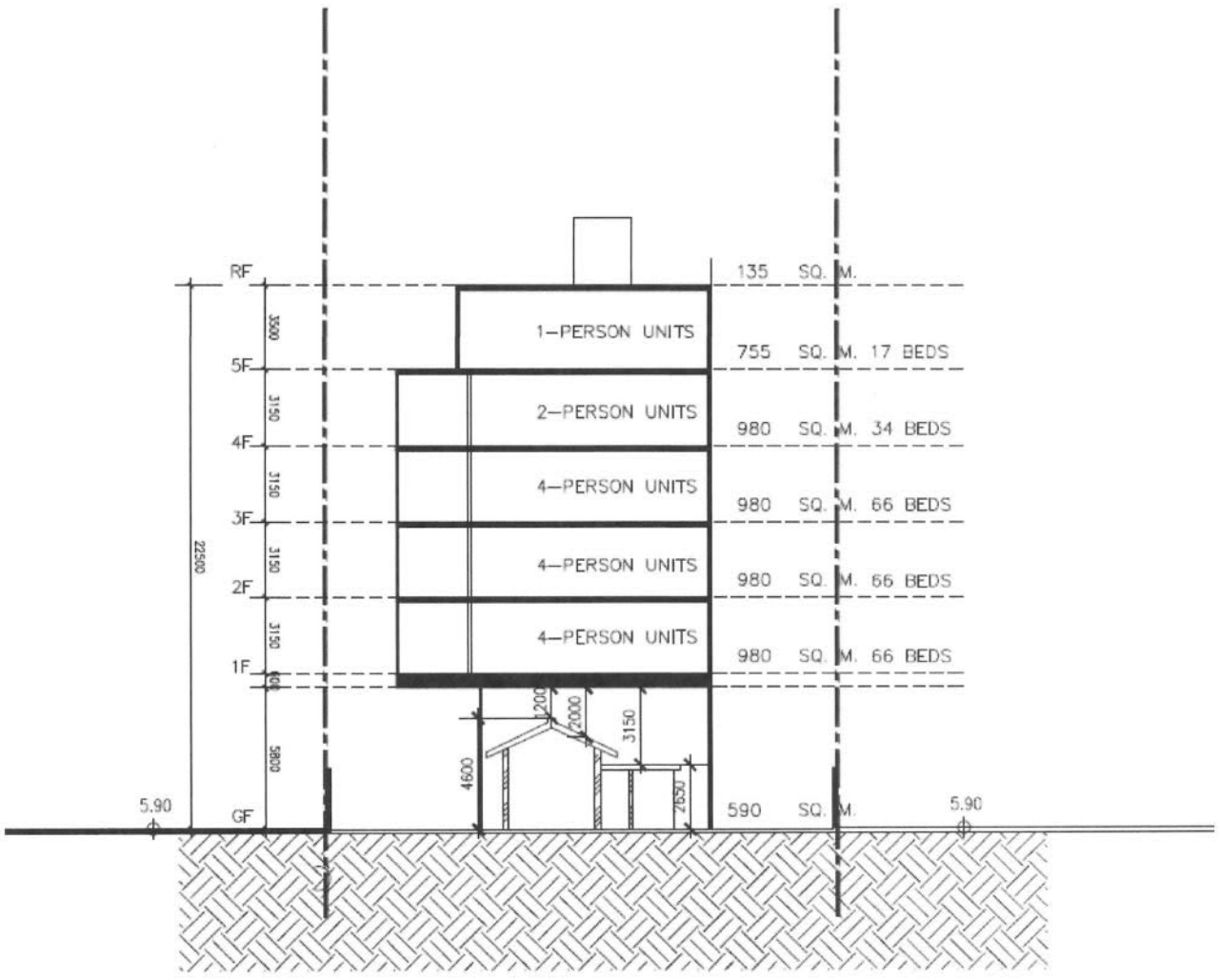
DESIGN IN CHARGE 設計負責人 KL

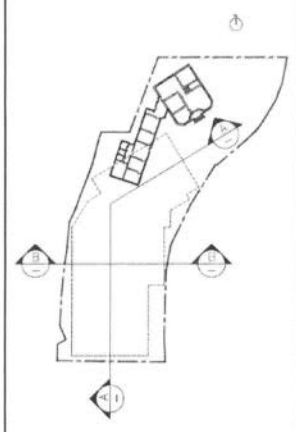
DWG NO. 圖紙編號： S-102

SCALE 比例： 1:250@A3

DATE 日期： 20230707

Previous Approved Scheme (A/YL/289) - Section BB





CUPIO DESIGN STUDIO

SECTION OF RCHE AND SIU LO BUILDING

1:400 | A3 | Figure 7

APPENDIX 3

HERITAGE APPRAISAL

Heritage Appraisal

1. Introduction

The applicant, namely, Si Mau Limited, proposes to develop a Social Welfare Facility (Residential Care Home for the Elderly) (RCHE) as a permitted use under the extant Draft Yuen Long Outline Zoning Plan No. S/YL/26 (the OZP) at the southern part of the site at Lot Nos.1695 S.E ss. 1 RP, 1695 S.F ss.1, 1695 S.H RP (Part) and adjoining government land in D.D. 120, Tai Kei Leng, Yuen Long, New Territories (hereinafter referred to as "the Site"). The applicant is the sole registered land owner of these lots.

A s.16 planning application is to be submitted to the Town Planning Board (TPB) for proposed minor relaxation of Building Height restriction (BHR) on the Application Site from 3 storeys to 6 storeys for the permitted RCHE development. This Heritage Appraisal provides a thorough understanding of the site and buildings from a heritage point of view to support the s.16 planning application.

2. Project Outline

2.1 Site Particulars

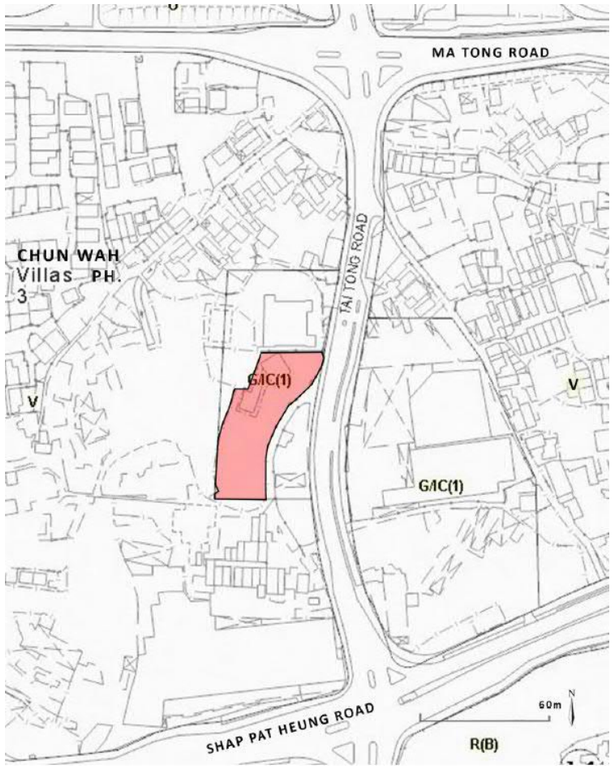


Figure 1. Location of the Application Site

The Site is situated in the southern part of Yuen Long New Town, accessible via Tai Tong Road (Figure 1). It has an area of about 1,877.1 m^2 and falls within the street block bounded by Tai Tong Road to the east, Shap Pat Heung Road to the south, Tai Shu Ha Road East to the west, and Ma Tong Road to the north. The Site is situated in an area generally occupied by residential and village settlements. The Site, currently used as a temporary public car park, comprises a Grade 3 historic building known as "Siu Lo" (including its main building and annex block). The Main Building of Siu Lo situates on Lot no. 1695 S.E ss.1 RP and the Annex Block of Siu Lo situates partially on Lot no. 1695 S.E ss.1 RP and partially on 1695 S.F ss.1. (Figure 1 of the Planning Statement refers)

2.2 Proposed Development

A Conservation-cum-Development Scheme

The proposed RCHE is in line with the prevailing Hong Kong policies, including the Chief Executive's Policy Addresses and the "HK2030+: Towards a Planning Vision and Strategy Transcending 2030" (HK2030+), to provide self-financing elderly facilities to address the aging population issues and the severe shortfall in the provision of elderly facilities. It has a gross floor area (GFA) of 6,600m^2 (excluding the covered car park and internal road), providing a total of 241 beds (or within a range of 220 – 260). As the proposed RCHE development is required to be 6 storeys tall, which exceeds the BHR of 3 storeys under the extant OZP, a s.16 planning application is prepared for submission to the Town Planning Board accordingly.

A conservation-cum-development scheme is proposed as the applicant intends to preserve the architectural and cultural merits of Siu Lo for the benefit of the general public. Siu Lo, including its main building and annex block, will be preserved entirely *in-situ*. To minimize the impact on Siu Lo, the new RCHE building is planned in the southern part of the Site, with no physical connection with the historic building. The new building will have a high headroom on the G/F; part of it (1/F and above) will be built over a portion of Siu Lo's annex block without adding any structural load to it. The proposed new building will be built in a reversible manner, i.e., it will not affect the historic building when it is to be redeveloped in the future. The objective is to create a win-win situation in which both the public interest and the project's financial viability could be properly attained.

Conservation of the Historic Building

Siu Lo was a private residence of an overseas Chinese family. In the proposed scheme, Siu Lo will remain as a freestanding building and the original use of Siu Lo as "House" will also be maintained. Siu Lo will be maintained and upkeeped in sound condition and allowed for free public visits with guided tours for appreciation of Siu Lo from the outside at regular intervals. Some interior areas such as the historic kitchen in the Annex Block of Siu Lo will be open for private tours for non-government organisations and schools. Interpretation panels or other interpretation media will be incorporated in these areas. The detailed arrangement of public visits and tours will be incorporated into the Conservation Management Plan (CMP) and to the satisfaction of the Antiquities and Monuments Office. The applicant will check the existing sewerage, drainage, water supply, and electricity systems of Siu Lo and its Annex Block and the potential works required on these aspects to meet the future use of Siu Lo with consideration of the works required for the proposed RCHE building. The detailed works for Siu Lo will be subject to agreement with the Antiquities and Monuments Office (AMO) and Commissioner for Heritage's Office (CHO) and a CMP will be submitted to the satisfaction of AMO prior to commencement of any works.

Heritage Interpretation for the Public

The following measures, subject to agreement with AMO and CHO, are proposed:

1. The dilapidated parts of Siu Lo will be repaired to a better condition and safer state;
2. To minimize the need for internal alteration and changes, thus to best reflect its historical nature and appearances, Siu Lo will remain as its existing use of "house";
3. The Applicant would reserve the internal area for private use at this stage and glazed doors/ windows will be partially provided at certain spot(s) to allow see-through of the internal area from outside; and
4. The Heritage Garden is available for free public visits through advance bookings, with display boards to allow public visitors to understand the background of Siu Lo, the original owner's family life, and the history of the Tai Kei Leng and Yuen Long. Guided visits can be arranged once per month subject to further agreements with CHO and AMO.

2.3 Project Implementation

The project implementation is generally outlined as follows:

Conservation and Management Plan (CMP)

A CMP for the conservation of the main building and the annex block of Siu Lo as required will be prepared and submitted prior to commencement of any works and the CMP will be implemented to the satisfaction of AMO or the TPB. The applicant will engage a heritage consultant to prepare the CMP for submission.

Photographic and Cartographic Records

A full set of photographic and cartographic records of the main building and the annex block of Siu Lo will be submitted prior to the commencement of works to the satisfaction of the AMO or the TPB.

Construction and Repair Works

The whole project will be implemented under the supervision of appropriately qualified and experienced professionals. The necessary construction and repair work for Siu Lo will be carried out by a registered general building contractor/specialist contractor for the repair and restoration of the historic buildings.

3. Methodology

This historical appraisal references several international conservation charters and standards, including the Burra Charter and The Australia ICOMOS Conservation Plan.[1] A background study, baseline research, and field surveys have been conducted. Archival records, literature, old newspapers, historic photos, and maps, are collected and analyzed. The significance of Siu Lo is evaluated in terms of its historical, social, architectural, and group values. Based on these analyses, general recommendations for the appropriate conservation of the significance of Siu Lo and the future use of the Site are proposed in Section 7 of this heritage appraisal.

[1] Australia ICOMOS, "The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance" (Australia ICOMOS, 2013); James Semple Kerr, "Conservation Plan, the 7th Edition: A Guide to the Preparation of Conservation Plans for Places of European Cultural Significance" (Australia ICOMOS, 2013).

4. Historical Interest

4.1 Tai Kei Leung

Siu Lo is situated in Tai Kei Leng (大旗嶺). Before 1910, the area comprising today's Tai Kei Leng was a wasteland. The government sold the land to various buyers for cultivation during the 1910s, and since then, a multi-surnamed village comprising mainly non-indigenous inhabitants has been developed there. Nevertheless, the exact year that the name Tai Kei Leng was adopted by villagers was unclear. It was only in the 1950s that the name began to appear on some maps. Records show that Tai Kei Leng became a member village of Shap Pak Heung (十八鄉) between September 1956 and March 1958.[2] By 1965, Tai Kei Leng became one of the most populated areas in Yuen Long, accommodating more than 10,000 inhabitants.[3] It was also the village with the largest area in Yuen Long. Today, Tai Kei Leng is one of the four non-indigenous villages among the 31 "existing villages" (現有鄉村) in Shap Pat Heung.[4]

There are several graded historic buildings in the vicinity of Siu Lo. Most of them are private residences located on the other side of Tai Tong Road. The group values of these buildings are studied in Section 4.4 of this heritage appraisal.

4.2 The Chan Family

The founder of Siu Lo was Chan Mo Tsing (陳慕青), alias Chan Ah Yuk (陳亞旭) or Chan Yuk Hung (陳毓紅).[5] Chan Mo Tsing originated from Meixian in Guangdong Province. He migrated to Surabaya (泗水), the capital of East Java, Indonesia, and opened a grocery shop there, selling rice, oil, and so forth. Chan Mo Tsing made a fortune from businesses in the South Sea region. He brought back his wealth to Hong Kong and purchased some land and properties in Tai Kei Leng and other parts of Yuen Long. The land registry record shows that Chan Mo Tsing purchased the land lot 1695 S.E ss. 1 in DD120 on 9 September 1937. He then purchased 1695 S.F ss.1 on 7 July 1939. He also purchased 1695 S.H RP but the year of the land transaction was unknown. These three land plots formed the site for Siu Lo. The construction of Siu Lo was completed in 1941.[6] According to the landowner, the residence's Chinese name, "筱 (*siu*)", has the same pronunciation as the term "小". The name of the residence reflects the humbleness of Chan Mo Tsing.

Aside from the farmlands and properties he had purchased, Chan Mo Tsingowned a shop in Yuen Long San Hui. He donated thirty dollars for the renovation of Tin Hau Temple at Nga Yiu Tau (瓦窰頭天后廟), also known as Tai Shu Ha Tin Hau Temple (大樹下天后古廟). The Chinese words, "陳慕青捐銀叁拾大元", were inscribed on a stone tablet dated 1938 inside the temple.[7]

[2] A record in September 1956 showed that Shap Pat Heung Rural Committee comprised of representatives from 27 villages. Tai Keng Leng was not one of them. Nevertheless, a news report in March 1958 indicated that Tai Kei Leng was a member village of Shap Pak Heung. As such, Tai Kei Leng was likely to be recognised as a member village of Shap Pak Heung between September 1956 and March 1958. See〈十八鄉鄉事會定期選新主席〉,《香港工商日報》,1958年3月28日。

[3] 〈十八鄉大旗嶺將選村代表 官方派流動隊前往登記戶主〉,《華僑日報》,1965年7月21日。

[4] "Cap. 576 Rural Representative Election Ordinance" (2003), https://www.elegislation.gov.hk/hk/cap576!en?INDEX_CS=&xpid=ID_1438403479684_001.

[5] "Chan Mo Tsing (or Ching) Alias Chan Ah Yuk Alias Chan Yuk Hung," 1956–60, HKRS96-1-5466-1, Public Records Office, Hong Kong.

[6] Interview with Chan Leung Shan, the grandson of Chan Mo Tsing.

[7] Antiquities and Monuments Office.

After the end of World War II, at the request of the British who re-occupied Hong Kong, the Hong Kong-Kowloon Brigade of the East River Column (東江縱隊港九獨立大隊) helped maintain social order in the New Territories. Self-defence units were organized during the period from September 1945 to September 1946. According to local inhabitants' reminiscences, Siu Lo was a focal point of activities of the self-defence units at that time.[8] Nevertheless, Chan Leung Shan, the grandson of Chan Mo Tsing and a former owner of Siu Lo, said this information has never been verified. Neither his grandfather nor anyone in his family has told him that Siu Lo was used by the self-defence units.

Chan Mo Tsing passed away on 9 August 1953 at the age of 71. Following his will, Siu Lo was inherited by his wife, Yau Yin Yin, in 1955.[9] The Chan family moved out of Siu Lo around the late 1970s. In 2014, they converted the open space of Siu Lo into a temporary rental car park. The ownership of Siu Lo remained in the hands of the Chan family until being sold to a private enterprise in 2017.

4.3 Development of the Site

No building plan is available from the government. The earliest aerial photo of the area from the Lands Department was taken in 1945. It shows that the Site abutted an unnamed alley and was surrounded by farmlands, which were the predominant land use in Yuen Long at the time (Figure 3). The construction of Siu Lo was completed in 1941. There were not many built structures erected nearby, making Siu Lo an outstanding building in the area. Not many roads have been developed to serve the Tai Kei Leng area. Tai Tong Road was yet to be built at that time.

Figure 3. Aerial photo in 1945 (Survey and Mapping Office, Lands Department, HKSAR Government)

The historic aerial photo taken in 1956 shows that the areas surrounding Siu Lo continued to be dominated by farmlands. Tai Tong Road had already been completed by 1956 (Figure 4).

[8] Antiquities and Monuments Office.
[9] "Chan Mo Tsing (or Ching) Alias Chan Ah Yuk Alias Chan Yuk Hung," 1956–60, HKRS96-1-5466-1, Public Records Office, Hong Kong.

Figure 4. Aerial photo in 1956 (Survey and Mapping Office, Lands Department, HKSAR Government)

A series of aerial photos taken in the 1960s and the 1970s show that more and more low-rise houses were erected in the Tai Kei Leng area (Figures 5 & 6). The former Yuen Long Baptist Church was built adjacent to Siu Lo in 1963. The church building was rebuilt in 2003.

Figure 5. Aerial photo in 1961 (Survey and Mapping Office, Lands Department, HKSAR Government)

Figure 6. Aerial photo in 1963 (Survey and Mapping Office, Lands Department, HKSAR Government)

The natural stream that flew north to Yuen Long Town was re-diverted into a nullah in the mid-1960s (Figure 7). Most farmlands have vanished since the late 1970s. Low-rise and high-rise residential blocks had emerged in place of the low-rise village houses (Figures 8, 9, & 10).

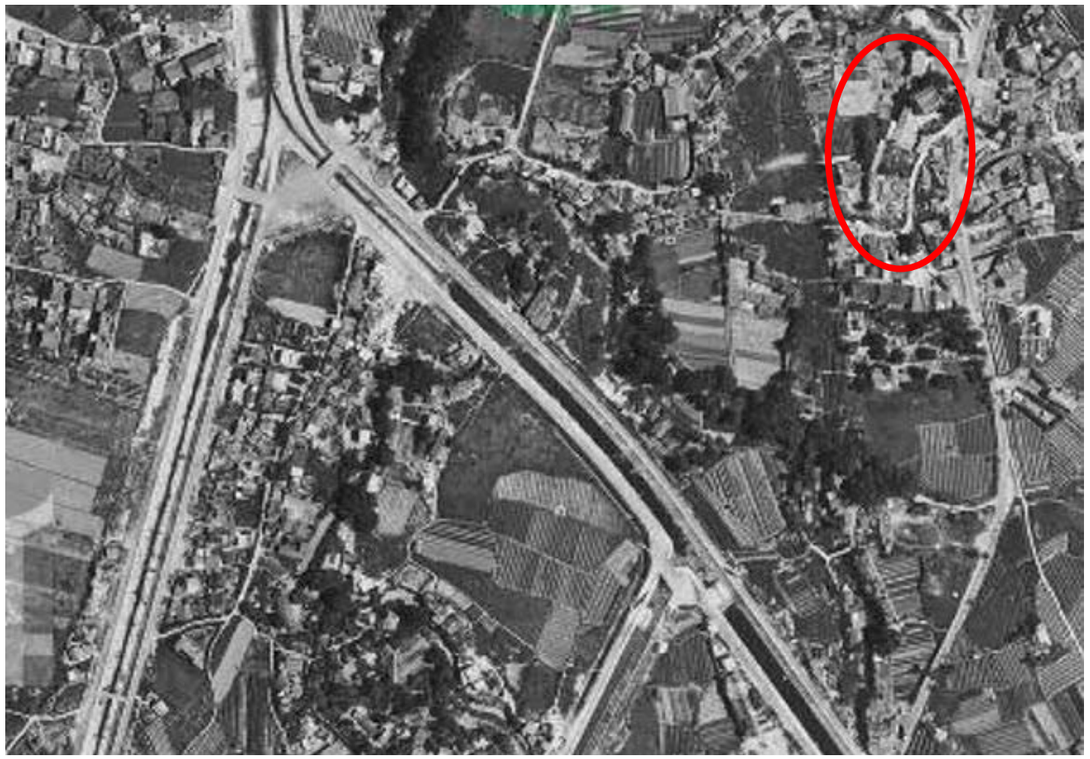


Figure 7. Aerial photo in 1967 (Survey and Mapping Office, Lands Department, HKSAR Government)

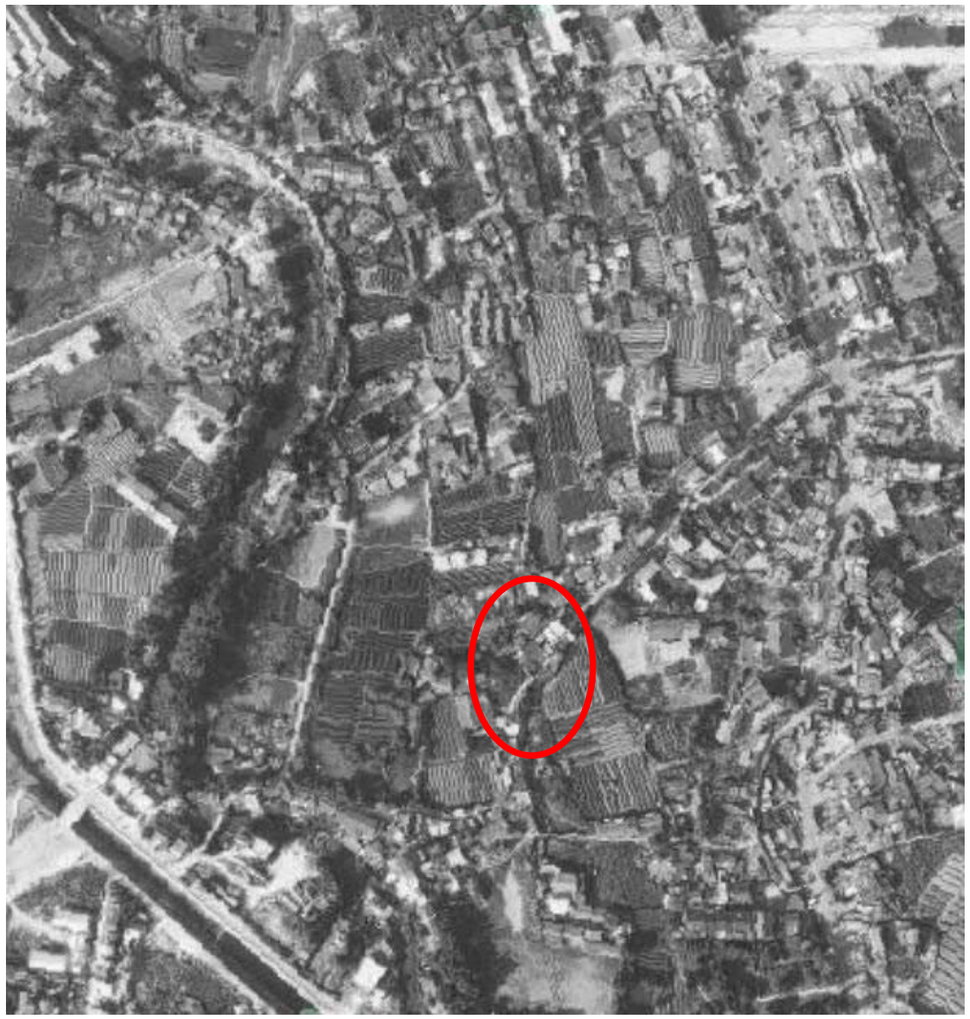


Figure 8. Aerial photo in 1973 (Survey and Mapping Office, Lands Department, HKSAR Government)

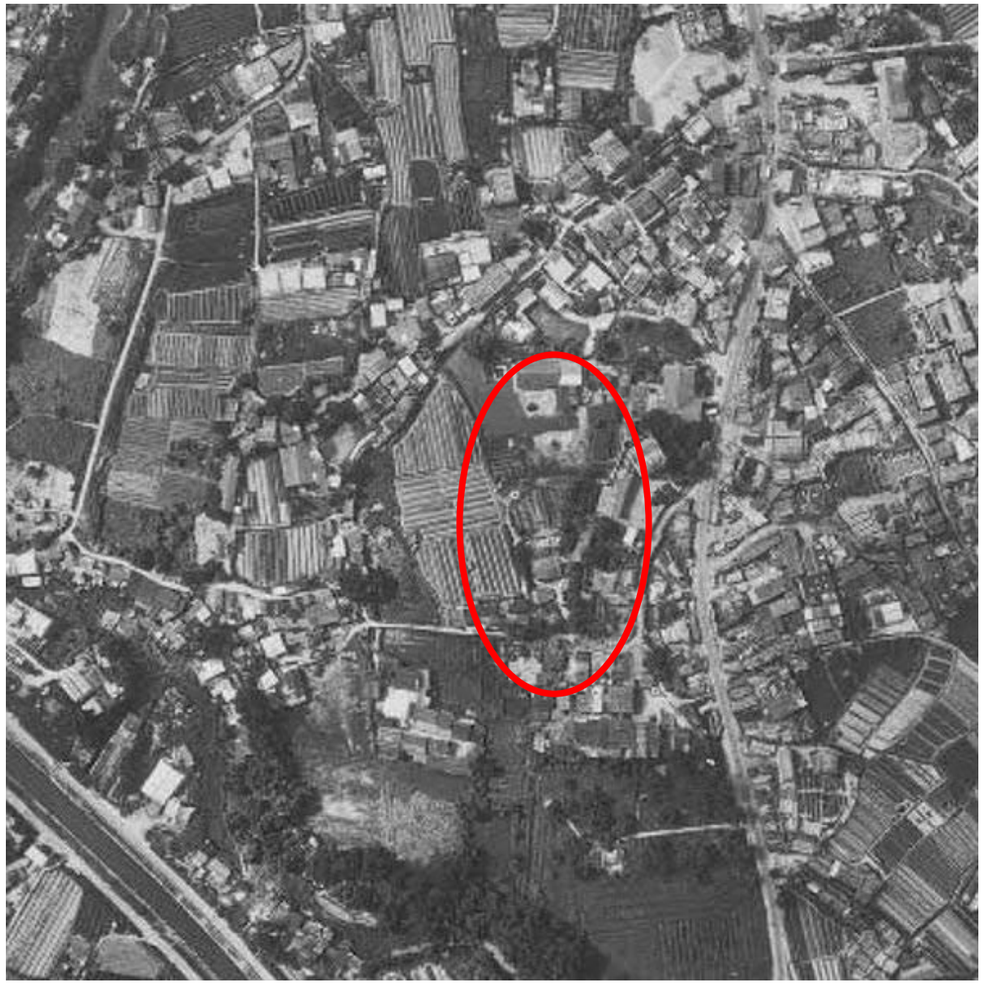


Figure 9. Aerial photo in 1977 (Survey and Mapping Office, Lands Department, HKSAR Government)

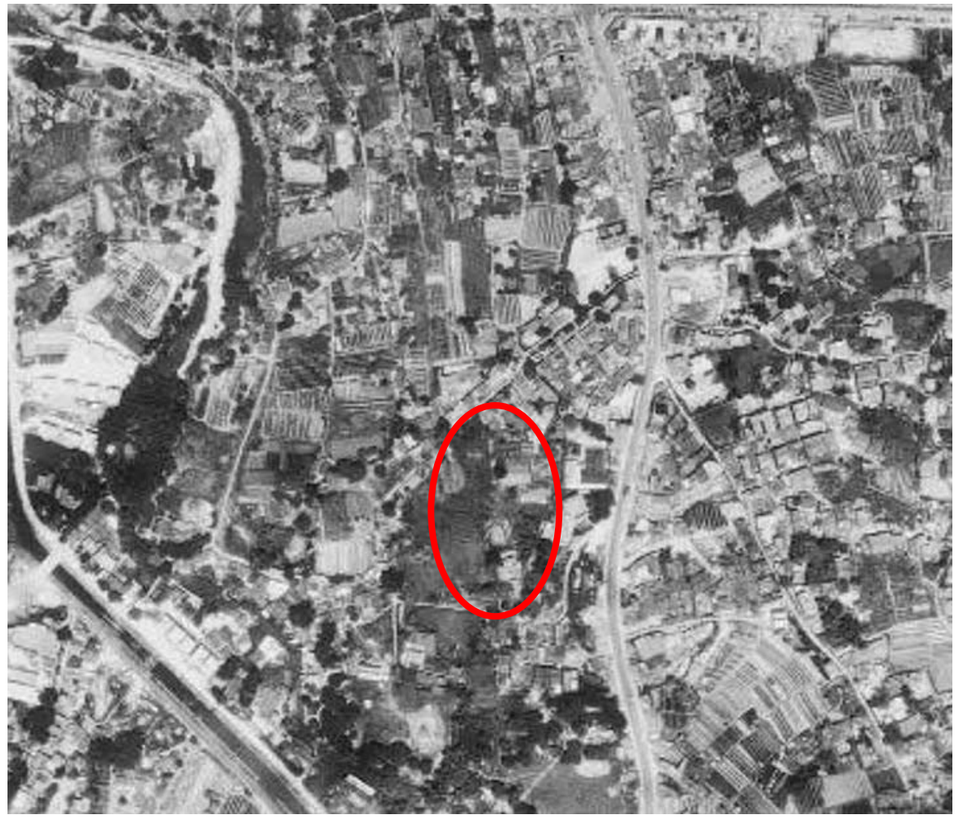


Figure 10. Aerial photo in 1979 (Survey and Mapping Office, Lands Department, HKSAR Government)

4.4 Graded Historic Buildings in the vicinity of Siu Lo

There are several graded historic buildings in the vicinity of Siu Lo (Figure 11).

Figure 11. Graded Historic Buildings in the vicinity of Siu Lo (extracted from GIS on Hong Kong Heritage on July 2021)

	Building	**Year of Completion**	**Grading**	**Brief Descriptions**
1	Ji Yeung Study Hall, No. 23 Tai Kei Leng	1924	Grade 3	The study hall was built by the Leung brothers to commemorate their father. The Leung family originated from Tai Shan, Guangdong.
2	No. 26 Tai Kei Leng	1920-1930	Grade 3	A private residence owned by the Leung brothers, who also built the Ji Yeung Study Hall.
3	No. 27 Tai Kei Leng	1920-1924	Grade 3	A private residence owned by the Leung brothers, who also built the Ji Yeung Study Hall.
4	No. 45 Tai Kei Leng Tsuen (Main Building)	1926	Grade 3	A private residence built by Fung Yin Yiu, an overseas Chinese from Canada.
5	No. 45 Tai Kei Leng (Entrance Gates and Enclosing wall)	1926	Grade 3	The entrance gate and enclosing wall to a private residence of the Fung family.
6	No. 112 Tai Kei Leng	1924-1925	Grade 3	A private residence of the Chung family.
7	No. 119 Tai Kei Leng	1928	Grade 3	A private residence built by Lam Bing Tak, a native of Xinhua, Guangdong. Lam later returned to New York.
8	No. 173 Tai Kei Leng	1927	Grade 3	A private residence of the Lam family originated in Xinhua, Guangdong. Many members of the Lam family later moved to Canada.
9	Nos. 186 & 188 Tai Kei Leng	1931	Grade 3	Private residences built by Li Mau Kei, a native of Shenzhen, Guangdong. Li later moved to Brazil.

Most of these graded historic buildings are private residences located on the eastern side of Tai Tong Road. Many of the original building owners were overseas Chinese or had connections abroad. Together with Siu Lo, this group of domestic architecture can show the life of the village people in the New Territories.

5. Architectural Merit

5.1 Architectural Description

Siu Lo comprises a 2-storey main building and a single-storey annex block attached to the house at an angle (Figure 12). The main building houses living rooms, a dining room, and bedrooms. The annex block, connected to the southwest of the main building at an odd angle, comprises a living room, a dining room, bedrooms, kitchens, and toilets. According to the previous owner and the historic aerial photos, the main building and the annex block were built simultaneously.

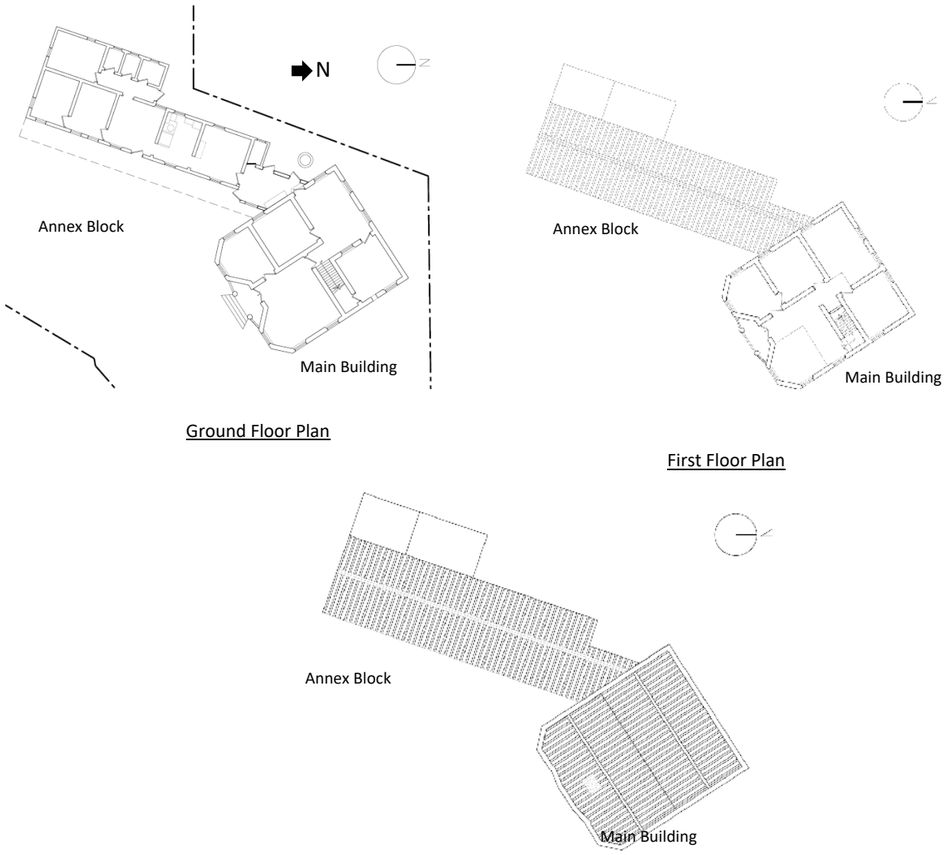


Figure 12. The existing layout of Siu Lo.

Siu Lo is a house of mixed style. The main building is designed in an eclectic style with a mix of Chinese and Western architectural features. The front façade is highlighted by an open porch and the verandah above. Both the porch and the verandah are supported by octagonal columns with capitals. The pitched roofs, covered with Chinese tiles and supported by timber purlins, are surrounded by a low parapet wall with a small decorative pediment in the middle. The corners of the building are splayed, probably for both *feng shui* and decorative reasons. The main building employed traditional and modern materials at the time. The walls are made of grey bricks covered with plasters, but some building parts, such as the overhang above the windows, are made of reinforced concrete. Windows are fitted with timber shutters and a grid of iron security bars and are shaded by the gently inclined concrete overhang. The residence is built slightly above the ground and can be accessed through the steps to the main entrance.

The annex block is a simple, vernacular structure. The building is L-shaped. The longer part of the building, which accommodates a living room, a dining room, a bedroom, and two kitchens, is covered by a Chinese tiled pitched roof supported by timber purlins. Six brackets are clearly seen from the eastern façades to support the projected eaves. Each of the two kitchens is installed with a brick stove that is connected to a chimney. In contrast, the shorter part of the annex block, which houses a storeroom, a bathroom, and two toilets, is flat-roofed. All the windows are timber-framed with a grid of iron security bars. The location of the doors and windows may have been changed over time.

A low boundary wall was constructed around the lots, with an entrance gate opened at the junction of Tai Tong Road and the unnamed alley (Figure 13). The entrance gate was not facing perfectly to the residence's door for *feng shui* reasons. In practice, this prevents outsiders from viewing directly into the residence for privacy concerns; the boundary wall can also protect the building from floods. At present, the entrance gate and a majority of the boundary wall have been eradicated.

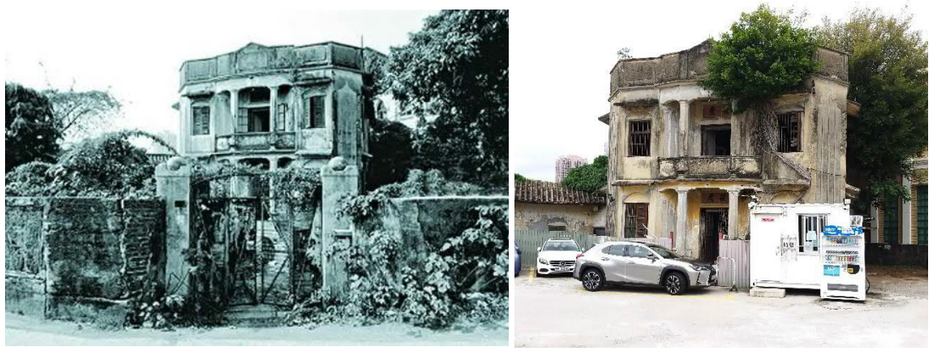


Figure 13. Siu Lo with the original entrance gate and fence wall (left) and Siu Lo in 2021 (right), (left photo: My tour, Old Hong Kong, Yuen Long, http://blog.terewong.com/archives/6304).

5.2 Character Defining Elements

According to the Standards and Guidelines for the Conservation of Historic Places in Canada, "Character Defining Elements" (CDEs) are the materials, forms, location, spatial configurations, uses, and cultural associations or meanings that contribute to the heritage value of a historic place.[10] The CDEs of Siu Lo are classified according to three levels of significance[11] to help future conservation decisions:

[10] *Definition extracted from Standards and Guidelines for the Conservation of Historic Places in Canada*, accessed on August 20, 2020, from Canada's Historic Places, https://www.historicplaces.ca/media/18072/81468-parks-s+g-eng-web2.pdf.

[11] The definition of terms is developed based on Kerr, "Conservation Plan, the 7th Edition: A Guide to the Preparation of Conservation Plans for Places of European Cultural Significance."

Level of Significance	Meaning
High significance	Elements which make a major contribution to the overall significance of the place. Spaces, elements or fabric originally of substantial intrinsic quality, and exhibit high degree of intactness and quality, though minor alterations or degradation may be evident.
Moderate significance	Elements which make a moderate contribution to the overall significance of the place. Spaces, elements or fabric originally of some intrinsic quality, and may have undergone minor or extensive alteration or degradation.
Low significance	Elements which make a minor contribution to the overall significance of the place. Spaces, elements or fabric originally of little intrinsic quality, and may have undergone alteration or degradation. Original spaces, elements or fabrics of some quality, which have undergone extensive alteration or adaptation to the extent that only isolated remnants survive.

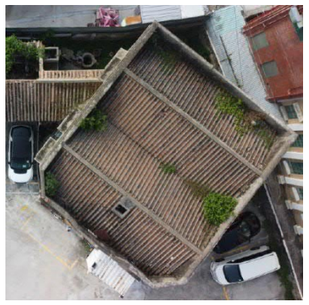
The below table provides a summary of Siu Lo's CDEs and their respective level of significance:

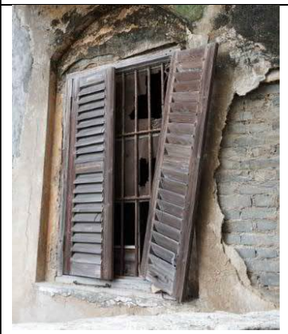
Setting		
No.	**CDEs and Photo**	**Significance and Description**
S-01	Sitting behind a boundary wall with an entrance gate 	**Low** ▪ The lot was enclosed by a low boundary wall, with an entrance gate opened at the junction of Tai Tong Road and an unnamed alley. ▪ The entrance gate and a majority of the boundary wall have already been eradicated

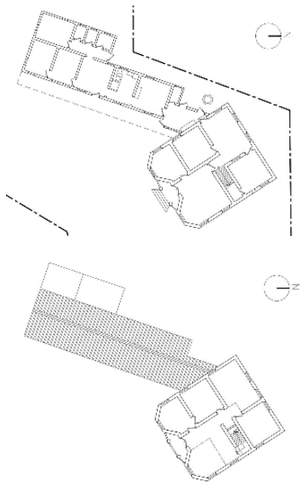
Setting		
		
S-02	The connection between the Main Building and the Annex Block 	**High** ▪ The Main Building and the Annex Block are connected at an odd angle
S-03	Old water well 	**High** ▪ An old water well is remained in the backyard behind the Annex Block.

Main building		
External		
No.	**CDEs and Photo**	**Significance and Description**
ME-01	Eclectic design with a mix of Chinese and Western architectural features 	**High** ▪ The Main Building with an indented porch and verandah in the central bay of the front façade. ▪ Several Western architectural elements, such as the open porch and the verandah and the pediment, can be found in this residence. ▪ The residence is covered with a Chinese tiled roof.
ME-02	Decorated pediment and roof parapet  	**High** ▪ A small decorative pediment is placed at the centre of the roof parapet, forming the focus of the front façade. Old photos show that there was a plastered relief in the shape of a radiating sun on the pediment. This relief no longer exists today. ▪ The roof parapet is plastered with rectangular reliefs with inverted round corners.
ME-03	Indented porch with decorated columns and beams 	**High** ▪ The front façade of the residence is dominated by an indented porch, which is a common architectural element in Western buildings ▪ The wedge-shaped porch is supported by octagonal columns with decorative capital and column base ▪ The beam above the columns is designed with a delicate profile, which adds architectural merits to the entrance porch

Main building		
External		
No.	**CDEs and Photo**	**Significance and Description**
ME-04	Verandah on the 1/F with decorated columns and beams 	**High** ▪ A verandah is built above the indented porch. The verandah shares a similar design to the porch. It was supported by octagonal columns with decorative capitals ▪ The verandah is wedge-shaped ▪ The octagonal columns are merged with the parapet. The octagonal column bases partially protruded from the parapet ▪ The beam above the octagonal columns is designed with a delicate profile, which adds architectural merits to the front façade design
ME-05	The decorated parapet on the verandah 	**High** ▪ The verandah parapet is decorated with a rectangular relief with inverted round corners in the centre and diamond-shaped reliefs on the two sides
ME-06	The name plaques 	**High** ▪ The name of the residence is carved on plaques that are put on both the porch and the verandah. ▪ The Chinese characters are painted in black on a red background.
ME-07	Splayed building corners with decorative patterns	**High** ▪ The building has slayed corners on the front façade. ▪ The corners are rendered with plastered reliefs with vertical stripes

Main building		
External		
No.	**CDEs and Photo**	**Significance and Description**
		
ME-08	Double-gable roof 	**High** ▪ The building is covered by a double-gable roof with Chinese pan-and-roll tiles. A hatch opening without a cover and six transparent pan tiles are installed on the roof.
ME-09	Arched window heads and overhang 	**High** ▪ The windows are topped with segmental-arched window heads and are shaded by the gently inclined concrete overhang.
ME-10	Window shutters, security bars and timber windows	**High** ▪ Timber shutters are installed on the windows for shading and ventilation. ▪ A grid of metal bars is installed on the window for security reasons. ▪ Six-light timber windows are installed at the back, facing the interior for weather protection.

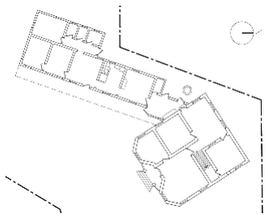
Main building		
External		
No.	**CDEs and Photo**	**Significance and Description**
		
ME-11	Painted rainwater downpipe 	**High** ▪ Rainwater downpipes with plastered covers and hopper heads are installed on the back wall of the building.
ME-12	Address plate at the entrance 	**Low** An address plate with the Chinese words, “大旗嶺二區 15,” shows the old address of Siu Lo in the 1980s.

Main building		
Internal		
No.	**CDEs and Photo**	**Significance and Description**
MI-01	Overall spatial arrangement 	**High** ▪ The Main Building has two floors with an almost identical layout ▪ The ground floor accommodates a living room, a dining room and three bedrooms ▪ The first floor accommodates a living room, a family room and three bedrooms ▪ A timber cockloft is built on the first floor to make use of the high headroom
MI-02	Main entrance door 	**High** ▪ Two layers of entrance doors are installed ▪ The door facing the exterior is a pair of 6-light timber panelled door. ▪ The door facing the interior is installed with a traditional Chinese timber door latch
MI-03	The wall adjacent to the entrance door 	**High** ▪ There is a cutaway on the wall to allow space for the door latch and handle when the door is fully opened.

Main building		
Internal		
No.	**CDEs and Photo**	**Significance and Description**
MI-04	Timber floor construction supported by timber joists and boards 	**High** ▪ The floor is made of timber joists and floor boards and is finished with a layer of cement flooring ▪ Have experienced serious deterioration
MI-05	Decorated concrete beams 	**High** ▪ Subtle decorations can be found on the edges of the concrete beams, which adds architectural merit to the building structure
MI-06	Timber roof construction supported by timber purlins and battens 	**High** ▪ The timber roof structure is made of circular timber purlins and battens, finished with Chinese pan-and-roll tiles ▪ Have experienced serious deterioration
MI-07	An internal concrete staircase with criss-cross patterns on treads and timber handrail  	**Moderate** ▪ The threads of the staircase are decorated with string-pressed criss-cross patterns ▪ Timber railing is installed along the staircase

Main building		
Internal		
No.	**CDEs and Photo**	**Significance and Description**
MI-08	Cement flooring with string-pressed criss-cross or line patterns  	**Moderate** ▪ The cement flooring is red in color. ▪ The entrance steps and the cement flooring are finished with string-pressed criss-cross or line pattern. ▪ The cement flooring finish with moderate aesthetic value makes a moderate contribution to the overall architectural significance of the place.
MI-09	Timber panelled doors with fanlight above 	**High** ▪ Timber panelled door with fanlight above at internal rooms
MI-10	Timber cockloft construction above 1/F 	**High** ▪ Timber cockloft is built on the first floor to make use of the high headroom ▪ The cockloft floor is made of timber joists and floor boards, accessible through openings with a ladder ▪ Have experienced serious deterioration

Annex block		
External		
No.	**CDEs and Photo**	**Significance and Description**
AE-01	A longitudinal building form 	**High** ▪ The Annex Block is a long, single-storeyed vernacular building. ▪ The longitudinal building form is dominant and clearly visible.
AE-02	Chinese pitched roof 	**High** ▪ Most parts of the Annex Block are covered by a Chinese-style pitched roof with pan-and-rolled clay tiles. ▪ The part of the pitched roof above the first kitchen has collapsed.
AE-03	Brackets supporting the projected eaves 	**High** ▪ The pitched roof is protruded from the front external wall and is supported by six brackets
AE-04	Concrete beam supporting the pitched roof 	**High** ▪ A concrete beam with subtle edge details is installed on top of the back wall to support the pitched roof

Annex block		
Internal		
No.	**CDEs and Photo**	**Significance and Description**
AI-01	Overall spatial arrangement 	**High** ▪ The rooms are partitioned by load-bearing brick walls. ▪ The rooms are connected by a long corridor planned along the frontage of the building.
AI-02	Kitchens  	**High** ▪ Two kitchens installed with brick stoves and chimneys have remained in the building. ▪ Some parts of the stoves and chimneys are damaged.
AI-03	Timber windows with iron security bars 	**Low** ▪ Some windows have splayed interior window reveals ▪ Most of the timber windows were broken and removed from the building by former occupants. Only the timber frames and security metal bars have remained ▪ Many windows are severely damaged and have undergone extensive alterations. Some windows facing the front were new additions and they do not have splayed interior window reveals.

Annex block		
Internal		
No.	**CDEs and Photo**	**Significance and Description**
AI-04	Timber ledge and brace doors with metal sheet covers  	**Low** ▪ The external doors in the transitional space and the living room are timber ledge and brace doors. The side of the door facing the exterior is cladded with metal sheets. ▪ Many doors are severely damaged.
AI-05	Cement floor with string-pressed criss-cross or line patterns 	**Moderate** ▪ The cement floor is decorated with string-pressed criss-cross or line patterns. ▪ The cement flooring finish with moderate aesthetic value makes a moderate contribution to the overall architectural significance of the place.
AI-06	Timber roof construction supported by timber purlins and battens 	**High** ▪ The timber roof structure is made of circular timber purlins and battens, finished with Chinese pan-and-roll tiles
AI-07	**Timber joists construction**  	**High** ▪ A layer of circular timber joists at the high level of some rooms and the kitchens.

6. Statement of Significance

6.1 Historical and Social Value

The historical and social significance of Siu Lo lies in its history as a private residence of an overseas Chinese family in a multi-surnamed Hakka village. The founder of Siu Lo, Chan Mo Tsing, originated from Guangdong and accumulated his wealth doing business in Indonesia. He came to Hong Kong and built a residence in Tai Kei Leng for his family. The history of Siu Lo reflects the high mobility of the people and the complexity of the identity of the so-called Hong Kong people.

When Siu Lo was completed in 1941, Tai Kei Leng was largely filled up by farmlands. There were not many built structures erected in the area, making Siu Lo a prominent building in its vicinity. Siu Lo represents the ways outsiders set foot in the New Territories, an area dominated by indigenous villagers.

6.2 Architectural Value

Siu Lo is designed in an eclectic Style with a mix of Chinese and Western architectural features. The hybridity in design was favored particularly by overseas Chinese. Private residences with similar hybrid Chinese and Western styles can be found not only in Hong Kong but also in other hometowns of overseas Chinese in South China. Siu Lo's hybrid design is similar to some other private residences in Yuen Long and other parts of the New Territories. The key examples are Shek Lo, a Grade 1 Historic Building in Lung Yeuk Tau, Fanling, and Lim House, a Grade 2 Historic Building in Shun Ching Sun Tsuen, Yuen Long (Figures 14 & 15). Siu Lo's similarity with other private residences in the New Territories hints that this kind of hybrid building design may be commonly adopted by a few builders at that time.

Figure 14. Shek Lo in Fanling (Antiquities and Monuments Office, https://www.amo.gov.hk/en/trails_lung1.php?tid=10)

Figure 15. Lim House in Yeung Long (Antiquities and Monuments Office, https://www.aab.gov.hk/historicbuilding/photo/571_Photo.pdf)

Siu Lo is a Grade 3 Historic Building with a high level of authenticity. The main building has not been altered at all in the past 80 years. Most of the external architectural features can still be seen clearly. The internal layout also remains unchanged.

6.3 Group Value

Several buildings in Tai Kei Leng are ranked Grade 3 Historical Building status. Most of them are private residences like Siu Lo, and some of them were built by overseas Chinese families. Together, they form a group of domestic architecture that can show the life of the village people as well as the returned overseas Chinese families in the New Territories.

7. Recommendations

A conservation-cum-development scheme is proposed, which involves the conservation of Siu Lo and the construction of a new RCHE facility. This section provides recommendations for this conservation-cum-development approach.

7.1 In Situ Conservation

According to AMO's definition, "Grade 3 Historic Buildings" are "Buildings of some merit; preservation in some form would be desirable and alternative means could be considered if preservation is not practicable." Despite the fact that a relatively less stringent control is imposed on Grade 3 Historic Buildings, the applicant intends to preserve Siu Lo, including its Main Building and Annex Block, entirely in situ.

7.2 Unaltered Building Usage

To minimize the need for internal alteration and changes, Siu Lo will remain to be used as a residential building. In compliance with all relevant statutory requirements, the proposed use of Siu Lo is "House". The detailed works for Siu Lo will be subject to agreement with AMO and CHO, and a CMP will be prepared and submitted to the satisfaction of AMO or the TPB prior to commencement of any works.

7.3 The Annex Block

In the proposed scheme, the annex block of Siu Lo will be partially decked over by the proposed RCHE building. This would facilitate the applicant to preserve the entire Grade 3 historic building and, at the same time, gain the space needed for operating an RCHE in the proposed building. Despite this, the applicant should make sure that the public view from Tai Tong Road to Siu Lo, especially to the main block, will not be obstructed by the new building. The resultant built form should not reduce the visual interest in the existing building façade or generate adverse landscape impact.

Sufficient maintenance space and access should be allowed for the future maintenance of the annex block underneath the new building. In the proposed scheme, the distance between the ceiling of the G/F of the proposed RCHE building and the pitched roof of the annex block will be increased as compared to the last submission scheme, providing a minimum distance of approx. 1.5 m (at the ridge) to the bottom of the beam. More separation space can be provided at the locations without structural beams. This allows enough working space for the workers to re-tile of the pitched roof under the deck-over area of the annex block.

Two numbers of columns to support the proposed RCHE building above would be positioned in front of the annex block. They are sympathetically positioned and are located away from the front façade of the annex block. They allow sufficient buffer distance between the annex block and the columns. In addition, a circular

form is adopted for the column shape to soften the visual impact when looking at the front façade of the annex block from the site entrance. Every effort would also be made to avoid any physical impact arising from the construction works on Siu Lo.

Comparing the last submission scheme, a more open view in front of the annex block of Siu Lo would be achieved without having any staircase or lift core located on the eastern side of the site .

7.4 Interface with the Surrounding

Siu Lo was surrounded by agricultural land in the past. Now, the surrounding area has been redeveloped into modern residential estates. The proposed landscape design at the Site and the appropriate renovations of Siu Lo will blend in with the new-built and connect with the surroundings again. It will improve its appearance from Tai Tong Road and improve the appearance of the site. There is an old water well remaining in the backyard and it will become part of the Heritage Garden, and be preserved for interpretation and public visit.

7.5 Management and Maintenance

Siu Lo has been vacant for a long time. With the proposed conservation-cum-development proposal, Siu Lo (including the main building and annex block) will be duly conserved, maintained, and renovated to higher structural integrity. Siu Lo is one of the iconic buildings in Tai Kei Leng, and the proposed conservation-cum-development will continue the life of Siu Lo and the history of Tai Kei Leng.

7.6 Heritage Garden

A landscaped Heritage Garden will be provided in the external area outside Siu Lo, which allows public appreciation of the exterior of the historic building. This will become the area open for public visits with educational display panels. Free-of-charge guided tours and self-guided tours with audio guidance will be arranged at regular intervals. The public is welcome to visit the external spaces around Siu Lo, including the backyard with the old water well and the Heritage Garden, through advanced booking.

The display panels and interpretation tools will be set up in the Heritage Garden to showcase the historical background of Siu Lo, the founder's family life, the transformation of Tai Kei Leng and Yuen Long, the architectural significance of Siu Lo and the nearby heritage sites/buildings in Yuen Long. The landscaped Heritage Garden will be provided with outdoor seating and plants for the elderly and the public to enjoy and appreciate the exterior of Siu Lo.

The Heritage Garden will be opened on a specific Sunday each month, i.e. 12 Sundays each year Free-of-charge self-guided tours with an advanced booking will be opened to visitors who would like to visit the Heritage Garden on their own. One guided tour will be arranged during this open Sunday.

Private tours will also be provided for non-government organisations and schools, which would visit some of the internal areas of Siu Lo, including the historic kitchen and the display area of the Annex Block. The guided tour as mentioned above would also visit some of the interior areas of Siu Lo under the docent's guidance.

Key storylines or storytelling can be arranged along the visiting paths in the Heritage Garden. It can be presented in a form of display panels or other media such as QR codes which link to a website. The Heritage Graden will serve the elderly of the site and the public visitors (during open Sundays). Key storylines and themes are suggested in the table below:

	Sight points	Storylines / Themes
1	In front of the Main Building and the Annex Block	・ Architectural essence of Siu Lo, designed in an eclectic style, with characteristic architectural features ・ The hybridity in design and introduction of other residences of Overseas Chinese
2	In front of the Annex Block and between the external columns that support the new RCHE above	・ The old setting of Siu Lo, with hay shed, granary, storage shed for hay and farming tools, vegetable field, cow-and-pig pen, water pond, etc ・ The farming activities of the site in the past
3	At the rear of the Annex Block and between the two columns that support the new RCHE above	・ "Life of Seed" (生命種子) – planting the seed, portable planting corner for the elderly and their family
4	Backyard with the old water well	・ Life of Water" (生命之水) ・ The story of the founder of Siu Lo, Mr. Chan's family ・ Their shop in Indonesia ・ The old life of Mr. Chan's family in Siu Lo
4a	Interior of the Annex Block ・ The transitional area connecting the Main Building and the Annex Block	・ The story of the founder of Siu Lo, Mr. Chan's family ・ The old drawing shows the original setting of Siu Lo ・ The rattan tray from Chan's grocery shop in Surabaya, with the shop's name Mei Tung written on it ・ The general spatial organisation, the construction of Siu Lo: timber construction and grey brick structure, pitched roof, etc. ・ Interior essence of the Main Building and the Annex Block
4b	New pantry and sitting area (the collapsed historic kitchen)	・ Context of Yuen Long, Tai Kei Leng ・ Photos of some festivals, nearby heritage, etc
4c	Historic kitchen	・ The story of the founder of Siu Lo, Mr. Chan's family ・ The old life of Mr. Chan's family in Siu Lo
5	The rear of the Main Building, with seating and trees	・ "Life of Trees" (生命樹下) - quiet seating corner under trees
6	Fruit trees garden	・ "Life of Fruit" (生命果子) - planting free trees ・ Mr. Chan's family grew lychee and wampee at this corner in the old days

8. Conclusion

Siu Lo is a Grade 3 Historic Building with a high level of authenticity. Most parts of the buildings remain unaltered in the past 80 years. Unfortunately, the building has been vacant for a long time. The proposed conservation-cum-development scheme provided an opportunity to revitalize Siu Lo. The applicant has committed to conserving Siu Lo (both the main building and the annex block) entirely in situ. Siu Lo will remain to serve a "House" use. It will be repaired to ensure the building's integrity and safety. The external Heritage Garden will be provided for free public visits with guided tours at regular intervals and interpretational display boards for public benefit.

The proposed RCHE will provide a total of 241 beds (or within a range of 220 – 260) and help solve the shortage of elderly facilities in Hong Kong. It aligns with the governmental policies, including the Policy Addresses and the HK2030+. The proposed building will have no physical connection to Siu Lo to minimize any negative impacts and alternation to the historic building. Siu Lo will remain a freestanding building.

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APPENDIX 4

RECORDS ON BUILDING ENTITLEMENT

No. S. 102.—Statement of Sanitary Measures adopted by Hongkong.

Disease.	Port or Place.	Restrictions in Force.	Authority.
Cholera.	Bangkok.	Medical examination; quarantine at the discretion of the Health Officer.	Proclamation No. 1 dated 6th May, 1910.

A. M. THOMSON,
Colonial Secretary.

10th June, 1910.

TREASURY.

No. S. 103.—Owners of property are reminded that Crown Rent for the First Half-year of 1910 is payable at the Treasury on or before the 24th instant.

C. McI. MESSER,
Treasurer.

7th June, 1910.

LAND REGISTRY OFFICE.

No. S. 104.—It is hereby notified that the following Sales of Crown Land by Public Auction will be held at the District Land Office, Tai Po, at 10 a.m., on Saturday, the 18th day of June, 1910.

The Lots are sold for the term of Seventy-five years from the 1st day of July, 1898, with the right of renewal for a further term of 24 years less 3 days at a re-assessed Crown Rent, Lots Nos. 1248 and 1249 as Building Lots, Lot No. 1250 as a Threshing Floor, and Lots Nos. 1394, 1682, 1689, 1694, 1695, 1719 and 1741 as Agricultural Lots, subject to the General Conditions of Sale published in Government Notification No. 365 of 1906. Lot No. 1250 is further subject to special condition No. 1 and Lots Nos, 1394, 1682, 1689, 1694, 1695, 1719 and 1741 to special conditions Nos. 1, 2, 3 and 4 published in Government Notification No. 697 of 1909.

The amount to be spent in rateable improvements on each of the Lots Nos. 1248 and 1249 under the General Condition No. 5 is $100.

PARTICULARS OF THE LOTS.

Registry No.	Locality.	Boundary Measurements.				Contents in Sq. ft. or Acres.	Upset Price.	Annual Crown Rent.
		N.	S.	E.	W.			
		feet.	feet.	feet.	feet.	Sq. ft.	$	$
Survey District 52. Lot No. 1248.	Sheung Shui.	35	35	32	32	1,120	12	3.00
Lot No. 1249.	Do.	39	39	35	35	1,365	14	3.50
Lot No. 1250.	Do.	32	32	50	50	1,600	16	0.12
Survey District 120. Lot No. 1394.	Sham Chung.	As per plan attached and deposited in the District Land Office for the Northern District of the New Territories, Tai Po.				4·74 acres.	207	4.74
Lot No. 1682.								
Lot No. 1689.								
Lot No. 1694.								
Lot No. 1695.								
Lot No. 1719.								
Lot No. 1741.								

G. H. WAKEMAN,

LAND REGISTRY OFFICE.

No. 364.—It is hereby notified that the General Conditions of Sale applicable to all sales of Crown Land for building in the New Territories (exclusive of New Kowloon), published in Government Notification No. 57 of the 19th January, 1906, are revoked.

G. H. WAKEMAN,
Land Officer.

25th April, 1906.

LAND REGISTRY OFFICE.

No. 365.—It is hereby notified that, until further notice and unless otherwise stated, the following General Conditions of Sale will be applicable to all sales of Crown land in the New Territories (exclusive of that portion described as "Southern District Mainland" in the Order in Council dated the 15th March, 1906, Government Notification No. 212 of 1906) in the same manner as if the said General Conditions were included in the published Particulars and Conditions of Sale in each case. Special Conditions of Sale will be separately set forth :—

General Conditions of Sale.

1. The highest bidder above the upset price shall be the Purchaser, and if any dispute arise between two or more bidders for any Lot, such Lot shall be put up again at a former bidding.

2. No person shall at any bidding advance less than one dollar or such other sum as shall be named at the time of sale.

3. Immediately after the fall of the hammer, the Purchaser of each Lot shall sign a Memorandum of Agreement, in the form hereinafter contained, for completing the purchase according to these Conditions, and shall, within Three Days of the day of sale, pay to the Assistant Land Officer, for and on behalf of His Majesty the KING the full amount of Premium at which the Lot shall have been purchased.

4. The Purchaser of each Lot shall also have Boundary Stones of a size and pattern to be approved by the Assistant Land Officer, marked with the Registry Number, placed at each angle of the Lot within one month of the date of sale.

5. The Purchaser of each Lot shall where such Lot is sold as a Building Lot, build and finish, fit for occupation, before the expiration of twenty-four calendar months from the day of sale, in a good, substantial and workmanlike manner, one or more good and permanent messuage or tenement upon some part of his Lot, with walls of stone or brick and lime-mortar and roof of tiles or such other materials as may be approved by the Assistant Land Officer, and in all other respects to the satisfaction of the Assistant Land Officer and shall expend thereon in rateable improvements not less than the amount specified in the particulars of sale.

6. No sewage or refuse water will be allowed to flow from any Lot on to any of the adjoining lands whether belonging to the Crown or to private persons ; neither shall any decaying, noisome, noxious, excrementitious, or other refuse matter be deposited on any portion of any Lot, and in carrying out any works of excavation on any Lot no excavated earth shall be deposited on such Lot or on Crown Land adjoining in such manner as shall expose the slopes of such excavated earth to be eroded and washed down by the rains. The Purchaser of each Lot shall see that all refuse matters are properly removed daily from off the premises.

7. The Purchaser of each Lot shall pay to the Assistant Land Officer or such other Officer who may be appointed to receive the same a proportionate part of the annual rental specified in the Particulars of Sale of such Lot on the 30th day of June next after the date of sale, and thereafter shall pay such annual rental by equal yearly payments on the 30th day of June in each and every year during the term of years for which the Lot is sold.

8. When the conditions herein contained have been complied with to the satisfaction of the Assistant Land Officer the Purchaser of each Lot shall be entitled to and shall execute on demand a Lease from the Crown of the ground comprised in each Lot for the term of years for which the Lot has been sold, at the annual rent stated in the Particulars of Sale of the Lot payable yearly on the 30th day of June in each and every year. Such Crown Lease shall unless otherwise provided be in the form set out in Schedule A hereunder and there shall be deemed to be incorporated in such Lease unless otherwise expressly excepted or provided the terms, exceptions, reservations, covenants, conditions, provisoes and agreements contained in Schedule B hereunder which said terms, exceptions, reservations, covenants, conditions, provisoes and agreements shall be binding on the Lessee his executors, administrators and assigns in the same manner as if they had been incorporated and written in such Lease.

9. Should the Purchaser of any Lot neglect, or fail to comply with any of the General or Special Conditions of Sale of such Lot his Premium, or any portion thereof which may be paid, shall be thereupon forfeited to His Majesty, who shall be at full liberty either to enforce the sale, or to re-sell the Property at such time and place, and in such manner as to His Majesty shall seem fit, and in case of a re-sale, the increase, if any, of the Premium or Purchase Money shall be retained by His Majesty, and the deficiency, if any, and all Costs and Expenses shall be made good by the defaulter and be recoverable as liquidated damages, or at the option and pleasure of His Majesty, to re-enter and resume the property as if no sale had ever taken place, in which case also the Premium paid by the Purchaser shall be thereupon wholly forfeited to His Majesty. But such re-entry shall not exonerate the original Purchaser, upon a subsequent re-sale of the property, to make good the deficiency, if any, upon such re-sale, and all Costs and Expenses as ascertained to be recoverable as aforesaid.

10. Possession of each Lot sold shall be given to the Purchaser thereof, and deemed to have been taken by him, on the day of sale.

11. No verandah shall be constructed so as to project over Crown Land.

12. No house shall be more than two stories in height.

13. In the event of the Purchaser of any Lot assigning the benefit of the agreement signed by him under General Condition 3 the assignee and all subsequent assignees shall be bound by all the General and Special Conditions of Sale, and all powers and remedies shall be enforceable against him to the same extent as if such assignee were the original Purchaser.

14. The exact area boundaries and measurements of each Lot shall be determined before the issue of the Crown Lease and the Premium and Crown Rent shall be then adjusted in accordance with the area and the amounts of Premium and Crown Rent at which the Lot was sold.

Assistant Land Officer.

Memorandum of Agreement by the Purchaser.

Memorandum that of

the person whose name is hereunder written has been this day declared the highest bidder for the Lot described in the Particulars of Sale and hereunder specified opposite to his said name and signature, and does hereby agree to become the Lessee thereof, under and subject to the General and Special Conditions of the Sale of such Lot, and on his part to perform and abide by the said Conditions.

Registry No.	Annual Rental.	Amount of Premium at which Purchased.	Signature of Purchaser.
Survey District No. Lot No.	$	$	

Dated this day 190 .

Witness to Signature of Purchaser.

Assistant Land Officer.

Witness to Signature of Assistant Land Officer.

Land Officer.

SCHEDULE A.

(Form of Crown Lease.)

THIS INDENTURE made the day of 190 ,

BETWEEN Our Sovereign Lord Edward VII by the Grace of GOD of the United Kingdom of GREAT BRITAIN and IRELAND and of the BRITISH Dominions beyond the Seas King, Defender of the Faith, Emperor of INDIA of the one part and

of

(who and whose heirs executors administrators successors managers and assigns are where not inapplicable hereinafter included under the designation "the Lessee") of the other part WITNESSETH that in consideration of the sum of $ paid to the Treasurer of the Colony of Hongkong on behalf of His said Majesty by the Lessee and in consideration of the yearly rent and the covenants and stipulations hereinafter reserved and contained and on the part of the Lessee to be paid done and performed His said Majesty doth hereby grant and demise unto the Lessee ALL THAT piece or parcel of ground situate in the New Territories in the Colony of Hongkong described in the Schedule hereto and delineated on the plan annexed hereto or endorsed hereon and thereon coloured red TO HOLD the same unto the Lessee as (1) ground for the term of years from the day of 19 , YIELDING AND PAYING therefor the annual rent specified in the Schedule hereto or such other sum as may hereafter be fixed in lieu thereof with the benefit of and subject to the terms, exceptions, reservations, covenants, conditions, provisoes and agreements as are contained in Schedule B of Government Notification No. 365 of 1906 dated the Twenty-fifth day of April, 1906, which terms, exceptions, reservations, covenants, conditions, provisoes and agreements shall be deemed to be incorporated in these presents and shall be binding on the Lessee in the same manner as if they had been written in these presents and subject also to the terms, exceptions, reservations, covenants, conditions, provisoes and agreements (if any) as are hereinafter contained.

(1) Insert Building, Garden or Agricultural, as the case may be.

IN WITNESS whereof His Excellency Sir Matthew Nathan, Governor and Commander in Chief of the Colony of Hongkong and its Dependencies and Vice Admiral of the same, duly authorized by His said Majesty hath executed these presents and hereunto set the Public Seal of the Colony of Hongkong aforesaid and Lessee hath hereunto set his hand and seal the day and year first above written.

Schedule.

Survey District.	Lot No.	Area or measurements.	Annual Crown Rent.

SCHEDULE B.

(Terms, Exceptions, Reservations, Covenants, Conditions, Provisoes and Agreements incorporated in Crown Lease.)

1. Whenever the word "Grant" shall be hereafter used the same shall be deemed to include any Grant Demise Lease Agreement for Lease Tenancy or Letting. And whenever the words "the said premises" shall be hereafter used the same shall be deemed to refer to the ground and premises granted.

2. There shall except where otherwise stated be included in every Grant of ground all messuages, erections and buildings thereon, and all the easements and appurtenances whatsoever to the said premises belonging, or in anywise appertaining thereto.

3. There shall be excepted and reserved unto His said Majesty, His Heirs, Successors and Assigns all Mines, Minerals, and Quarries of Stone in, under and upon the said premises, and all such Earth, Soil, Marl, Clay, Chalk, Brick-earth, Gravel, Sand, Stone and Stones, and other Earths or Materials, which at any time shall be under or upon the said premises, or any part or parts thereof, as His said Majesty, His Heirs, Successors or Assigns may require for the Roads, Public Buildings, or other Public Purposes of the said Colony of Hongkong; with full liberty of Ingress, Egress, and Regress, to and for His said Majesty, His Heirs, Successors and Assigns, and His and their Agents, Servants, and Workmen at reasonable times in the day with or without horses, carts, carriages, and all other necessary things, into, upon, from and out of all or any part or parts of the said premises to view, dig for, convert and carry away, the said excepted Minerals, Stone, Earths and other things respectively, or any part or parts thereof respectively, thereby doing as little damage as possible to the Lessee; There shall be also excepted full power to His said Majesty, His Heirs, Successors and Assigns, to make and conduct in, over, along, through or under the said premises, all and any Public or Common sewers, drains, or water-courses, water or other mains, telegraph and telephone lines with full power at all times to enter into and upon the said premises for the purpose of making, laying, erecting, inspecting or repairing the same or otherwise in connection therewith.

4. Every grant shall be subject to all existing Public or Private rights and easements in, over, along through or under the said premises or any part or parts thereof respectively or in any wise appertaining thereto.

5. The Rent reserved shall be paid in Current Money of the said Colony of Hongkong, on the thirtieth day of June in every year free and clear from all Taxes, Rates, Charges, Assessments and Deductions whatsoever, charged upon or in respect of the said premises or any part thereof, payment of the said Rent for the first year or a proportion thereof as the case may be becoming due on the thirtieth day of June next after the date of the Grant of the premises in respect of which rent is reserved; provided that in the event of any building being erected on any premises expressed to be granted as agricultural or garden ground the rent payable in respect of such premises shall be such sum as shall be specified in the licence for the erection of such building to be granted in manner hereinafter appearing.

6. Each Lessee for himself and herself and for his and her executors, administrators, managers, successors and assigns covenants with His said Majesty, His Heirs, Successors and Assigns in manner following, that is to say, that the Lessee shall and will yearly, and every year, during the term granted, well and truly pay or cause to be paid to His said Majesty, His Heirs, Successors and Assigns, the yearly Rent stated in the Grant or such other rent or rents as shall become payable under the proviso hereinbefore contained clear of all deductions as aforesaid on the several days and times and in the manner hereinbefore reserved and made payable: and also that the Lessee shall and will at all times during the term of the Grant, bear, pay and discharge all taxes, rates, charges and assessments whatsoever, which are or shall be assessed or charged upon, or in respect of, the said premises or any part thereof: And will (except where otherwise provided) pay the said taxes, rates,

charges and assessments for each and every year by annual payments in advance with the rent reserved on the thirtieth day of June in every year: And also that the Lessee shall and will, from time to time, and at all times when, where, and as often as need or occasion shall be and require, at his or her and their proper costs and charges, well and sufficiently Repair, Uphold, Support, Maintain, Pave, Purge, Scour, Cleanse, Empty, Amend and Keep the messuage or tenements, and all other erections and buildings, at any time standing upon the said pieces or parcels of ground expressed to be granted and all the Walls, Rails, Lights, Pavements, Privies, Sinks, Drains, and Water-courses thereunto belonging and which shall in anywise belong or appertain unto the same, in, by, and with all and all manner of needful and necessary reparations, cleansing and amendments whatsoever, the whole to be done to the satisfaction of the Surveyor of His said Majesty, His Heirs, Successors or Assigns, (Now the Director of Public Works) And the said messuage or tenement, erection, buildings and premises being so well and sufficiently repaired, sustained and amended, at the end or sooner determination of the term granted shall and will peaceably and quietly deliver up to His said Majesty, His Heirs, Successors or Assigns: And further it shall and may be lawful to and for His said Majesty, His Heirs, Successors or Assigns, by His or their Surveyor, or other persons deputed to act for Him or Them, twice or oftener in every year during the term granted, at all reasonable times in the day, to enter and come into and upon the said premises to view, search, and see, the condition of the same, and of all decays, defects, and wants of reparation and amendments, which upon every such view or views shall be found, to give or leave notice or warning, in writing, at or upon the said premises or some part thereof, unto or for the Lessee to repair and amend the same within Three Calendar Months then next following, within which said time or space of Three Calendar Months, after every such notice or warning shall be so given, or left as aforesaid, the Lessee will repair and amend the same accordingly: And further that the Lessee or any other person or persons shall not, nor will, during the continuance of the Grant use, exercise or follow, in or upon the said premises, or any part thereof, any noisy, noisome or offensive trade or business whatever, nor convert any ground expressed to be granted as agricultural or garden ground into use for building purposes other than for the proper occupation of the same ground as agricultural or garden ground without the previous Licence of His said Majesty, His Heirs, Successors or Assigns, signified in writing by the Governor of the said Colony of Hongkong, or other person duly authorized in that behalf: And further that the Lessee or any other person or persons shall not nor will at any time during the said term erect or construct any building or structure of any description on the said premises or any part thereof whether demised as agricultural or garden ground or otherwise without first having obtained the approval thereto of the Surveyor to His said Majesty, His Heirs, Successors or Assigns, or other person duly authorized by the Governor of the said Colony of Hongkong, in that behalf: And also that the Lessee shall not, nor will, assign, demise, mortgage, or otherwise part with, all or any part of the said premises for all or any part of the term expressed to be granted without forthwith registering such alienation in the Land Office, or such other Office as may hereafter be instituted for the purposes of Land Registration in the Colony of Hongkong, and paying all reasonable fees and other expenses thereon.

7. Provided always, and it is agreed and declared, that in case the yearly rent reserved, or any part thereof, shall be in arrear and unpaid by the space of twenty-one days next over, or after any or either of the said days whereon the same ought to be paid as aforesaid (whether lawfully demanded or not) or in case of the breach or non-performance of any or either of the covenants and conditions herein or in the said Grant contained, and by or on the part and behalf of the Lessee to be kept done and performed, then, and in either of the said cases, it shall and may be lawful to and for His said Majesty, His Heirs, Successors or Assigns, by the Governor of Hongkong, or other person duly authorized in that behalf, in and upon the said premises or any part thereof in the name of the whole, to re-enter, and the same to have again, retain, re-possess, and enjoy, as in His or Their first or former estate, as if no Grant of the said premises had been made, and the Lessee and all other occupiers of the said premises thereout and thence utterly to expel, put out and amove, the said Grant or anything contained herein to the contrary notwithstanding.

8. Provided also, and it is further agreed and declared that His said Majesty, His Heirs, Successors and Assigns, shall have full power to resume, enter into, and re-take possession of all or any part of the said premises if required for the improvement of the said Colony of Hongkong, or for any other public purposes whatsoever, Three Calendar Months' notice being given to the Lessee of its being so required, and full and fair compensation for the said Land and the Buildings thereon, being paid to the said Lessee at a valuation, to be fairly and impartially made by the Surveyor of His said Majesty, His Heirs, Successors or Assigns, and upon the exercise of such power the said term and estate shall respectively cease, determine and be void:

9. Provided also, and it is further agreed and declared that each Lessee shall in such cases where the premises are granted for a term of Seventy-five Years commencing on the first day of July one thousand eight hundred and ninety-eight be entitled on the expiration of the said term of Seventy-five Years to a renewed Lease of the premises respectively granted to him or her for the further term of Twenty-four Years less three days without payment of any Fine or Premium therefor and at the Rent hereinafter mentioned; And His said Majesty, His Heirs, Successors or Assigns shall and will at the request and cost of such Lessee grant unto him or her on the expiration of the said term of Seventy-five Years a new Lease of the said premises for the term of Twenty-four Years less three days at such Rent as shall be fairly and impartially fixed by the Surveyor of His said Majesty, His Heirs, Successors, or Assigns as the fair and reasonable rental value of the ground at the date of such renewal; And in all other respects such new Lease shall be granted upon the same terms and under and subject to the same reservations, covenants, stipulations, provisoes and declarations as are or shall be contained in such Lease for Seventy-five Years with the exception of this proviso for renewal which shall not be contained in such new Lease.

G. H. WAKEMAN,
Land Officer.

25th April, 1906.

HARBOUR MASTER'S DEPARTMENT.

No. 366. NOTICE TO MARINERS.

Information has been received from Captain H. SIMS recently in command of the British S.S. *Agincourt* that on his last voyage he passed an uncharted shoal off the North coast of New Guinea the centre of which lies in Lat. 3° 19′ S. Long. 145° 9′ E.

It is some 4½ miles in extent and soundings shewed from 11 to 16 feet varying to no bottom at 100 fathoms.

L. BARNES-LAWRENCE, Captain, R.N.,
Harbour Master, &c.

21st April, 1906.

No. 367. TRANSLATION.

Notification No. 147 of Department for Communications.

NOTICE TO MARINERS.

CHANGING THE ARC OF TENPOZAN LIGHTHOUSE, OSAKA BAY.

NOTICE is hereby given that, *Red Arc* between the bearings of N. 74° 41′ E. and N. 83° 41′ E. *of Tenpōzan Lighthouse*, Osaka harbour, Province of Settsu, *will be changed into White*, on and after the month of May, this year, as the blocking up the mouth of the Ajikawa for Osaka harbour Works will be begun.

NOTE:—Further notice will be given after the changing has been effected.

YAMAGATA ISABURO,
Minister of State for Communications.

TOKYO, April 5th, 1906.

FOOCHOW DISTRICT.

LOCAL NOTICE TO MARINERS, No. 93.

THE channel between No. 2 and No. 3 Fairway Buoys has shoaled considerably, there being at present but 10 feet in it at Low Water spring tides for about ¾ to ⅞ the distance to Westward of No. 2 buoy.

C. H. PALMER,
Harbour Master.

Approved:
E. B. DREW,
Commissioner of Customs.
CUSTOM HOUSE, FOOCHOW, *19th April*, 1906.

APPENDIX 5

VISUAL IMPACT ASSESSMENT

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Appendix

1. Introduction

1.1 This Visual Impact Assessment ("VIA") is prepared on behalf of Si Mau Limited (hereinafter referred to as "Applicant"), in support of a Section 16 Planning Application for the proposed minor relaxation of Building Height Restriction from 3 storeys to 6 stroeys for a permitted social welfare facility (Residential Care Home for the Elderly) (RCHE) at Lot Nos. 1695 S.E ss. 1RP, 1695 S.F ss.1, 1695 S.H RP (Part) and adjoining government land in D.D 120, Tai Kei Leng, Yuen Long, New Territories (hereinafter referred to as "the Site / Application Site"). The subject application is a conservation-cum-development proposal in which a Grade 3 historic building, namely Siu Lo, will be preserved in-situ as 'house' use and a 6-storey RCHE building is proposed at the southern remaining portion of the Site (hereinafter referred to as "the Proposed Development").

1.2 The Application Site with a site area of about 1,877.1 m^2 situated in the southern part of Yuen Long New Town accessible via Tai Tong Road. The Application Site falls entirely within the zone of "Government, Institution or Community (1)" ("G/IC(1)") under the draft Yuen Long Outline Zoning Plan No. S/YL/26 (the OZP). Under the OZP, the "G/IC (1)" zone is subject to a Building Height Restriction (BHR) of 3 storeys (8 storey for 'School' and 'Hospital') excluding basement(s). Thus, the Applicant proposes to relax the BHR of the Application Site from 3 storeys to 6 storeys for the proposed RCHE. Please refer to **Figures 1 and 2** for the Site Plan and Location Plan respectively.

1.3 This VIA is prepared in accordance with the TPB Guidelines on Submission of VIA for planning Application to the Board ("TPB PG-No.41"). This VIA evaluates the existing visual quality, visual compatibility and degree of anticipated visual impacts of the proposed developments on the Visually Sensitive Receivers ("VSRs") relevant to the Site. Mitigation measures to be adopted by the Proposed Development will also be recommended.

1.4 The outline of this VIA is set out as below:

- ✧ Section 2: sets out the Site and Proposed Development;
- ✧ Section 3: describes the visual context and the surrounding area;
- ✧ Section 4: defines the Assessment Area;
- ✧ Section 5: identifies relevant types of receivers and viewpoints;
- ✧ Section 6: conducts an analysis on the visual impacts with mitigation measures as necessary; and
- ✧ Section 7: concludes the VIA.

2. The Site and the Proposed Development

2.1 The Site falls within the southern part of Yuen Long New Town with a rural-urban fringe setting. It is located to the west side of Tai Tong Road in between of Ma Tong Road and Shap Pat Heung Road in Yuen Long. The Site is currently used as a temporary open public car park and comprises a Grade 3 historic building (including its main building and annex block) i.e., Siu Lo, which was built in early 1940s.

2.2 The development proposal comprises a 6-storey (about 31.65 mPD) building of social welfare facility (RCHE) at the southern portion of the Site, providing 241 beds (or within a range of 220 – 260). The development proposal adopts a conservation-cum-development approach where Siu Lo will be preserved in-situ. In the current scheme, it is proposed to retain the existing use as 'house' for Siu Lo, to provide a compatible heritage garden at its side and to implement a conservation management plan to be agreed with the Commissioner for Heritage's Office (CHO) and Antiquities and Monuments Office (AMO). The disposition and layout of the proposed RCHE building are also specifically designed in responding to the irregular site configuration, the conservation of Siu Lo, setback requirements and the surrounding environment.

2.3 Subject to the detailed land surveying, the average main street level of the Application Site is about +5.75mPD. The maximum BH of the Proposed Development will be about +31.65mPD with floor-to-floor height of typical floors from 3.6m and 7.45m on the ground floor. (Please refer to **Appendix I – Development Scheme – Plans and Drawings**)

2.4 Particulars of the S16 planning application development can be referred to the Planning Statement. Summary of the major development parameters of the subject application are abstracted below.

Table 1: Key Parameters for the Proposed Development

TABLE 1 – MAJOR DEVELOPMENT PARAMETERS OF THE PROPOSED DEVELOPMENT	
Major Development Parameters	Proposed Scheme
Site Area (about) (subject to detailed survey to be conducted and land exchange application)	1,877.1 sq.m. with private land at 1,732.3 sq.m. and Government Land at about 144.8 sq.m. ("G/IC(1)" zone only) *(based on the land survey provided by the authorized Land Surveyor)
Plot Ratio (PR)	About 3.71
Site Coverage (about)	Not more than 65% (Including Site Coverage of Siu Lo)
Total site Area (GFA)	About 6,956 sq.m. (total) with the following split: i. Not more than 6,600 sq.m. (RCHE) ii. About 356 sq.m. (Siu Lo) iii. Covered internal road, L/UL bays and parking serving Siu Lo and the proposed RCHE (assuming 100% GFA disregarded according to BD's Practice Note APP-2)
Building Height	Not more than 31.65 mPD (NB: Ground level at 6.2 mPD and Mean street level at 5.75 mPD)
No. of Storeys	6
Total No. of beds	241 beds (or within a range of 220 – 260)
Provision of parking facilities: Private car parking spaces Loading and Unloading (L/UL) / Light Bus	2 (including 1 disabled car parking space) (Total) 1 (RCHE) 1 (Siu Lo) 2 (RCHE)
Proposed Floor use (RCHE)	G/F: Kitchen cum Store, Laundry Room, Tx Room, Reception, Lobby, Lav., Dining/ Multi-purpose Room, E&M, Car Parking Spaces, Siu Lo 1/F: Dormitory, Multi-purpose Area, Office, Nursing Station, Accessible Toilets, Stores, E&M, Pantry, Isolation/Sick/Quiet Room 2/F: Dormitory, Multi-purpose Area, Conference Room, Interview Room/ Family Room, Pharmacy , Nursing Station, Accessible Toilets, Stores, E&M, Isolation/ Sick/ Quiet Room, Pantry 3/F: Dormitory, Multi-purpose Area, Rehabilitation Area, Nursing Station, Accessible Toilets, Stores, E&M, Isolation/ Sick/ Quiet Room, Pantry 4/F: Dormitory, Multi-purpose Area, Rehabilitation Area, Nursing Station, Accessible Toilets, Stores, E&M, isolation/ Sick/ Quiet Room, Pantry 5/F: Dormitory, Multi-purpose Area, Small Group Activity Room, Nursing Station, Accessible Toilets, Stores, E&M, Isolation/ Sick room, Pantry R/F: Ancillary E&M, Water Tanks, Roof Greening

2.5 The site is subject to the last approved town planning case (Application No. A/YL/289 dated 29.7.2022) submitted by the same applicant. **As compared to the previously approved 6-storey scheme with a building height at 28.4mPD, the currently proposed 6-storey RCHE development will only result in a 3.25-meter increase in mPD from 28.4mPD to 31.65mPD (about an increase of 11.44%).**

3. Visual Context and The Surrounding Area

3.1 The Site is predominantly a low-lying flat land surrounded mainly by low and medium-rise by residential and village settlements. To its west and south-west are a temporary private ball court, vacant land, open storages, rural workshops and parking of vehicles. A petrol filling station locates at the immediate east of the Site. To its further east across Tai Tong Road are open storage, warehouse with retail sale and workshop, real estate agencies and car services.

3.2 To the immediate west of the Site is the "V' zone for development of Small Houses restricted to a maximum BH of 3 storeys. To the immediate west, it currently comprises a temporary private ball court, vacant land, open storages, rural workshops and parking of vehicles. To its further north-west and east are Chun Wah Villas Phase 3, Lung Tin Tsuen and Ma Tin Tsuen, of which the latter ones are recognised villages.

3.3 To its immediately north is the Yuen Long Baptist Church which is covered by a valid planning application No. A/YL/252 for a composite building comprising school and religious institution (church) with minor relaxation of BHR to 8 storeys, with a total GFA of 8,282 m^2, which was approved with conditions by the Rural and New Town Planning Committee (RNTPC) on 3.5.2019 and will be valid until 3.5.2023 (hereinafter referred as the "Yuen Long Baptist Church site"). To the further north are village houses.

3.4 To its south are some village houses and the Hang Heung food factory. The Ex-Hang-Heung Factory site is covered by a valid planning application No. A/YL/263 for proposed Social Welfare Facility (RCHE) with GFA of not more than 5,400m^2 and a building height of not more than 6 storeys **(at 33.1 mPD)** (hereinafter referred as the "Ex-Hang-Heung Factory site"). The planning application was approved with condition(s) by the RNTPC on 5.2.2021.

3.5 To the north across Ma Tong Road is the centre of Yuen Long New Town where is predominantly occupied by high-density "R(A)" developments, which allow for a maximum BHR of up to 30 storeys high. Manhattan Plaza (富達廣場) along Sai Ching Street is a proximal example.

3.6 There are several vast pieces of land parcel zoned "Residential (Group B)" in the area to the south of the Yuen Long town centre that is subject to building height restriction (BHR)

of 25 storeys, maximum plot ratio (PR) of 3.5 and maximum site coverage (SC) of 50%. For instance, the extensive piece of land to the further southeast of the Site across Shap Pat Heung Road is a cluster of medium-to-high-rise residential estates, namely Brand (名御), Sereno Verde (蝶翠峰) and the Reach (尚悦). To the further east is the Grand Del Sol (朗晴居). To the further north-west are the Tsing Yu Terrace (青裕臺) and Pretticoins Garden (麗昌花園).

3.7 The outer vicinity to the further south-west of the Site comprises high-density residential estates namely Park Signature and La Grove along the Kung Um Road and Shap Pat Heung Road and a 27-storeyed youth hostel, namely Po Leung Kuk Lee Shau Kee Youth Oasis. They are zoned “Residential (Group A)1” (“R(A)1”) and “Government , Institution or Community (5)” respectively under the OZP.

3.8 Overall, the Site is sitting amidst a transitional area to the south of the Yuen Long town centre with a great mix of residential densities. The development intensities in this area have gradually increased over the years as suitable sites have been subject to applications for higher-density and higher-rise developments to meet the increasing needs of the society. As such, the change in the townscape of this area has been rapid in recent years.

3.9 It is also mentioned in the OZP that the conversion of agricultural land to open storage yards, car dumps/repairing workshops and storage of construction machinery and materials has led to a rapid degradation of the rural environment in some parts of this area. In-situ reconstruction of temporary structures with permanent materials is encouraged.

4. Assessment Area

4.1 An Assessment Area, or visual envelope, is identified in accordance with TPG PG-NO.41 to cover the area of visual influence within which the Proposed Development is pronouncedly visible or likely to be pronouncedly visible from key sensitive viewers. Apparent visual corridors with key sensitive viewers are found limited within the visual envelope, given the following three factors: (1) the Site is surrounding by large urban blocks with restricted access to public and absence of permeability, resulted in the lacking of pedestrian footfall and activities, (2) limited viewers with sparse population in the rural setting, and (3) car is the notable mode of travel in the area that leads to most of the viewpoints are kinetic in nature.

4.2 The general guideline for settling out the size of the Assessment Area as stated in TPB PG-No.41 should be equal to approximately 3 times the height of the Proposed Development. As the actual building height of the Proposed Development is about 25.9m (measured from mean street level up to the main roof), the visual envelope for this VIA has a minimum radius of approximately 77.7m (i.e. 25.9 x 3) from the closest point of the Proposed Development. The extent of the visual envelope is indicated in **Figure 3**.

5. Viewpoint Identification

5.1 With the purpose to protect public views and reconcile the visual impacts of the proposed development, the visual envelope consists of **viewing points** (“VPs”) where **sensitive receivers** (“SR”) have the most affected views. Given the medium to high rise residential development context and major road networks surrounding the Site, distinctive viewpoints, such as public gathering places, activity nodes or parks, rarely exist within the visual envelope. Most of the public viewers in the vicinity are transient in nature. With a good view to achieve a comprehensive visual appraisal, viewpoints of long range, medium range and close-range views from publicly accessible locations are also adopted for assessment.

5.2 This VIA is conducted on 6 viewpoints as adopted in the previous approved application (A/YL/289). All 6 viewpoints aim at assessing the visual changes to be brought by the new scheme with reference to the respective sensitive receivers and their visual sensitivity (“VS”). 4 of the viewpoints are located beyond the visual envelope where the Proposed Development would be visible. Their characteristics are summarised in the following table.

Table 2 – Assessment of the Six Selected Viewing Points

	Viewing Points (VP)	Nature of Viewing Points	Sensitive Receivers	Range	Visual Sensitivity
VP1	View looking at southward at the Junction of the Ma Tong Road and the Tai Tong Road	Kinetic	Commuters including Pedestrians, cyclists and car drivers	Medium (~150m)	Medium
VP2	View looking at the Junction of the Shap Pat Heung Road and the Tai Tong Road	Static	Residents from the Brand and Sereno Verde; commuters such as car drivers	Medium (~170m)	Low to medium
VP3	View looking south-westward at the adjacent walkway	Kinetic	Commuters including Pedestrians, cyclists and car drivers	Close (~30m)	Low to medium
VP4	View looking north-eastward on the Tai Shu Ha Road West	Static	Residents live alongside the Tai Shu Ha Road West and car drivers	Long (~215m)	Low
VP5	View looking westward on the Fung Ki Road	Kinetic	Commuters including Pedestrians and car drivers	Long (~310m)	Low
VP6	View looking north-westward at the adjacent walkway	Kinetic	Commuters including Pedestrians, cyclists and car drivers	Close (~70m)	Low to medium

6. Visual Assessment

With a view to evaluating the visual impact of the Proposed Development with respect to a holistic visual context in the future, the planned developments in the vicinity including (1) an 8-storey composite building comprising school and religious institution (church) at +37.9 mPD on the Yuen Long Baptist Church site (No. A/YL/252) and (2) a 6-storey RCHE building at **+33.1 mPD** on the Ex-Hang-Heung Factory site (No. A/YL/263) are included in this VIA. In this VIA, it will compare against the existing condition. The photomontages of previously approved application (No. A/YL/289) are also provided for easy reference.

6.1 VP1: View looking southward at the Junction of Ma Tong Road and Tai Tong Road (Figure 4)

6.1.1 Located at the road junction at the south of Yuen Long town centre, this VP is easily accessible by commuters such as pedestrians and cyclists. This is a medium range view which is approximately 150m to the north from the Site. The major visual elements within the VP are (1) some low-rise buildings (including planned development of A/YL/252 & A/YL/263) and temporary structures, (2) a tree group, (3) the existing Yuen Long Baptist Church and (4) the sky.

6.1.2 As shown in the **Figure 4**, because the new block in the current scheme is proposed to bend away from Tai Tong Road, view towards the Proposed Development from eye-level will be totally screened by the planned development on the Yuen Long Baptist Church site and the existing tree group in its front. There are negligible visual changes as compared to the existing condition. The Proposed Development will be barely noticeable to the public viewers who are mostly transient in nature. Their visual experience will not be affected. Also, it will be better than the approved scheme (A/YL/289), where a corner of the block under a tree crown will be glimpsed by potential public viewers.

6.1.3 Taking into account The Brand as a medium-to-high rise residential development of about 21-25 no. of storeys, the Proposed Development with 6 storeys is considered a development with a very low profile. This induces very minor visual impact to this VP. Considering the above, the visual impact caused by the Proposed Development on VP1 is therefore considered to be **negligible**.

6.2 VP2: View looking northward at the Junction of the Shap Pat Heung Road and the Tai Tong Road (Figure 5)

6.2.1 This Viewing Point represents pedestrians and cyclists near the Sereno Verde and The Brand. It is a medium-range view which is approximately 170m to the south from the Site. The view comprises mainly roadside environment, some mature trees and the Ex-Hang-Heung Factory site in the foreground, followed by the Proposed Development and the

Yuen Long Baptist Church site and the high-rise clusters of residential developments in the Yuen Long town centre and open sky view at the backdrop.

6.2.2 As evident in the **Figure 5**, the public viewers will have partial view towards the Site as the lower portion of the Proposed Development will be largely blocked by the ex-Hang Heung Factory Site RCHE development (No. A/YL/263) and some roadside trees. Under the current scheme, the new block close to the graded historical building of Siu Lo is configured to slightly bend outward away from Tai Tong Road. This mitigation measure can make the Proposed Development slightly less bulky than the approved scheme and more importantly, can let Siu Lo to be more visible from the public. As seen from the photomontage, despite a slightly higher building profile of the Proposed Development as compared to the previous approved scheme (No. Y/YL/289), the proposed building height of +31.65mPD is still visual harmony with the cluster of adjacent low-rise planned developments (maximum height +37.9mPD). A visual contrast with the high-rise residential developments in the Yuen Long town centre at the backdrop is also maintained. As such, the Proposed Development is generally considered compatible to the surrounding context in terms of mass and scale.

6.2.3 From the commuters' perspective, the Proposed Development can easily blend into the view of the high-rise developments at the backdrop. The development intensity of the Proposed Development is similar to the adjacent planned developments. In this VP, it is anticipated that it will not create noticeable visual degradation. Therefore, the visual impact caused by the Proposed Development on VP2 is considered to be **negligible**.

6.3 VP3: View looking south-westward at the adjacent walkway along Tai Tong Road (Figure 6)

6.3.1 This close-range VP assumes the perspective of a pedestrian passing by at the adjacent walkway to the immediate northeast of the Site (within 30m). Commuters including pedestrians and cyclists on Tai Tong Road are the major receivers of this VP. Without any public transportation stops nor activity node along this section of Tai Tong Road, a short duration of stay is assumed. Compared to VP1, the frequency of visits by pedestrians in this section of Tai Tong Road is lower. Overall, the sensitivity of the visual sensitive receivers is considered low.

6.3.2 As shown in the **Figure 6**, considering its close proximity to the Site, the building block will appear visually dominating from the VP under the proposed scheme. The existing open sky view and small amount of green sloping ground as a positive visual resource will be partially obstructed. Both the approved scheme and the Proposed Development will block the residential developments of Le grove at a far distance. However, with a comparable building mass of the planned developments of the Yuen Long Baptist Church site and the Ex-Hang-Heung Factory site to the north and south respectively, the Proposed Development will not be out of context in terms of the overall visual character.

6.3.3 Several design and landscape features are incorporated subject to detailed design, which can help mitigate the intrusiveness of the building bulk and improve the existing view in certain aspects. A well landscaped G/F Heritage Garden and a rooftop garden with trees and shrubs are proposed, transforming the existing dilapidated concrete setting into a pleasant garden.

6.3.4 In order to respect the integrity of and compatibility with Siu Lo as a graded historic building and in response to the valuable advices from the TPB members in the previous approved scheme, a clear distance between the new block and the pitched roof of the Annex Block of Siu Lo is increased from 1.2m to 1.5m. The positioning and design of the 2 columns are subject to detailed design and evaluation of structural loading, to the satisfaction of AMO. As a general direction, it aims to provide lighter column design and use of materials in order to minimise their visual impact on Siu Lo.

6.3.5 In a nutshell, with a limited number of pedestrian activity and a short duration of stay, proposed landscape and design features subject to detailed design, and **an obstruction of the open sky**, the visual impact caused by the Proposed Development on the from this VP is graded as **moderately adverse**.

6.4 VP4: View looking north-eastward on the Tai Shu Ha Road East (Figure 7)

6.4.1 This Viewing Point is located on the Tai Shu Ha Road West next to an existing nullah. Characterised by a typical rural-fringe setting with mixture of land uses including open storage yards, warehouses, workshops, etc., it represents the views of mainly the travellers for local villagers and residents in Ma Tin Pok and looking towards north-eastward. This is a long-range view of about 200 metres southwest from the Site. The VSRs are short duration of stay and currently only have partial view to the Site from this VP due to the existing temporary structures in the front. Taken the above factors into account, this VP is considered to have a low sensitivity.

6.4.2 As shown in the **Figure 7**, the planned development of Yuen Long Baptist Church will be situated in the center. Building clusters in Yuen Long town centre and open sky view are located at the distant backdrop, while existing temporary structures are situated in the foreground, scattering with trees as visual relief. Because of the existence of mature trees groups and temporary structures in front of the Proposed Development, only an upper portion of it will be observable from this VP. The visual composition that the high-rise building at the backdrop and the low-rise building profiles at the forefront is generally maintained. Despite the increase in the development intensity of the Proposed Development as compared to the previous approved scheme, the building height of the Proposed Development is still lower than the adjacent planned development of Yuen Long Baptist Church site. And the building footprint is still comparable with the vicinity. The visual blockage to the important natural resources of a sky view is considered insignificant.

6.4.2 Regarding to the effect on public viewers, public viewers alongside Tai Shu Ha Road West will have glimpse view towards the Proposed Development from a long distance. The Proposed Development will blend in to the existing built environment in the Yuen Long town centre. In light of a portion of the Proposed Development being captured in this viewpoint, it will only result in a **negligible** visual change for the public viewers.

6.5 VP5: View looking westward on the Fung Ki Road (Figure 8)

6.5.1 With reference to **Figure 8**, VP5 demonstrate a view for pedestrians passing by and bus passengers at a nearby bus station, when looking westward on the Fung Ki Road. It is a long-range view with approximately 300 metres east from the Site, characterised by a typical rural-fringe setting with mixture of land uses including village settlements, temporary structures, open storage etc., which make up a considerable extent of this view. It also comprises some trees and greeneries in the foreground, the planning development (No. A/YL/252) in the middle ground with some high-rise building at the distant backdrop.

6.5.2 As demonstrated from the **Figure 8**, the Proposed Development will be partially blocked by the existing signboard and trees. Despite a slight obstruction of the open sky, a large part of it will be retained. The Proposed Development has a mild increase in height when making comparison with the approved scheme (no. A/YL/289), but its building height is still lower than the adjacent planned development of +37.9mPD in height. Hence, the building scale and mass of the Proposed Development is compatible with the surrounding context.

6.5.3 The VSRs are mostly transient in nature or short duration of stay. It will have partial view towards the Proposed Development, as temporary structures and village houses largely dominate their sight at the forefront. At the bus station, there is a solid fence wall, blocking the view towards the Proposed Development. The bus passengers can only have a glimpse view to the Proposed Development on the way to the bus station. To this end, the Proposed Development harmonious with the character of the neighbourhood will only have little effects on the visual experience of the VSRs. Besides, the existing trees in the foreground can also offer visual relief to the VSRs. Therefore, the Proposed Development will only result in a **negligible** visual change in this viewpoint.

6.6 VP6: View looking north-westward at the adjacent walkway along Tai Tong Road (Figure 9)

6.6.1 The existing view of VP6 is taken in Tai Tong Road. It is a short-range view with about 70 metres to the southeast of the Site. An existing patrol station, the Proposed Development and the planned development of Yuen Long Baptist Church comes in the foreground, while the existing high-rise residential buildings in Yuen Long town centre to the north and northwest of the Site forms a backdrop from this view. Similar to VP3, this viewing point assumes bicycle commuters or pedestrians passing by and looking north-westward from an adjacent walkway or a cycling path. In view of the activities of VSRs who are mostly transient in nature, this close-up view will give a medium visual sensitivity to the VSRs.

6.6.2 According to the photomontage of the **Figure 9,** in such a close distance view in a rural environment, it is inevitable that it will lower the visual openness in this viewpoint. It will obscure part of the open sky on the left of the view. Nonetheless, the configuration of the proposed new block sitting over the Annex Block of Siu Lo will be turned away from Tai Tong Road, reducing a sense of enclosure as compared to the previously approved scheme. Aside from this visual mitigation measure, a heritage garden at G/Fand a rooftop garden planting with trees and shrubs will green up the streetscape, enhancing the visual amenity to the users and the passer-by. The design of the Proposed Development is also carefully designed to respect not only the grade 3 historic building but also the neighbourhood environment, including using permeable fence wall along Tai Tong Road and a sensitive building façade to respond to the environmental conditions.

6.6.3 The relaxation in BH of this proposed scheme, therefore, will not cause much noticeable impact to the public viewers. In addition, a large roadside tree in the foreground together with the proposed trees and shrubs in G/F heritage garden and R/F rooftop garden can screen off part of the Proposed Development and offer visual relief to the VSRs. In terms of the overall character, the Proposed Development will echo with the planned development on the site of Yuen Long Baptist Church to the south and in compatible with the future landscape of the built environment. **Although the Proposed Development will partially obstruct the sky view**, i**t is believed that after implementation of the visual mitigation measures**, the resultant visual impact of the Proposed Development is considered **moderately adverse**.

7. Conclusion

7.1 The VIA is prepared in support of a Section 16 Planning Application for the Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long. The visual impact that the Proposed Development to the surroundings is appraised. It is assessed to compare the visual impact of the Proposed Development against the existing condition. The photomontages from previous Approved Scheme (No. A/YL/289) are also provided for easy reference.

7.2 The site is a subject of a previously approved town planning case (No. A/YL/289) dated 29.7.2022. **As compared to the previously approved scheme with a Building Height at 28.4mPD, the proposed new RCHE development will result in a <u>3.25-meter increase in mPD from 28.4mPD to 31.65mPD (about an increase of 11.44%).</u>**

7.3 Due to a site constraint to offer a conservation-cum-development proposal, the opportunities of the design merits and landscape features are maximised for the Proposed Development, including G/F heritage garden and R/F rooftop garden with trees and shrubs and a permeable design on the ground level (subject to detailed design). All of these will be served as visual mitigation measures to VSRs.

7.4 **Table 3** below summarises the overall visual impact caused by the Proposed Development on the 6 VPs identified.

Table 3 – Summary Table of Visual Impact

Viewpoints assessed	Visual Sensitivity	Resultant Visual Impact
VP1: View looking southward at the Junction of the Ma Tong Road and the Tai Tong Road	Medium	Negligible
VP2: View looking northward at the Junction of the Shap Pat Heung Road and the Tai Tong Road	Medium	Negligible
VP3: View looking south-westward at the adjacent walkway	Medium	**Moderately adverse**
VP4: View looking north-eastward on the Tai Shu Ha Road East	Low	Negligible
VP5: View looking westward on the Fung Ki Road	Low	Negligible
VP6: View looking north-westward at the adjacent walkway	Medium	**Moderately adverse**

7.5 The following visual assessment conclusions can be made:

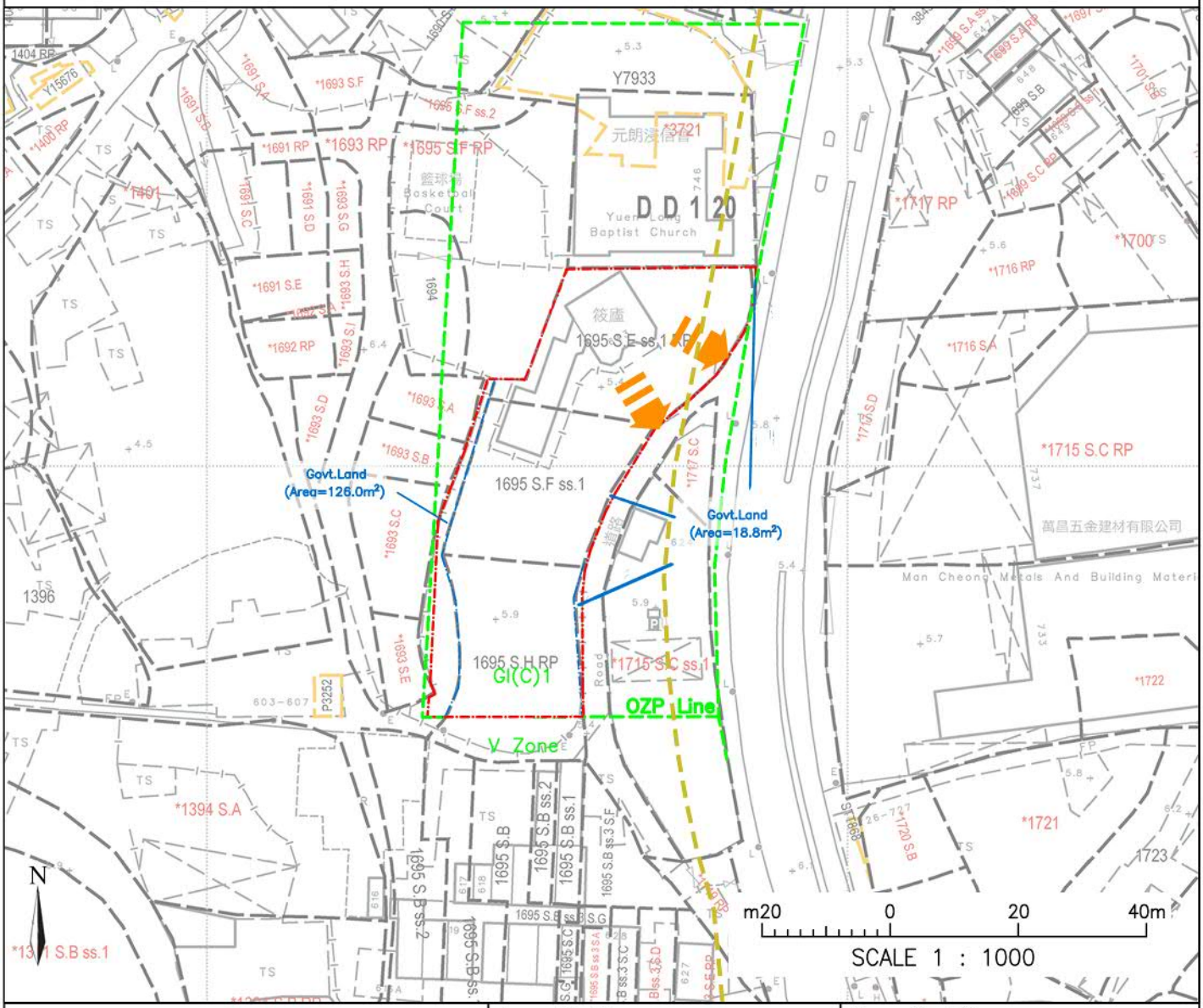
- ✓ This VIA is conducted on 6 viewpoints as adopted in the previous application (No. A/YL/289). The broader area of the Application Site is a vast piece of flat land, comprising small village blocks and temporary structures in a close distance and high-rise residential developments at a further distance. The setting of the area is typically an urban-village fringe area. Given that there are no open spaces and lookouts with a lack of public activity nodes, the VSRs in this VA mostly represent passers-by, cyclists and the nearby residents/villagers, who are transient/kinetic in nature. In this regard, the visual sensitivity in most viewpoints is not high. VP4 and VP5 are low visual sensitivity and the remaining VPs are considered to have a medium visual sensitivity.

- ✓ In terms of the overall character and compatibility in mass and scale, the proposed RCHE development are largely comparable with the planned developments of Yuen Long Baptist Church (No. A/YL/252) and Ex-Hang-Heung Factory (No. A/YL/263) in the vicinity. These developments will form a compatible group of buildings in this transitional area to the south of Yuen Long town centre. Overall, a visual harmony is hence maintained.

- ✓ Although the Proposed Development will block partially the open sky view at some viewpoints, the resultant visual impacts are much reduced due to the transient/ kinetic nature of public viewers as the majority at most viewpoints. The design and landscape features as mentioned will also help mitigate the visual impact.

7.3 Based on the above, among 6 VPs being assessed, the visual impacts are identified from negligible to slightly adverse. Hence, the overall visual impact of the Proposed Development is considered acceptable. It is anticipated that there is no adverse visual impact from the Proposed Development.

Site Plan



LEGEND

Application Site (1877.1m²)

Existing Lot Boundary

"G/IC(1)" Zoning Boundary

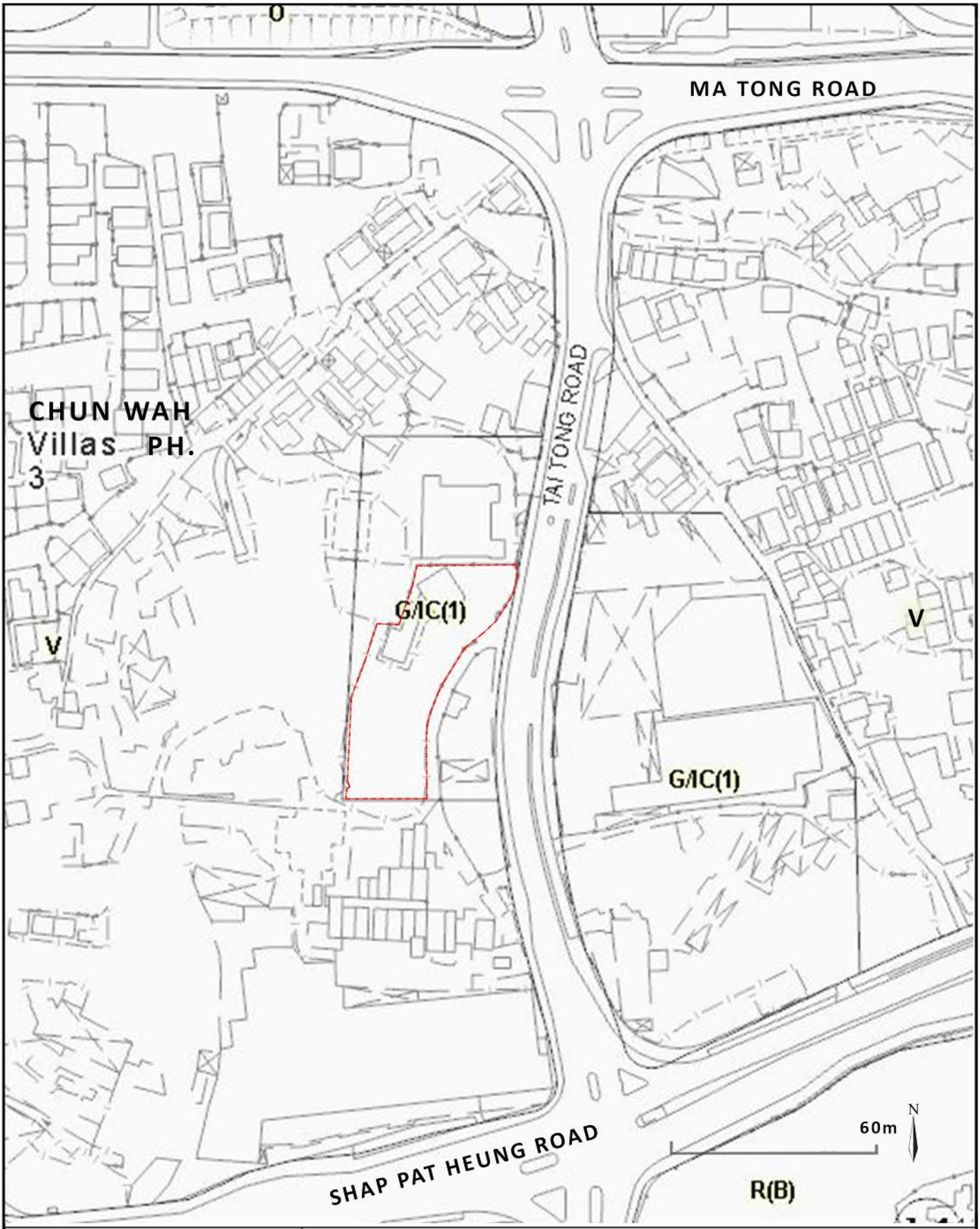
Clearance at Siu Lo frontage for visual and physical access

10m Setback from Tai Tong Road for air quality

Survey District: Yuen Long	Survey Sheet No.: 6-NW-15A
Scale: As shown	Plan No.: LSC/YL/3722/1695/GL/R1
Ref. SRP No.: —	Date: 20/3/2023

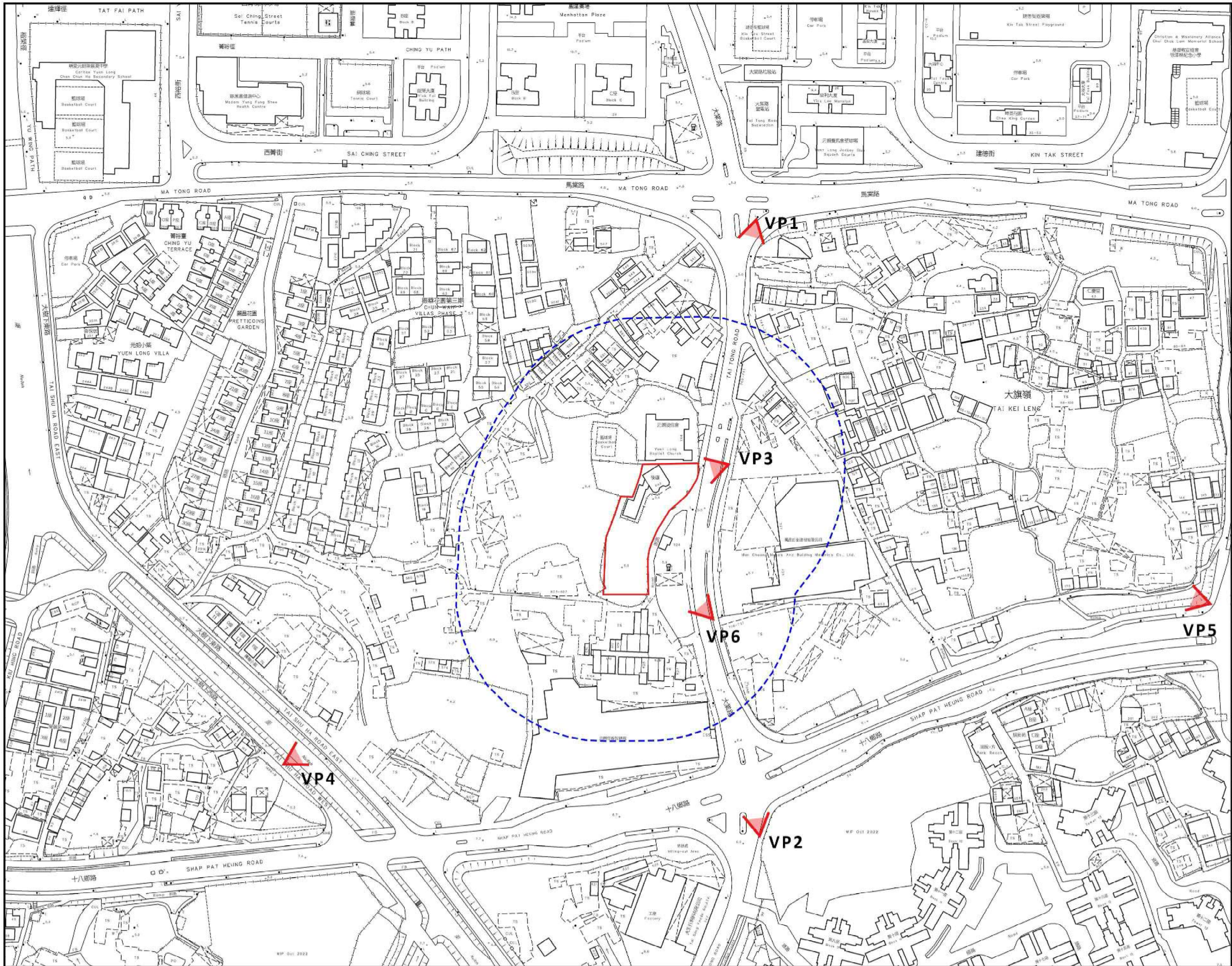
DeSPACE (International) Limited

Figure 1



Legend	Location
Application Site	Lot Nos.1695 S.E ss. 1 RP, 1695 S.F ss.1, 1695 S.H RP (Part) and Adjoining Government Land in D.D. 120, Tai Kei Leng, Yuen Long, New Territories

Figure No.	Figure Title	Date	Scale	Prepared by
FIGURE 2	Location Plan	Feb 2023	As Shown	DeSPACE (International) Limited



GENERAL NOTES:

1. THE BASE MAP IS EXTRACTED FROM THE SURVEY SHEETS NOS. 6-NW-14B AND 6-NW-15A.

Viewpoints:

VP1: View looking southward at the Junction of Ma Tong Road and Tai Tong Road

VP2: View looking northward at the Junction of the Shap Pat Heung Road and the Tai Tong Road

VP3: View looking south-westward at the adjacent walkway along Tai Tong Road

VP4: View looking north-eastward on the Tai Shu Ha Road East

VP5: View looking westward on the Fung Ki Road

VP6: View looking north-westward at the adjacent walkway along Tai Tong Road

LEGEND

The Subject Site

Initial Visual Envolope
(3H = 77.7m)

The Selected Viewpoints

DeSPACE (International) Limited
Town Planner & Surveryor

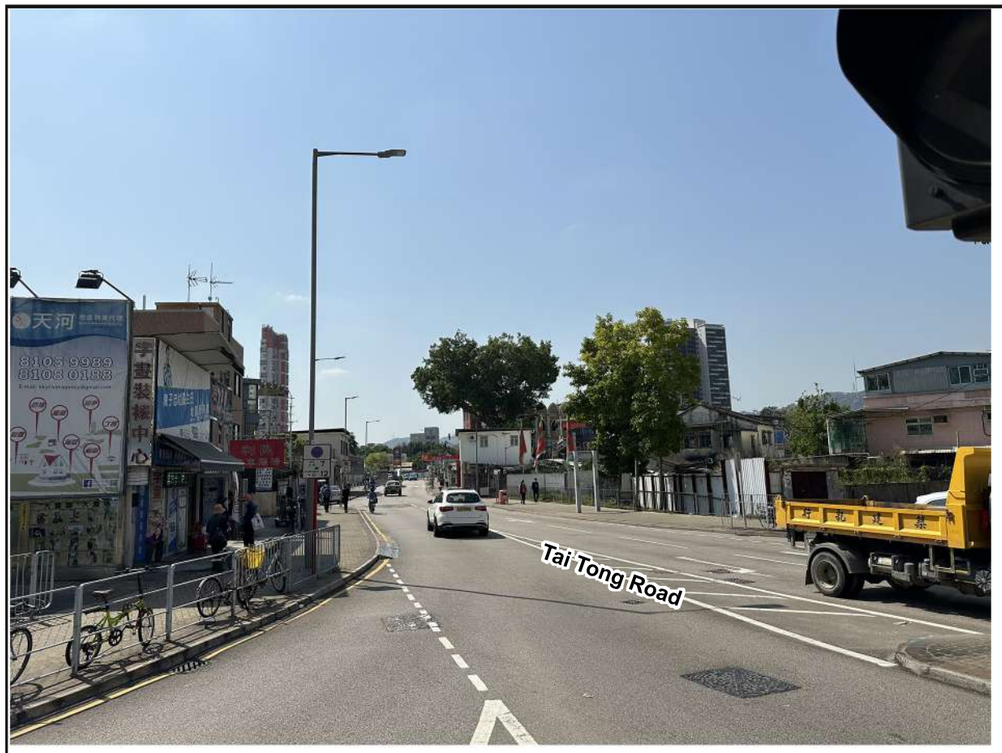
MINOR 細 CREATIVE 作室
Architect

Title

Key Plan of the Selected Viewpoints

Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

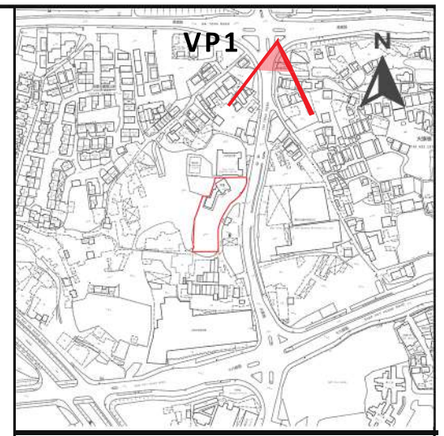
Date	Scale	Figure No.
Mar 2023	1:2000 @A3	Figure 3



Existing Scheme

Proposed Scheme

Approved Scheme (A/YL/289)



General Notes:

1. Renderings are indicative and for reference only.

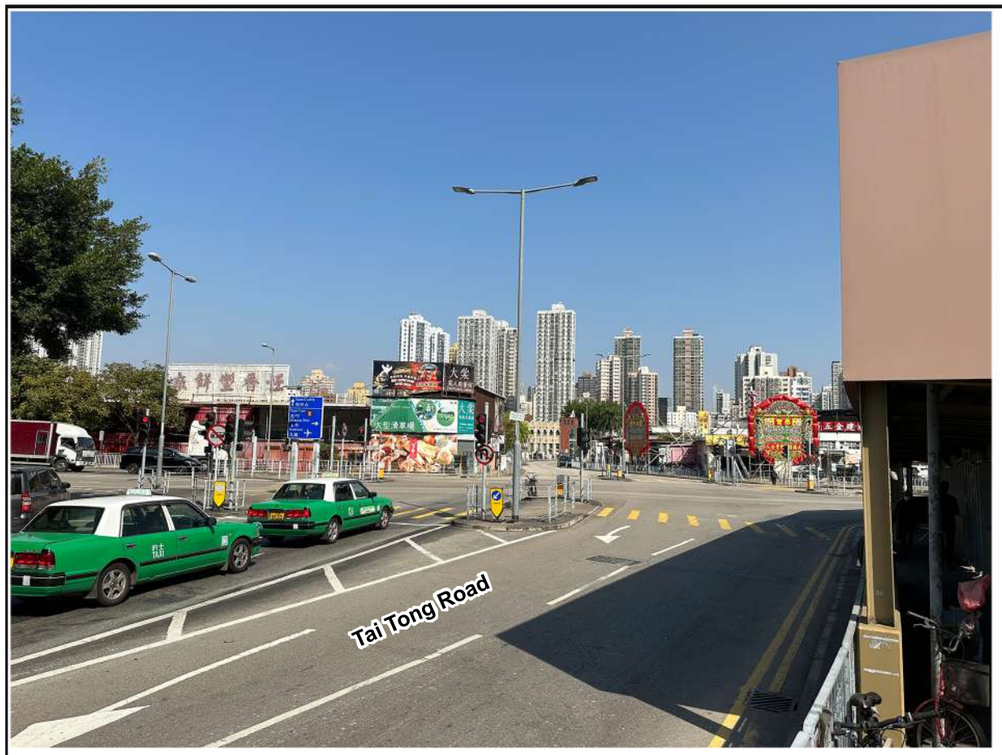
Town Planner & Surveyor

DeSPACE (International) Limited

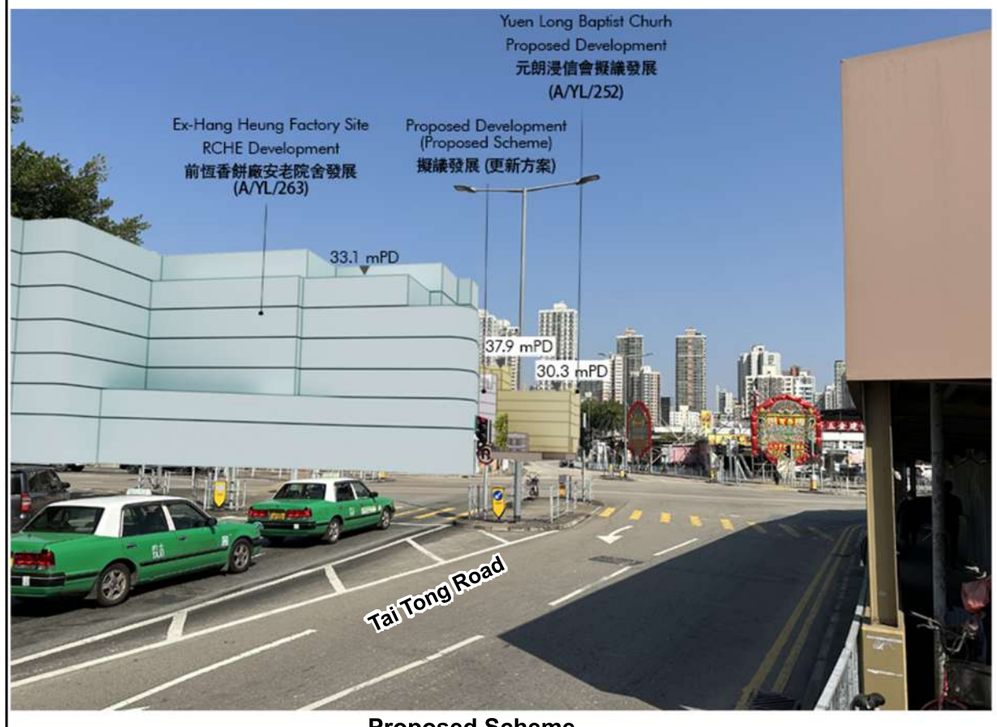
Architect

MINOR 細 CREATIVE 作室

Project	Title	Date	Scale	Figure No.
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long	**VP1: View looking southward at the Junction of Ma Tong Road and Tai Tong Road** Visual Impact Assessment	May 2023	/	Figure 4

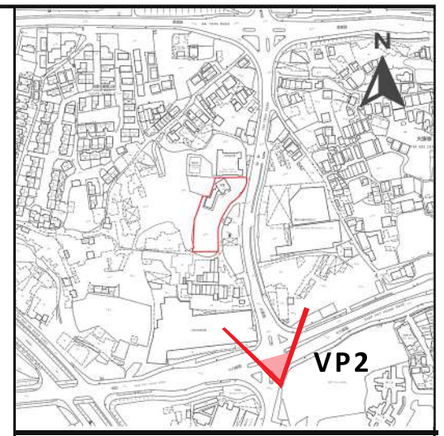


Existing Scheme



Proposed Scheme

Approved Scheme (A/YL/289)



General Notes:

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MINOR 細 CREATIVE 作室

Project	Title	Date	Scale	Figure No.
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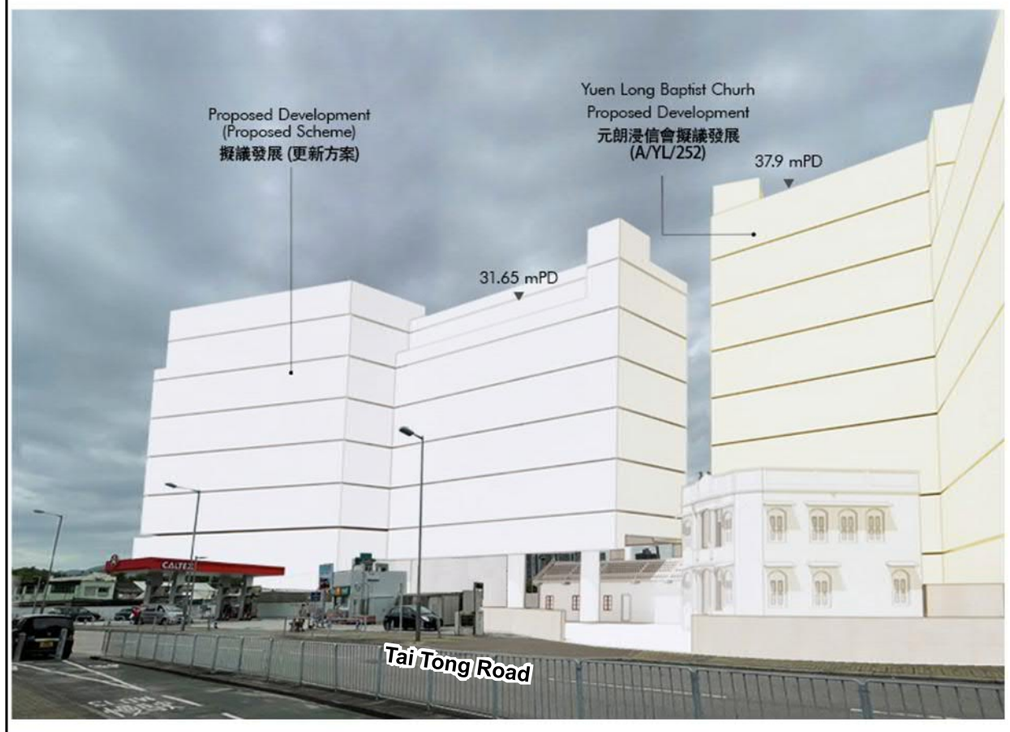
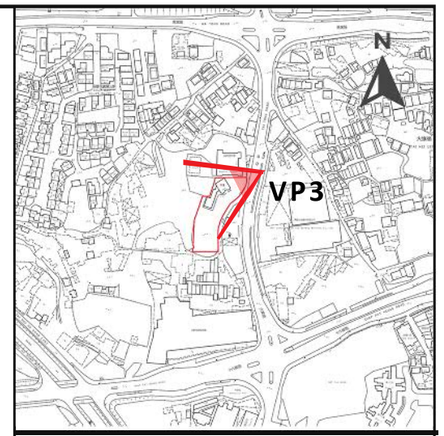
Existing Scheme



Proposed Scheme

Approved Scheme (A/YL/289)



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Town Planner & Surveyor

DeSPACE (International) Limited

Architect

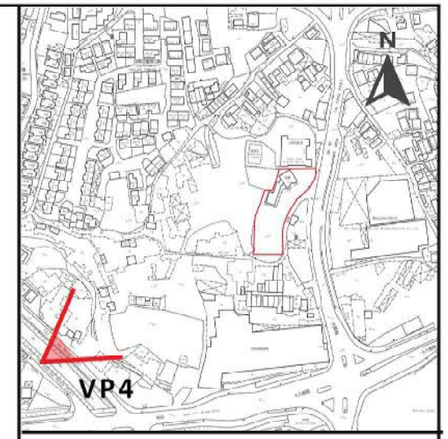
MINOR 細 CREATIVE 作室

Project	Title	Date	Scale	Figure No.
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long	**VP3: View looking south-westward at the adjacent walkway along Tai Tong Road** Visual Impact Assessment	July 2023	/	Figure 6

Existing Scheme

Proposed Scheme

Approved Scheme (A/YL/289)



General Notes:

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Town Planner & Surveryor

DeSPACE (International) Limited

Architect

MINOR 細 CREATIVE 作室

Project	Title	Date	Scale	Figure No.
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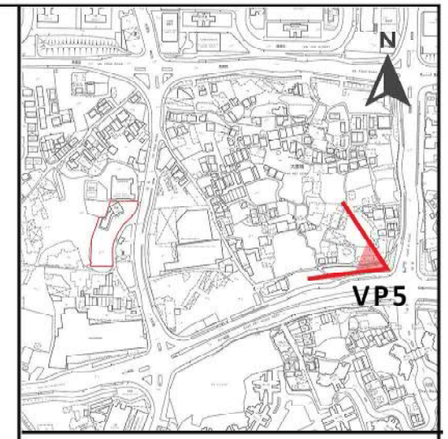
Existing Scheme

Proposed Scheme

Approved Scheme (A/YL/289)



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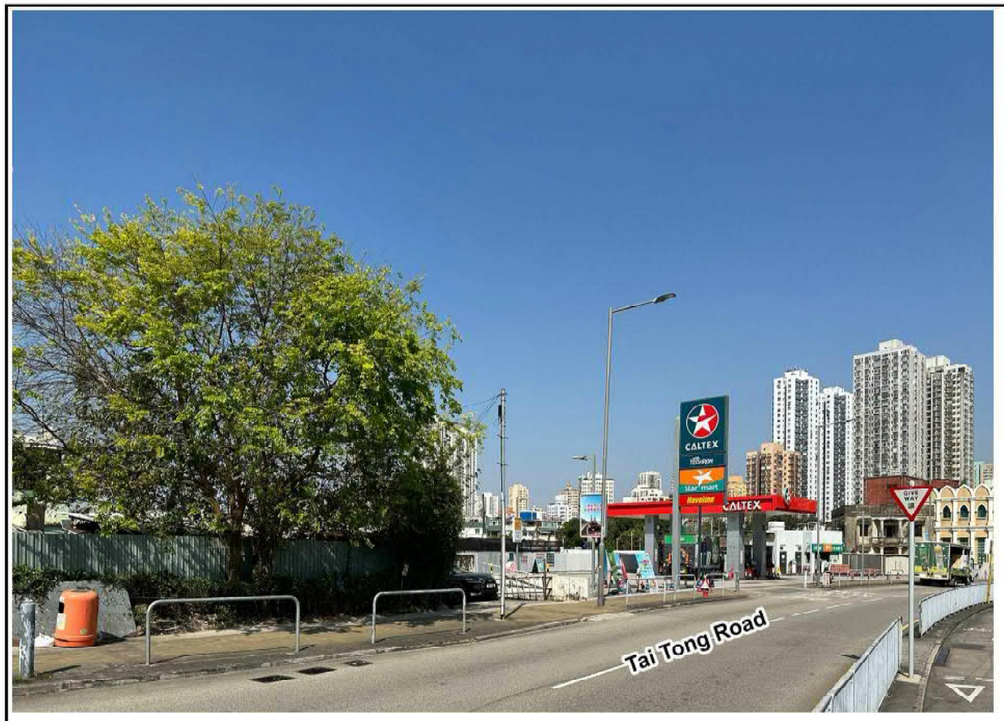
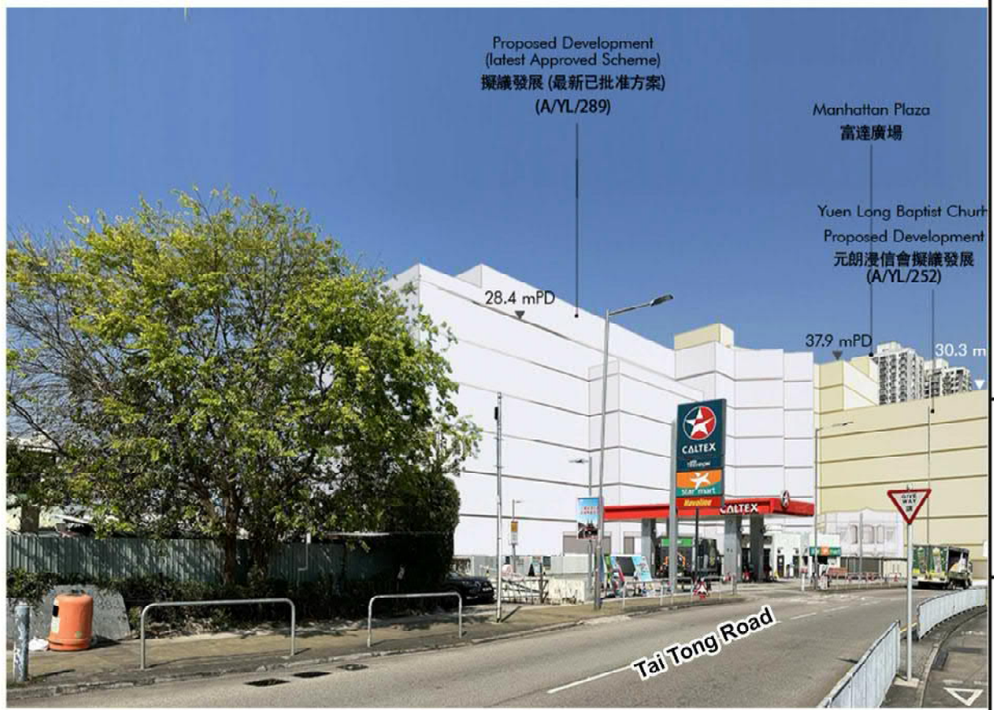


Existing Scheme

Proposed Scheme



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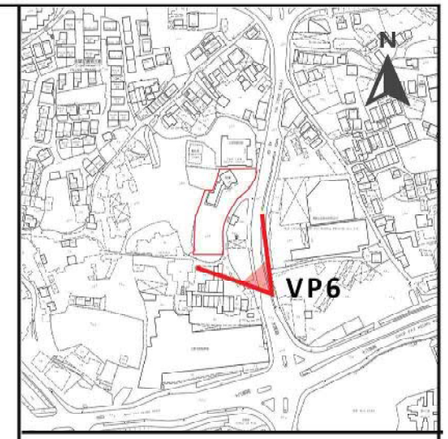

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Town Planner & Surveyor

DeSPACE (International) Limited

Architect

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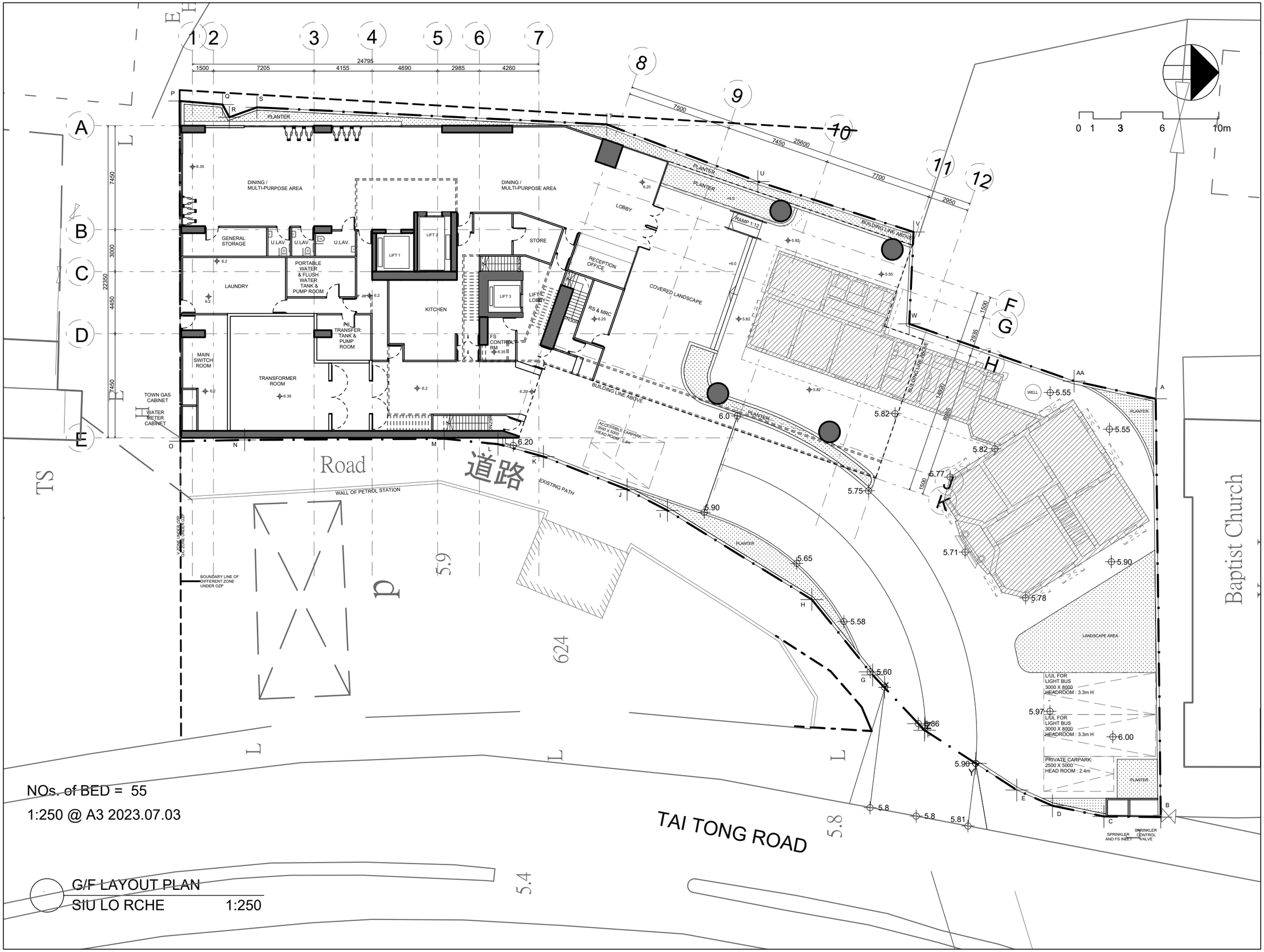

PROJECT NO. 項目編號 : HK-A22006

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  所有於圖紙上標示的尺寸，須於現場覆核和修正。如在地盤發現有任何與圖紙不符之處，須盡快通知設計師。
- This drawing should not be used as construction drawings without approval.
  除有批核外，此圖不可作為施工用。

AMENDMENT PARTICULARS
更改細節 :

Revision 修正版	Description 內容	Date 日期
A	DESIGN	20221116
B	DESIGN	20221118
C	DESIGN	20221128
D	DESIGN	20221205
E	DESIGN	20221227
F	DESIGN	20221230
G	DESIGN	20230210
H	DESIGN	20230315
J	DESIGN	20230705
K	DESIGN	20230809

TOWN PLANNER & SURVEYOR
城市規劃師及測量師 :
DeSPACE (International) Limited
- E-mail 電郵 : despaceinternational@gmail.com
- Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 創意
- E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
- E-mail 電郵 : irstwong@gmail.com
- Tel 電話 : 2625 1776
- Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
- Fax 傳真 : 2399 0066
- Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

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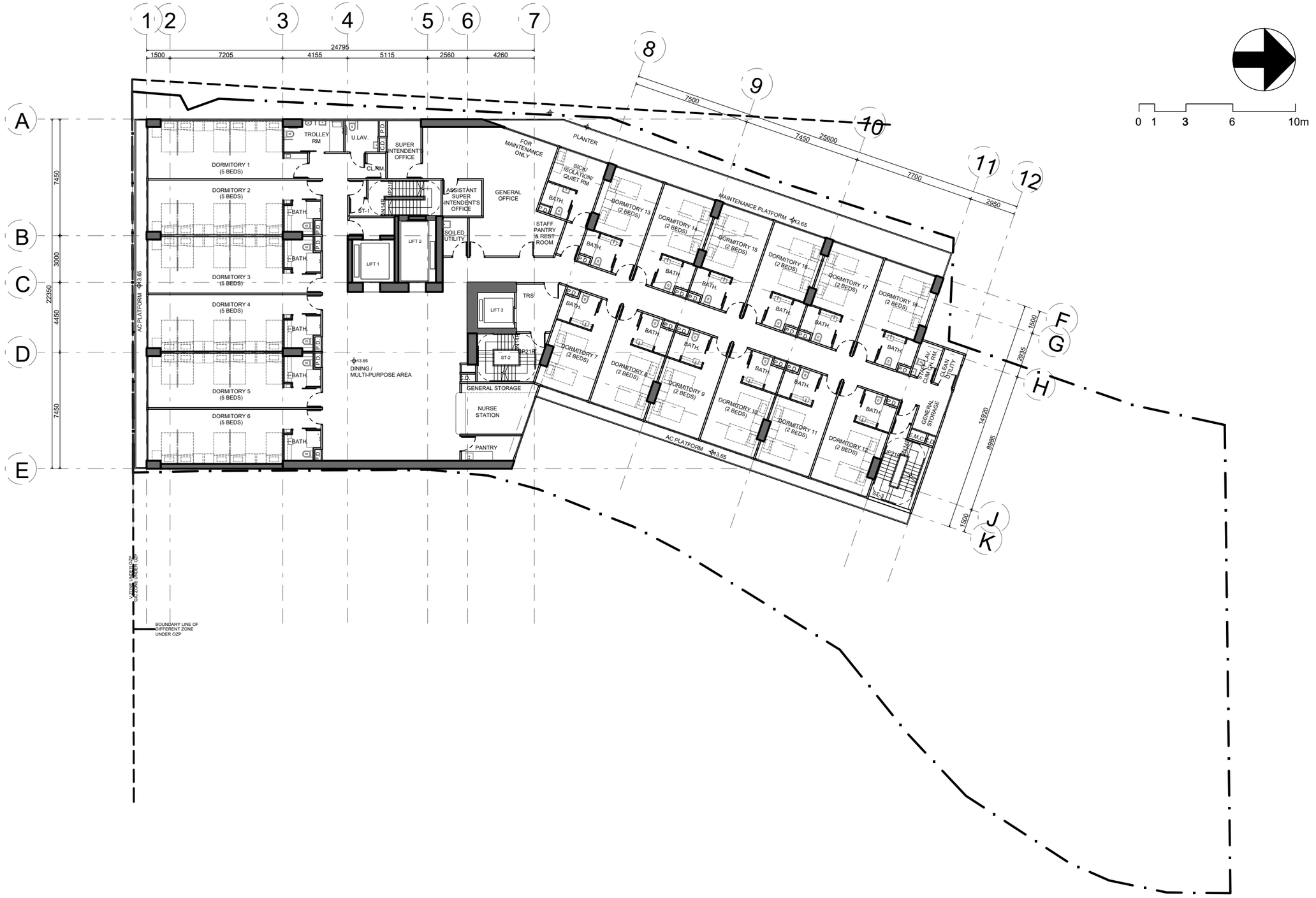
DRAWING TITLE
圖紙名稱 : G/F LAYOUT PLAN

DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-101

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705



1/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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H	DESIGN	20230705

TOWN PLANNER & SURVEYOR
城市規劃師及測量師 :
DeSPACE (International) Limited
■ E-mail 電郵 : despaceinternational@gmail.com
■ Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 作室
■ E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
STRUCTURAL ◆ GEOTECHNICAL ◆ ARCHITECTURAL ◆ PROJECT MANAGEMENT CONSULTANT
■ E-mail 電郵 : irstwong@gmail.com
■ Tel 電話 : 2625 1776
■ Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
■ Fax 傳真 : 2399 0066
■ Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

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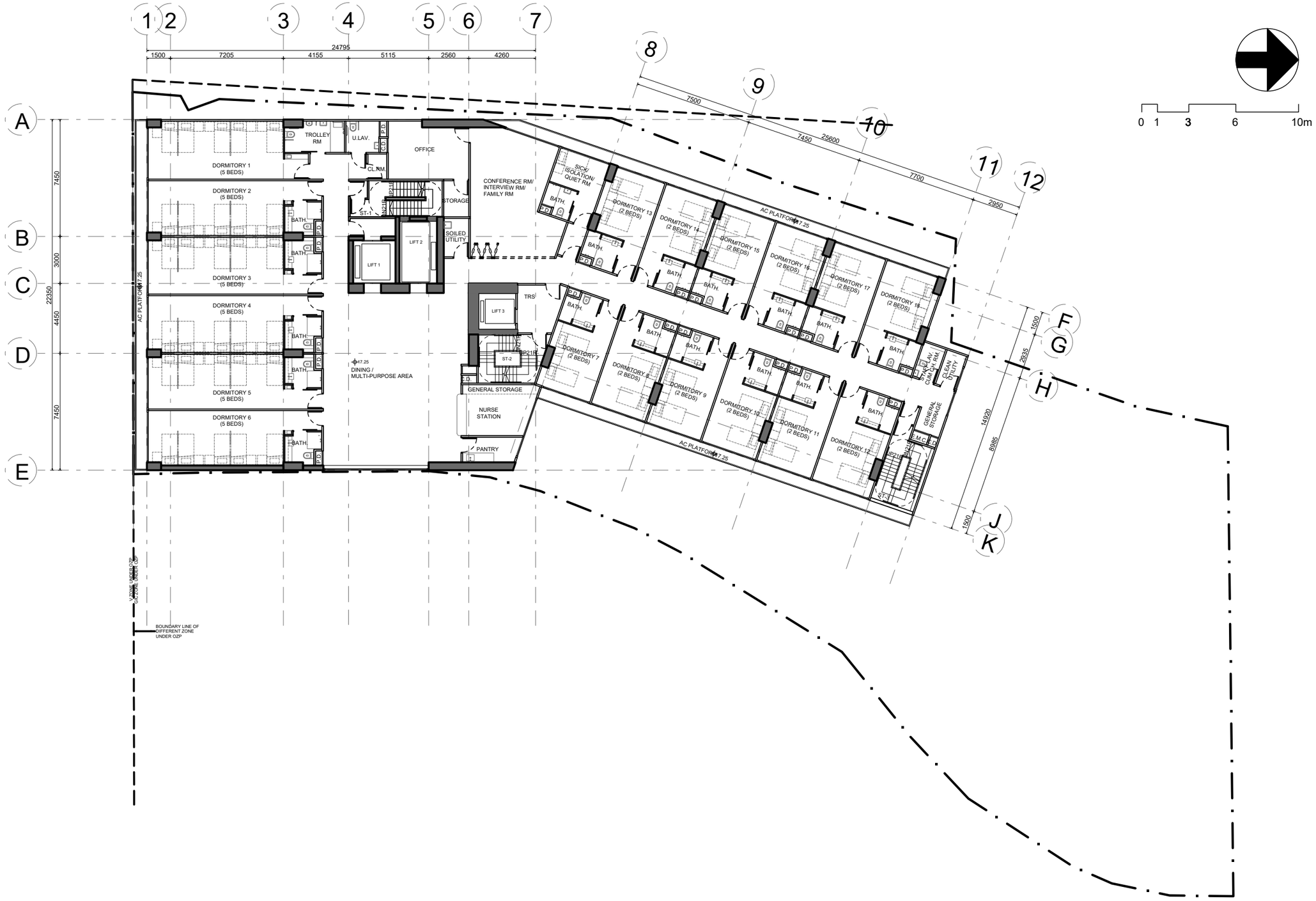
DRAWING TITLE
圖紙名稱 : 1/F LAYOUT PLAN

DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-102

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705



2/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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H	DESIGN	20230705

TOWN PLANNER & SURVEYOR
城市規劃師及測量師 :
DeSPACE (International) Limited
- E-mail 電郵 : despaceinternational@gmail.com
- Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 作室
- E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
- E-mail 電郵 : irstwong@gmail.com
- Tel 電話 : 2625 1776
- Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
- Fax 傳真 : 2399 0066
- Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

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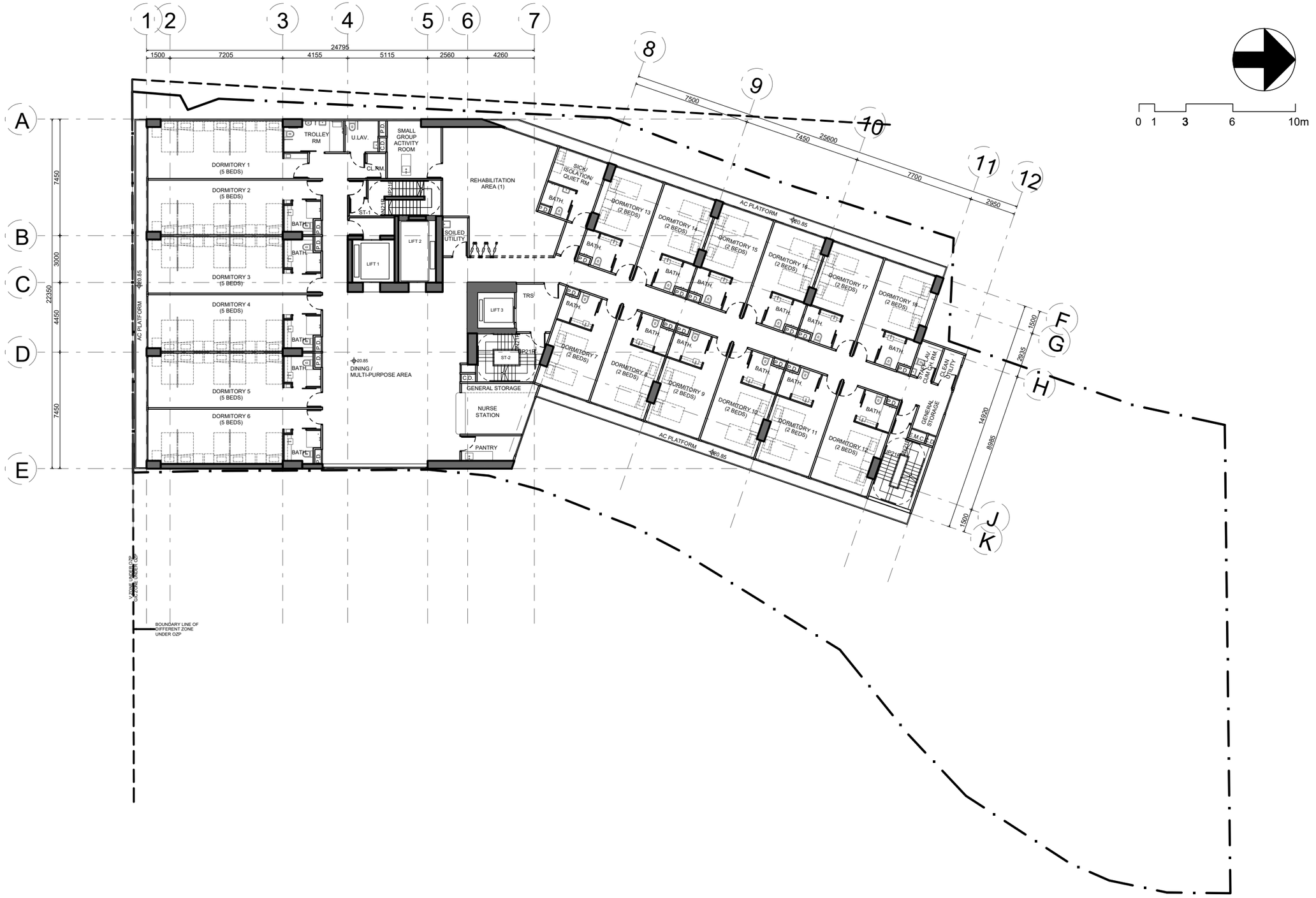
DRAWING TITLE
圖紙名稱 : 2/F LAYOUT PLAN

DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-103

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705



3/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO.
項目編號 : HK-A22006

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TOWN PLANNER & SURVEYOR
城市規劃師及測量師 :
DeSPACE (International) Limited
■ E-mail 電郵 : despaceinternational@gmail.com
■ Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 作室
■ E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
STRUCTURAL ◆ GEOTECHNICAL ◆ ARCHITECTURAL ◆ PROJECT MANAGEMENT CONSULTANT
■ E-mail 電郵 : irstwong@gmail.com
■ Tel 電話 : 2625 1776
■ Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
■ Fax 傳真 : 2399 0066
■ Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

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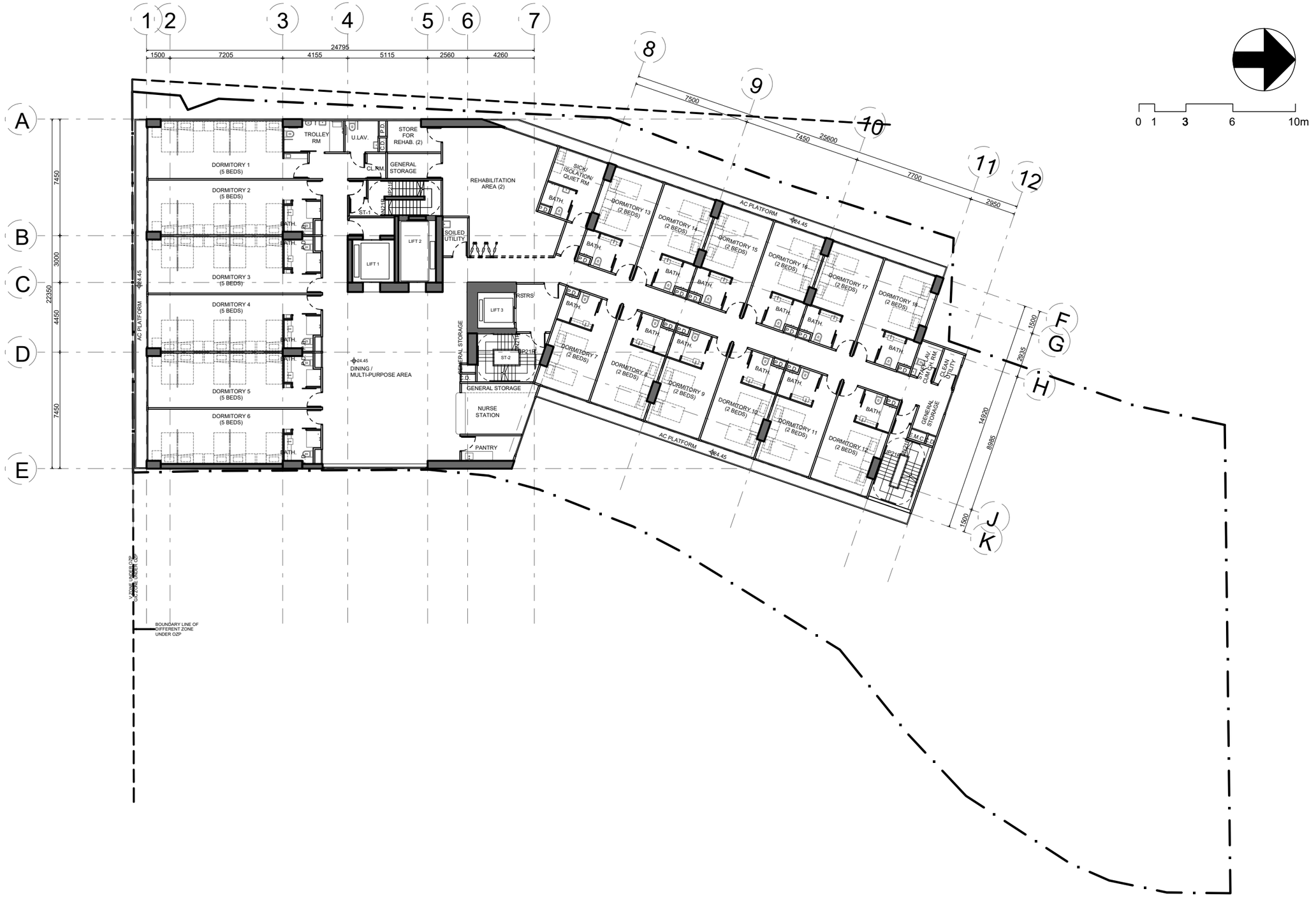
DRAWING TITLE
圖紙名稱 : 3/F LAYOUT PLAN

DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-104

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705



4/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO.
項目編號 : HK-A22006

- Do not scale drawings: figured dimensions are to be taken in preference.
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TOWN PLANNER & SURVEYOR
城市規劃師及測量師 :
DeSPACE (International) Limited
■ E-mail 電郵 : despaceinternational@gmail.com
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S.T. WONG & PARTNERS LIMITED
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E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
■ Fax 傳真 : 2399 0066
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TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME
項目名稱 :
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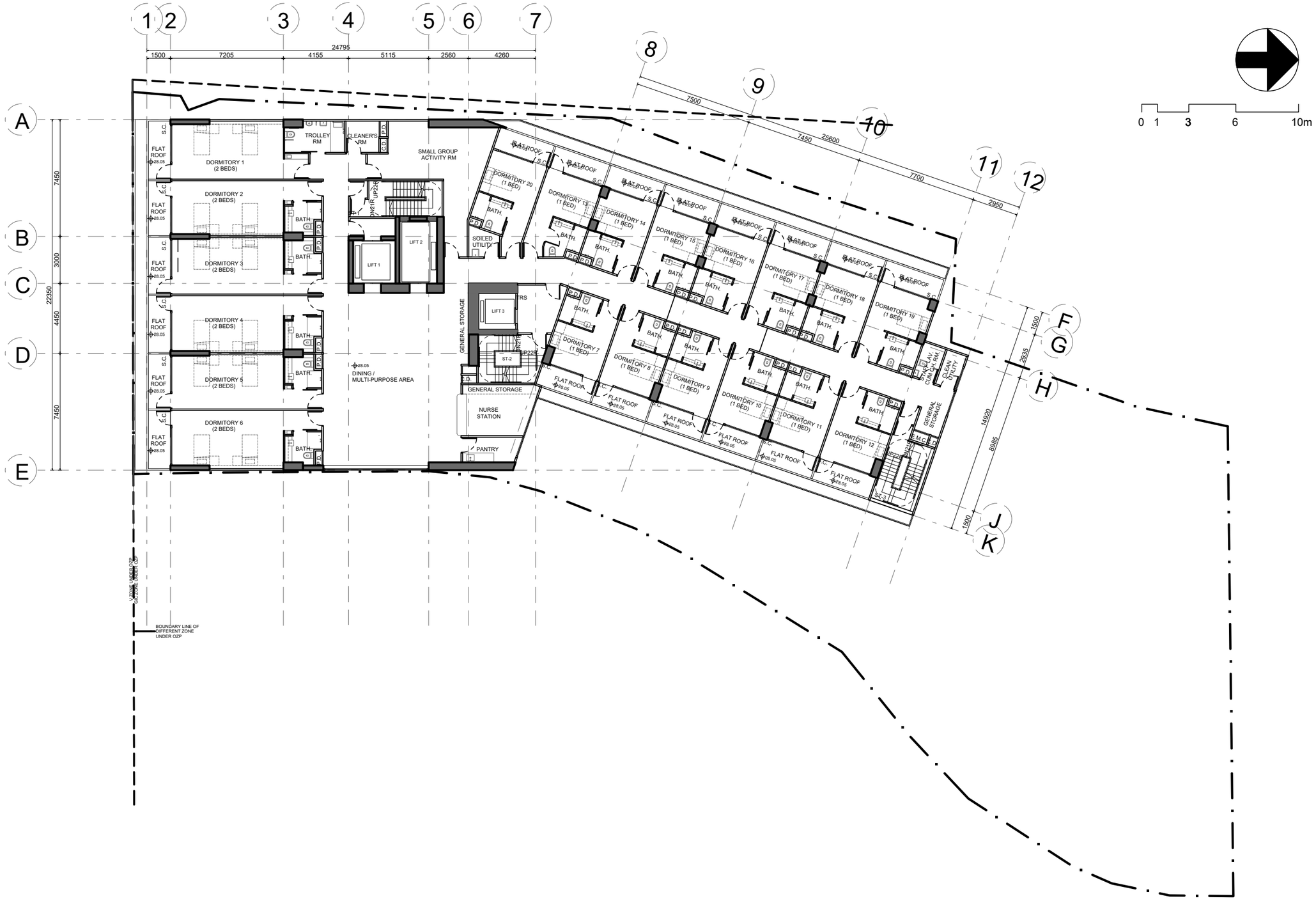
DRAWING TITLE
圖紙名稱 : 4/F LAYOUT PLAN

DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-105

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705



5/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO.
項目編號： HK-A22006

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TOWN PLANNER & SURVEYOR
城市規劃師及測量師：
DeSPACE (International) Limited
- E-mail 電郵：despaceinternational@gmail.com
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ARCHITECT 建築師：
MINOR 細 CREATIVE 作室
- E-mail 電郵：info@minorcreative.com

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E&M CONSULTANT 機電顧問：
WEC Engineering Consultants (International) Limited
- Fax 傳真：2399 0066
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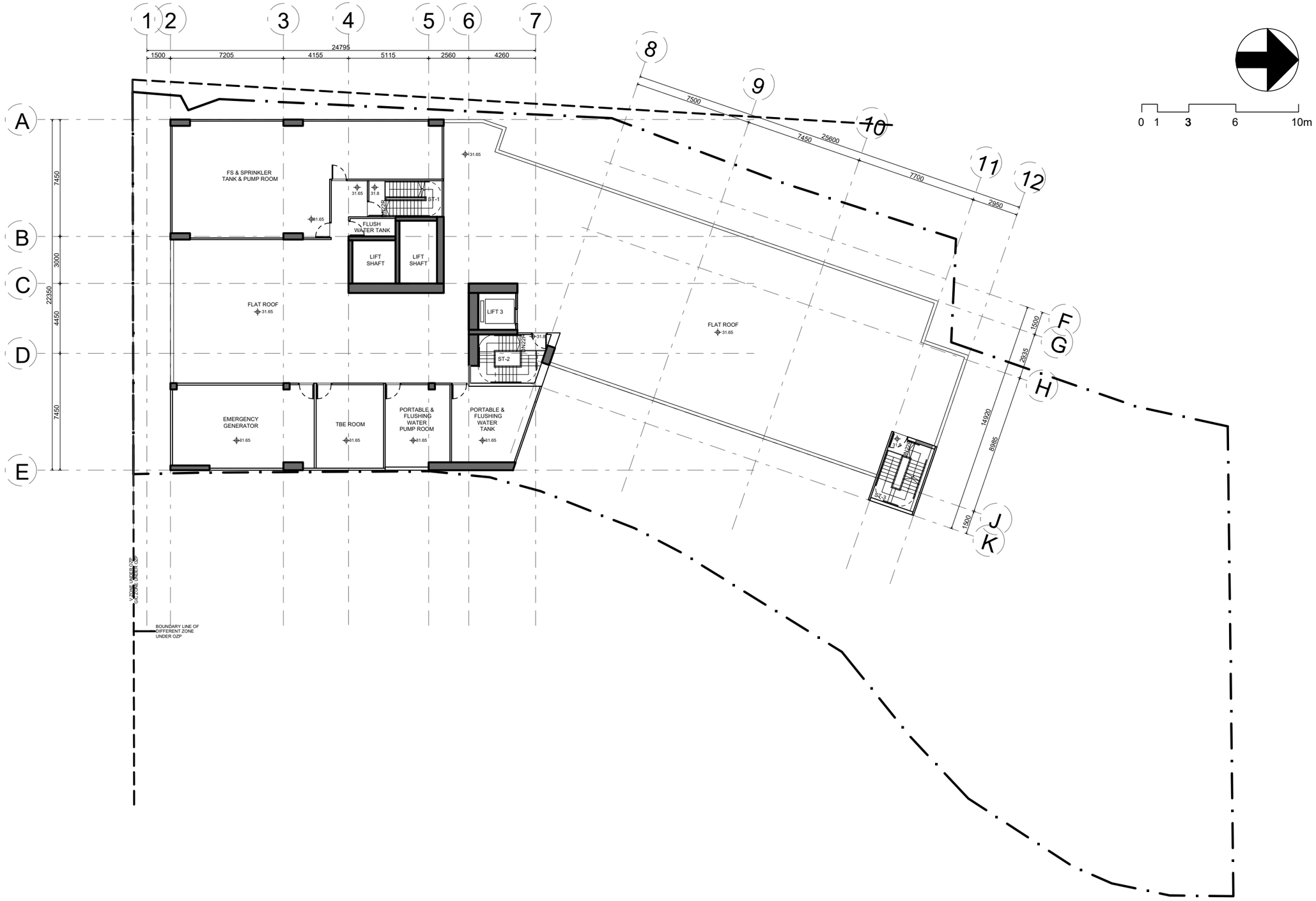
DRAWING TITLE
圖紙名稱： 5/F LAYOUT PLAN

DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號：
P-106

SCALE
比例： 1:250@A3

DATE
日期： 20230705



R/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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城市規劃師及測量師 :
DeSPACE (International) Limited
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ARCHITECT 建築師 :
MINOR 細 CREATIVE 作室
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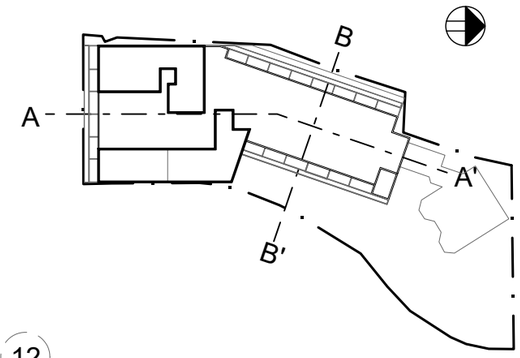
DRAWING TITLE
圖紙名稱 : R/F LAYOUT PLAN

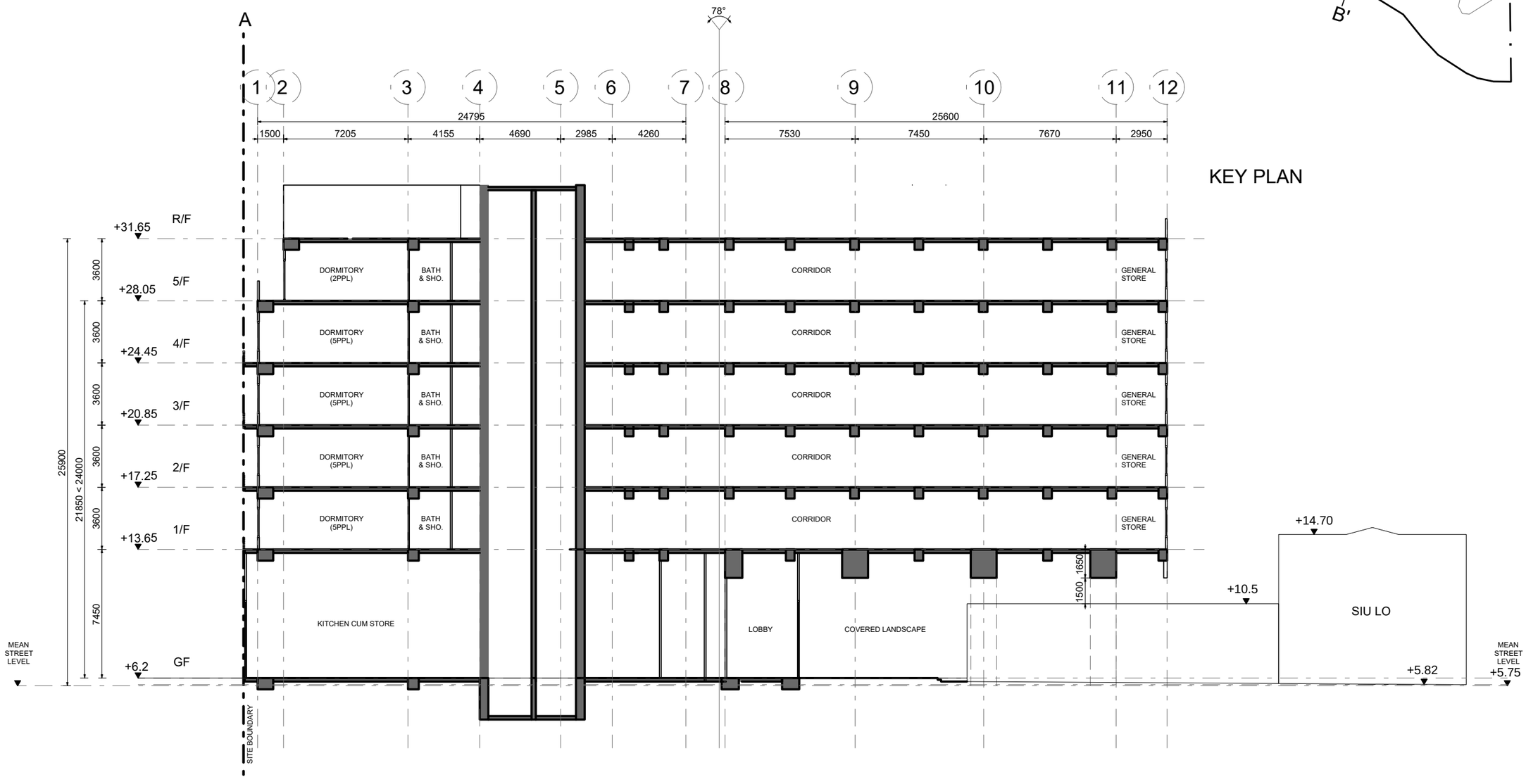
DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-107

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705





KEY PLAN

PROJECT NO.
項目編號 : HK-A22006

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H	DESIGN	20230315
I	DESIGN	20230707

TOWN PLANNER & SURVEYOR
城市規劃師及測量師 :
DeSPACE (International) Limited
E-mail 電郵 : despaceinternational@gmail.com
Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 創意
E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
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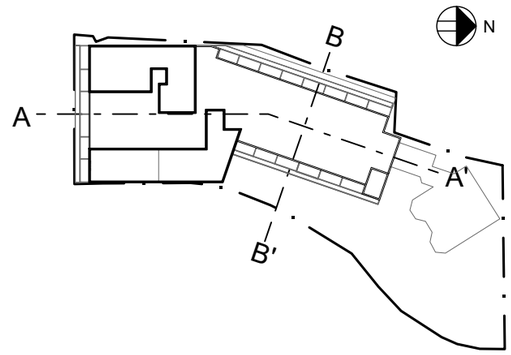
DRAWING TITLE
圖紙名稱 : SCHEMATIC SECTION A

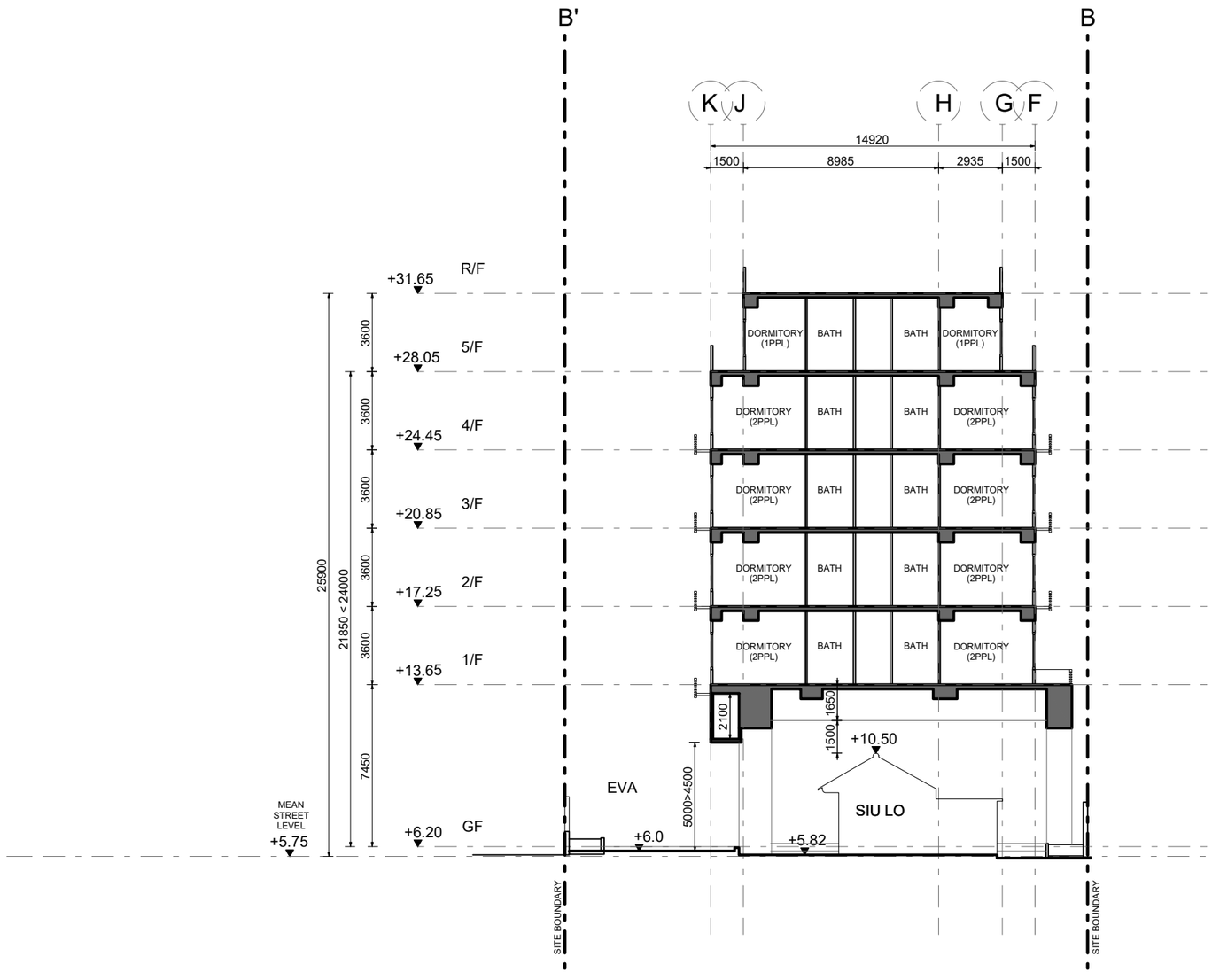
DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : S-101

SCALE
比例 : 1:250@A3

DATE
日期 : 20230707





- SCHEMATIC SECTION BB'

SIU LO RCHE 1:200

PROJECT NO.
項目編號 : HK-A22006

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DRAWING TITLE
圖紙名稱 : SCHEMATIC SECTION B

DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : S-102

SCALE
比例 : 1:250@A3

DATE
日期 : 20230707

APPENDIX 6

NOISE IMPACT ASSESSMENT

SECTION 16 PLANNING APPLICATION

PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED SOCIAL WELFARE FACILITY (RESIDENTIAL CARE HOME FOR THE ELDERLY) AND PROPOSED HOUSE USE WITH CONSERVATION PROPOSAL AT LOT NOS. 1695 S.E SS.1 RP, 1695 S.F SS.1 AND 1695 S.H RP (PART) IN D.D. 120 AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG

NOISE IMPACT ASSESSMENT

23 August 2023

Ref No: RT21220-AC-03

Submitted to:
DeSPACE (International) Limited
Suite 1601, 16/F, Tower 2,
Lippo Centre, Admiralty
Hong Kong

Prepared By:

BeeXergy Consulting Limited (BXG)
Phone: (852) 3568-4701
Address: Unit 2001-05, Apec Plaza
49 Hoi Yuen Road, Kwun Tong
Kowloon, Hong Kong
Email: info@beexergy.com

BXG

Project:	SECTION 16 PLANNING APPLICATION PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED SOCIAL WELFARE FACILITY (RESIDENTIAL CARE HOME FOR THE ELDERLY) AND PROPOSED HOUSE USE WITH CONSERVATION PROPOSAL AT LOT NOS. 1695 S.E SS.1 RP, 1695 S.F SS.1 AND 1695 S.H RP (PART) IN D.D. 120 AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG NOISE IMPACT ASSESSMENT
Report No.:	RT21220-AC-03

Revision	Issue Date	Description	Author	Checker	Approver
0	16/03/2023	Issued for Comment	LY	EN	HM
1	18/05/2023	Issued for Comment	LY	EN	HM
2	23/08/2023	Issued for Comment	LY	EN	HM

Prepared By:

Leo Yu
Consultant

Checked by

Eddy Ng
MHKIOA, MIOA, Acoustic Advisor

Approved by:

Henry Mak
Director

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- We disclaim any responsibility to the client and others in respect of any matters outside the project scope.
- This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk

TABLE OF CONTENT

1 INTRODUCTION

1.1 BACKGROUND

1.1.1. A social welfare facility for residential care home for the elderly (RCHE) has been proposed at Lot Nos.1695 S.E ss. 1 RP, 1695 S.F ss.1, 1695 S.H RP (Part) and Adjoining Government Land in D.D. 120, Tai Kei Leng, Yuen Long, New Territories (the proposed Site).

1.1.2. The Site is currently zoned “Government, Institution or Community (1)” (G/IC(1)) under the Approved Yuen Long Outline Zoning Plan (OZP) No. S/YL/25. The Proposed RCHE is an always permitted use. However, new development within the “G/IC(1)” zone is limited to a maximum building height of 3 storeys (8 storeys for "School" and "Hospital") excluding basement(s) under the OZP.

1.1.3. BeeXergy Consulting Limited (BeeXergy) was commissioned by the DeSpace (International) Limited to conduct an Noise Impact Assessment in support of the application for planning permission under Section 16 of the Town Planning Ordinance (Cap. 131) for the proposed development at various Lots in D.D.120, Tai Kei Leng, Yuen Long.

1.1.4. The master layout plan (MLP) is provided by the project architect (Cupio Design Studio Limited). The traffic forecast for road traffic noise impact assessment is provided by the project traffic consultant (CTA Consultants Limited).

1.2 THE PROPOSED DEVELOPMENT

1.2.1. The proposed Site area is approximately 1,877m^2 and it is located to the north of Shap Pat Heung Road and to the west of Tai Tong Road, as shown on **Figure 1**. The Site is currently occupied by a temporary public car park and a Grade 3 historic building 'Siu Lo'.

1.2.2. The site is generally surrounded by scattered building structures including village buildings and warehouse.

1.2.3. The Proposed Development is a 6-storey RCHE which comprises a total 241 (or within a range of 220-260) bed spaces, multi-purpose rooms, nursing stations, a management office and an ancillary gym room. The layout plan of the proposed Site is provided in **Appendix 1.**

1.2.4. The anticipated year of construction completion and occupation is 2025.

1.3 THE SCOPE OF WORKS

1.3.1. The scope of works for this assessment will cover the following:

- to identify noise sources and sensitive uses;
- to collate available information on the site and immediate surroundings;
- to assess the potential traffic noise impacts during operation; and
- to recommend suitable mitigation measures where necessary.

2 ROAD TRAFFIC NOISE ASSESSMENT

2.1 INTRODUCTION

2.1.1. This section presents the assessment of potential traffic noise impacts associated with the operation phase of the proposed development. During the operation phase, road traffic would be the major source of noise pollution. Representative noise sensitive receivers (NSRs) of the proposed development have been identified and potential impacts have been assessed. Suitable mitigation measures where necessary have been recommended to safeguard the representative NSRs.

2.2 TRAFFIC NOISE STANDARD

2.2.1. The Hong Kong Government’s overall noise policy objectives for new developments are based on prescribed noise standards which apply to building that rely on openable windows for ventilation. It is confirmed that all rooms included dormitory and multi-purpose rooms in the development will not be used for educational uses nor diagnostic rooms/wards. The maximum permissible road traffic noise level at noise sensitive building facades specified in the Hong Kong Planning Standards and Guidelines (HKPSG) is as follows:

$L_{10(1\ hour)}$ 70dB(A), for all domestic and office developments

2.3 ASSESSMENT METHODOLOGY

2.3.1. In this assessment, the potential noise impact arising from nearby existing and future road carriageways on the development has been assessed. It involved the prediction of future noise impacts on Noise Sensitive Receivers (NSRs) arising from traffic flows along existing and future road carriageways situated within or in the vicinity of the subject site. Calculations of predicted road traffic noise were based on the peak hour traffic flows projected within a 15-year period from the target completion date of the proposed development, year 2025. For worst-case scenario evaluation, the assessment year was chosen to be year 2040, which has the maximum forecasted traffic data within 15-year period. The year 2040 traffic data and TD agreement with traffic consultant confirmation are attached in **Appendix 2.1**.

2.3.2. The U.K. Department of Transport’s procedure “Calculation of Road Traffic Noise” was used to predict the hourly L10(1-hour) noise levels generated from road traffic at selected representative NSRs. Practicable environmental mitigation measures have been recommended, where necessary. The predicted noise levels were compared with the relevant HKPSG noise standards (i.e. L10(1-hour) 70dB(A)).

2.3.3. The predicted 2040 peak hour traffic data on the main road carriageways surrounding the Site. Other road carriageways are either with very little traffic volume or already shielded by other buildings in the vicinity so that the impact derived from these road carriageways is considered insignificant. All roads are assumed of impervious surface with speed limit of 50km/hr in this assessment.

2.4 NOISE SENSITIVE RECEIVERS

2.4.1. A number of Noise Sensitive Receivers (NSRs), which are likely to be subject to adverse traffic noise impacts, were selected for the assessment. All assessment points were taken at 1.2m above the floor and 1m away from the facade of openable windows (which would be for ventilation purpose) of rooms including mainly dormitory rooms, office and multi-purpose rooms. **Appendix 2.2** shows the locations of the selected NSRs for traffic noise impact assessment.

2.5 EXISTING NOISE ENVIRONMENT

2.5.1. The existing noise environment of the proposed Site is primarily affected by the local traffic. Traffic noise generated from the existing Tai Tong Road and Shap Pat Heung Road would contribute significantly to the ambient noise environment within the proposed Site.

2.6 TRAFFIC NOISE SOURCES AND EVALUATION OF IMPACTS

ROAD TRAFFIC NOISE IMPACT EVALUATION – BASELINE SCENARIO

2.6.1. Quantitative road traffic noise impact assessment has been carried out and compared against the criterion for NSRs (habitable rooms) in the proposed Site without implementation of noise mitigation measures. Noise levels were calculated at each receiver point at 5 elevations (i.e. G/F to 5/F). Predicted traffic noise levels of the habitable rooms at various floor levels are provided in **Appendix 2.3**. Predicted maximum traffic noise levels for each house are shown in **Table 2.1** below.

Table 2.1 Summary of Baseline Scenario Traffic Road Noise Prediction Results (Year 2040)

Predicted Noise Level, dB(A)	No. of NSR
Lower than 70	88
Higher than 70	29
Total	117

2.6.2. As shown in **Table 2.1**, the predicted L10(1-hr) noise levels of 29 NSRs exceeded the criterion of 70 dB(A). Shap Pat Heung Road and Tai Tong Road are identified as the major noise source. Mitigation measures are therefore required to be implemented so as to alleviate the traffic noise impact on habitable rooms in those affected dormitories.

2.7 PROPOSED NOISE MITIGATION MEASURES

2.7.1. The road traffic noise impact assessment was conducted based on the Master Layout Plan. In view of the environmental setting of the proposed plan, the current layout plan has been optimized by the following building design consideration in order to minimize the potential noise impacts from the nearby road network. The location of the proposed mitigation measures is presented in **Appendix 2.4**.

Acoustic Window (Baffle Type)

2.7.2. Acoustic window (baffle type) will be provided for the NSRs on the first to fifth floor of the proposed Site to reduce the noise impact. A baffle type acoustic window comprises of two layers of windows. The outer layer of window comprises of openable window(s) for ventilation purpose. The inner layer of window is a parallel sliding glass panel. The openable window will be arranged away from the road to ensure maximum noise reduction effect of the acoustic window. The sliding glass panel shall normally be positioned behind the openable window(s) for noise reduction purpose.

2.7.3. Reference has been made to the previous residential development at North Point with in-situ noise attenuation test result of 8.8dBA achieved. The case at living room with sliding panel behind balcony opening is analogous to baffle type acoustic window. The design of habitable rooms of the proposed Site will be based

on the case in North Point Estate with key parameters (i.e. air gap width, overlapping length, openable area) the same as or not worse than the reference case. It is anticipated that the reduction in noise attenuation performance with the smaller room size will be offset. Hence, a 4dBA reduction in noise attenuation performance will be expected. For a conservative approach, a 4 dBA noise reduction was adopted throughout the noise assessment whenever these baffle type acoustic windows are used. Detailed parameters of the proposed acoustic window design are provided in **Appendix 2.5.**

2.7.4. At the detailed design stage, more technical data will be provided for the proposed acoustic window. The design of the proposed acoustic window will meet the relevant natural ventilation requirements under the Building (Planning) Regulations. In accordance with the Practice Note on Lighting and Ventilation Requirements - Performance-based Approach (APP-130) (December 2016) issued by the Buildings Department, for optimum performance with the inner sliding glass panel in a closed position, the air gap should have a length of not greater than 100mm and a width not less than 275mm. The length and width of the air gap of the proposed acoustic window also meet these conditions. The Project Authorised Person shall be responsible to ensure that the current baffle type acoustic window meets all the relevant Buildings Ordinance requirements.

2.8 ROAD TRAFFIC NOISE IMPACT EVALUATION - MITIGATED SCENARIO

ROAD TRAFFIC NOISE IMPACT EVALUATION – MITIGATED SCENARIO

2.8.1. In order to reduce the traffic noise at those affected dormitories, practicable and effective noise mitigation measures including the provision of acoustic window (baffle type) will be adopted. Predicted traffic noise levels of the habitable rooms after implementation of the noise abatement measures are tabulated in **Appendix 2.6.** Predicted maximum traffic noise levels for each sensitive room is shown in **Table 2.2** below.

Table 2.2 Summary of Mitigated Road Traffic Noise Prediction Results (Year 2040)

Predicted Noise Level, dB(A)	No. of NSR
Lower than 70	117
Higher than 70	0
Total	117

2.8.2. With the incorporation of the schedule of noise mitigation measures, the predicted $L_{10(1\text{-}hr)}$ noise levels of all dormitories are not exceeding 70dB(A) as shown in **Table 2.2**. The traffic noise impact assessment results indicated that all NSRs (habitable rooms) would comply with the HKPSG noise criterion of 70dB(A) $L_{10(1\text{-}hr)}$ and 100% compliance rate would be achieved.

3 INDUSTRIAL IMPACT NOISE ASSESSMENT

3.1 INTRODUCTION

3.1.1. This section presents the assessment of potential fixed noise impacts associated with existing fixed noise sources nearby and planned fixed noise sources of the proposed Site. Practicable noise mitigation measures would be recommended, where necessary.

3.2 ASSESSMENT CRITERIA

3.2.1 The proposed Site is mainly surrounded by existing low density residential area consisting of low-rise developments, factories and storage warehouses of which the area is zoned as "Government, Institution or Community". Additionally, the annual average daily traffic flow of Tai Tong Road is less than 30,000 according to the Annual Traffic Census 2020. Therefore, they are not considered as IFs in accordance with the *Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites* (herein referred to as "IND-TM) and the type of the area where the subject site located is considered to be "Type (iv) Area other than those above" with NSR at such location is not affected by influencing factor (IF).

3.2.2 In view of the existing nature of the environment as described above, the Area Sensitivity Rating "**B**" is adopted as the assessment criteria. Noise standards of 65dB(A) and 55dB(A) are adopted for daytime and night-time respectively for the evaluation of the noise impact from the existing fixed noise sources on the proposed development.

3.2.3 Operational noises from planned fixed noise sources are controlled under the NCO's TM on IND-TM. To plan for better environment, The HKPSG has specified the following requirements for the planned fixed noise sources, whichever is more stringent.

- 5dB(A) below the appropriate Acceptable Noise Levels (ANLs) in the IND-TM; and
- The prevailing background noise levels.

Site visit were conducted on 15 June 2020, 11, 17, 23, 29 March 2022 from which the background noise environment is mainly dominated by the road traffic noise from Tai Tong Road. Prevailing background noise measurement was conducted in 17 Mar 2022 for both daytime/ evening time and night-time periods. The weather was fine during measurement. The background noise measurement methodology shall be referred to the IND-TM, Background noise measurements was conducted continuously for 1 hours at assessment point at 1.2m height above ground, during day-time (0700 to 1900 hours), evening-time (1900 to 2300 hours) and night-time (2300 to 0700 hours). The selected measurement locations and time period have taken into account of the traffic flow of the adjacent road without nuisance of other influencing intrusive noise such as construction noise to ensure measured noise level was obtained at the quietest period of time.

The sound level meters are in compliance with International Electrotechnical Commission (IEC) Publications 61672 (Type 1) and will be used with the manufacturer recommended wind shield. All equipment and instruments to be adopted for the monitoring are summarized in **Table 3.1**, calibration certificate is shown in **Appendix 3.5**. Immediately prior to the noise measurement, the accuracy of the SLM shall be checked using an acoustic calibrator generating

114dB(A) at frequency of 1000Hz. Measurements shall be accepted as valid only if the calibration levels from before and after the acoustic measurement agree to within 1.0dB(A). Noise measurement will not be made in the presence of fog, rain and wind with a steady speed exceeding 5ms^{-1} or wind with gusts exceeding 10ms^{-1}. The equipment setup for noise measurement at assessment points is shown in **Appendix 3.6**.

Due to safety and inaccessibility issues, the measurement locations were selected nearby existing representative noise sensitive receivers as shown in **Figure 2**. The noise climate at the measurement location was considered similar to that at the existing representative noise sensitive receivers as shown. **Table 3.2** summarized measured prevailing background noise levels in L_{Aeq} (1hr) and L90 (1hr).

Table 3.1 Measured background noise levels for existing NSRs

Equipment	Model No.	Serial No.	Expiry Date
Sound Level Meter	Svantek SVAN979	46199	16 November 2022
Sound Level Meter	CR:171B	G071909	26 November 2022
Acoustic Calibrator	Svantek SV35A	58708	12 May 2022

Table 3.2 Measured background noise levels for existing NSRs

Period	Measurement Location	Measured Noise Level, dB(A)	
		$L_{Aeq, 1\ hrs}$	$L_{90, 1hrs}$
Day Time	BG 1	53.8	49.1
	BG 2*	56.3	50.9
Evening Time	BG 1	49.2	41.3
	BG 2*	60.0	45.0
Night Time	BG 1	49.0	39.5
	BG 2*	49.0	44.0

Notes:
*(1) * A +3 façade correction is included for free-field measurement*

3.2.4 **Table 3.3** shows the details of the industrial noise impact assessment criteria for this study.

Table 3.3 Industrial Noise Standard for existing fixed noise sources

Time Period	Measured $L_{90, 1\ hrs}$	ANL-5*	Adopted Noise Assessment Criteria
Day/Evening-time (07:00 – 23:00)	41.3dB(A)	60dB(A)	41dB(A)
Night-time (23:00 – 07:00)	39.5dB(A)	50dB(A)	39dB(A)

Notes:
*(1) *Acceptable Noise Level for Area Sensitivity Ratings "B" stipulated in the Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites.*
(2) In any event, the Area Sensitivity Rating 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 sources is controlled under Section 13 of the NCO. Therefore, the Noise Control Authority shall determine fixed plant noise impact 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 from fixed sources in this report shall not bind the Noise Control Authority in the context of law enforcement against any of the industrial noise being assessed.

3.3 NOISE SENSITIVE RECEIVERS

3.3.1 The assessment area for noise impact should generally be defined by a distance of 300m from the site boundary. These NSRs include both the existing and planned sensitive developments.

3.3.2 The representative existing and planned NSRs are identified by means of reviewing topographic maps, aerial photos, land status plans, relevant Outline Zoning Plans (OZP), Outline Development Plans, Layout Plans and other relevant published land use plans, including plans and drawings published by Lands Department and land use and development applications approved by the Town Planning Board, and supplemented by site inspections.

3.3.3 With reference to the RNTPC Paper No. A/YL/252A for Proposed Composite School and Religious Institution (Church) Development in Yuen Long Baptist Church, it is noted that the eastern, southern and northern sides of the building will be installed with fixed windows and will not rely on openable window for ventilation. Therefore, the Yuen Long Baptist Church is not considered as an NSR. The RNTPC Paper is extracted in **Appendix 3.7**.

3.3.4 The representative NSRs of the proposed Site are identified in **Table 3.4** and presented in **Figure 2**.

Table 3.4 Representative NSRs

NSR	Location	Type of use	No. of storey	Distance form site boundary (m)
N01	Village House	Residential	1	15
N02	Village House	Residential	2	50
N03	Village House	Residential	2	31
B4	Proposed Development	Residential	5	-
B8		Residential	5	-
B18		Residential	5	-
H4	Siu Lo	Residential	2	-

3.4 IDENTIFIACTION OF FIXED NOISE SOURCES IMPACT

Existing Fixed Noise Source

3.4.1 Desktop review and site inspection was carried out on 15 June 2020, 11, 17, 23, 29 March 2022 to identify any potential fixed plant noise source in the vicinity of the proposed Site and justify their operation hour. During the site survey, Man Cheong Metals and Building Materials Company Limited, Evergetic Development Co. Ltd., six vehicle repairing workshops, a motor service centre, three storage warehouses, a Hang Heung Cake Factory, Tai Sang Animals Feeds Factory, a machinery repair workshop, a Caltex Gas Station were identified within 300m from the proposed Site. A planned Petrol cum LPG Filling Station was also identified from the document of Proposed Amendments to the Approved Yuen Long Outline Zoning Plan No. S/YL/21 (Ref. RNTPC Paper No. 9/15). The locations of the identified potential fixed plant noise sources are shown on **Figure 3**. The photo records of identified fixed noise sources are provided in the **Appendix 3.1**.

3.4.2 Man Cheong Metals and Building Materials Company Limited and Evergetic Development Co. Ltd. were identified share the same entrance during site inspection. The operation of the two company involved loading and unloading activities. Two forklifts were observed in operation, each company served by one forklift. No evening or night time operation was observed. Thus, it is considered as a potential noise source.

3.4.3 A total of six repair workshops for repairing vehicle and motor service centre were identified during site inspection. The operation of the shops mainly involved grinding, hammering and air-compressor noise, no high-powered mechanical equipment was used in operation of all workshops. Measurements were taken when detectable noise level was perceived at locations where influences from other noisy activities were as minimal as possible. No evening or night time operation for all workshops was observed.

3.4.4 Three storage warehouses with no observable noisy activity were identified in the far southwest of the proposed site during site inspection (>100m). In addition to the distance attenuation, all of the warehouses were under sheltered or enclosed environment which provide a shielding effect to minimize the noise transmitted to the surrounding environment. No evening or night time operation for all warehouses was observed. Therefore, they are not considered as potential noise source.

3.4.5 A Hang Heung Cake factory was identified during site inspection. No operation was observed during day-time, evening-time and night-time. Three cooling towers were observed during the site visit, no detectable noise was generated. Therefore, it is not considered as a potential noise source. For conservative approach, the sound power level of previous S.16 application was adopted in the assessment.

3.4.6 An animals feeds factory was identified during site inspection. Window typed air conditioners and exhaust fan were identified during the site survey while no noticeable noise was perceived. No evening or night time operation for the factory was observed. In addition, no direct line of sight from the proposed Site is expected due to the obstruction of the Hang Heung Cake Factory. Therefore, it is not considered as a potential noise source.

3.4.7 A machinery repair workshop was identified located west to the proposed site. No noticeable noise was perceived. No evening or night time operation of the

workshop was observed. Therefore, they are not considered as potential noise source. For conservative approach, the sound power level of previous S.16 application was adopted in the assessment.

3.4.8 A Caltex gas station with 24-hour operation was identified during site inspection. Split-typed air conditioners were identified, no detectable noise was observed during the site survey. No noisy activities was observed during night time. Therefore, it is not considered as a potential noise source. For conservative approach, the sound power level of previous S.16 application was adopted in the assessment.

3.4.9 According to the document of Proposed Amendments to the Approved Yuen Long Outline Zoning Plan No. S/YL/21 (Ref. RNTPC Paper No. 9/15), a planned Petrol cum LPG Filling Station will be located in the far southwest (>250m) to the proposed Site. No direct line of sight from the proposed Site is expected due to the obstruction of the future youth hostel. With a large distance attenuation, it is not considered as a potential noise source. For conservative approach, the sound power level of Caltex gas station of previous S.16 application was adopted in the assessment.

3.4.10 The location of existing fixed plant noise source is provided in **Figure 4.** Existing fixed noise source identified on-site and the respective SWL are provided in **Appendix 3.4**.

Planned Fixed Noise Source

3.4.11 The information regarding the sound power level and the quantity of the unitary A/C unit is not available from project proponent at this time. The assessment approach is to specify a maximum cumulative allowable sound power level of the plant equipment which is determined by backward calculation with a known maximum allowable impact sound level i.e. the adopted criteria. The proposed maximum cumulative allowable sound power level shall be applicable at any point measured at the site boundary of the proposed development.

3.4.12 The proposed maximum allowable Sound Power Level of the planned fixed noise sources are shown in **Table 3.5**. For the planned fixed noise sources, tonality correction of 3 dB(A) has been applied for conservative approach. Detailed calculation of the Maximum Allowable Sound Power Level (SWL) of the corresponding planned fixed noise sources is provided in **Appendix 3.2**. The maximum allowable SWLs of the planned fixed noise sources would be specified in the specification during design and tender stage for noise control purpose The project applicant shall be responsible to ensure compliance of requirements as stipulated in the HKPSG and the NCO.

Table 3.5: Maximum Cumulative Allowable SWL of Planned Noise Sources at site boundary

Noise Source	Maximum Cumulative Allowable Sound Power Level (SWL), dB(A)	
	Day-time	Night-time
Building Equipment in the Proposed site	67	65

3.5 ASSESSMENT RESULTS

3.5.1 Assessment results for each NSRs at day/evening-time and night-time periods are summarized in **Table 3.6**. Detailed calculations are shown in **Appendix 3.3**.

Table 3.6: Predicted Fixed Noise Level at NSRs of the Site due to Existing Noise Source

Representative Noise Sensitive Receiver ID	Existing Fixed Noise Source		Noise Criteria, (Daytime and Evening-time / Night-time), dB(A)	Comply?
	Predicted Noise Level, Leq,dB(A) (Daytime and Evening-time)	Predicted Noise Level, Leq,dB(A) (Night-time)		Y/N
B4	58	34	65/55	Y
B8	55	36	65/55	Y
B18	63	46	65/55	Y
H4	57	23	65/55	Y

3.5.2 The assessment results indicate that the maximum predicted noise level at the existing fixed noise sources is Leq 63 dB(A).

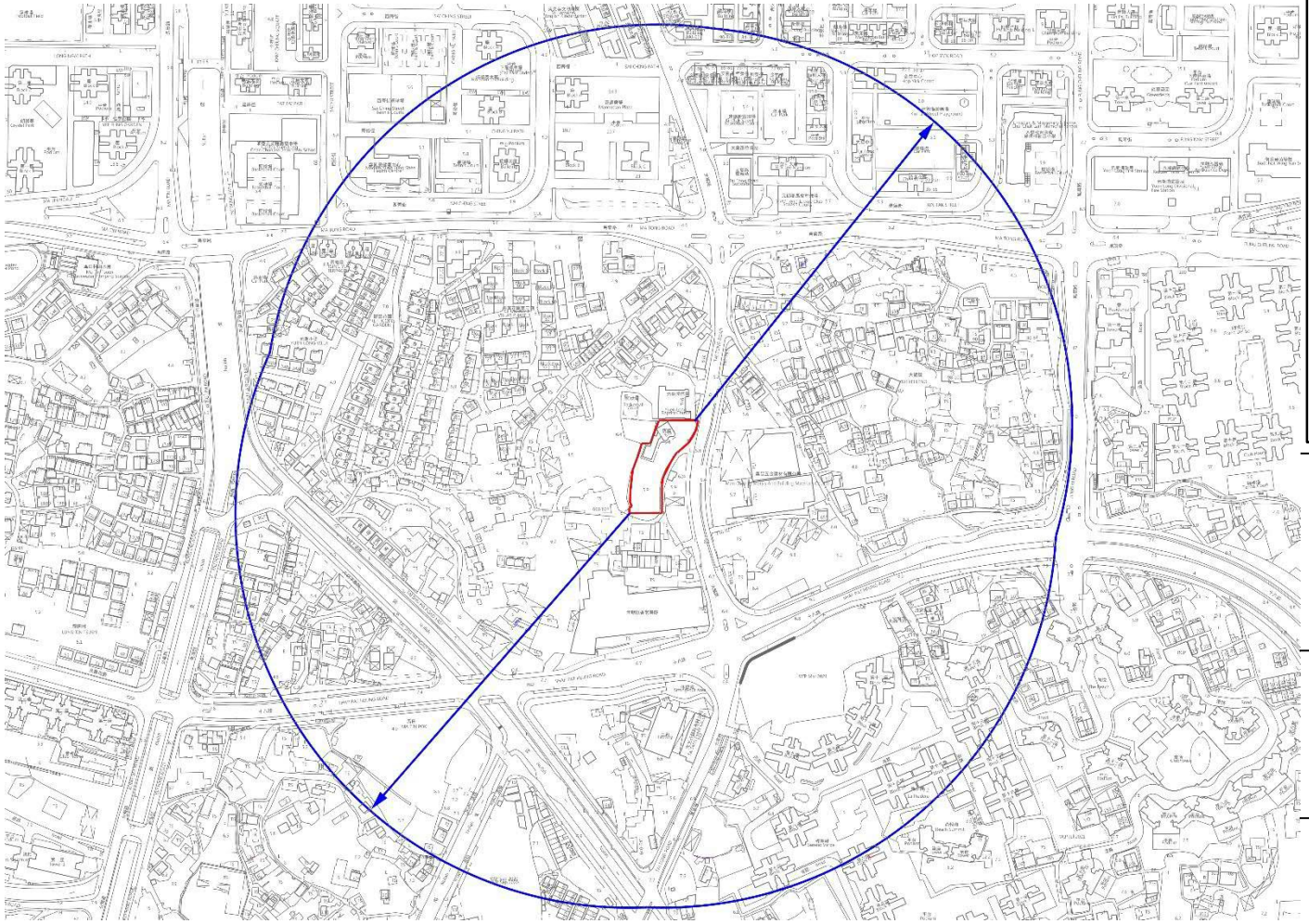
3.5.3 The predicted noise levels comply with the respective standards as stipulated in IND-TM. Therefore, the Proposed Development will not be subject to adverse noise impact from fixed sources.

4 CONCLUSION

4.1 Road traffic impact assessment and fixed noise impact assessment have been conducted for the proposed development.

4.2 Road traffic would be the major source of noise nuisance during the Project operation. After implementation of recommended mitigation measures, the predicted noise levels at all residential units comply with HKPSG $L_{10(1\ hour)}$ 70dB(A) noise criterion.

4.3 Fixed noise impact assessment has been carried out. The future residents are subjected to noises from the nearby vehicle repairing workshops and warehouses, as well as the planned fixed plant of the proposed Site. Based on the findings of site investigation and assessment results, the predicted fixed noise levels of the proposed Site would comply with the relevant noise criteria.



Legend

Proposed Site

300m Assessment Area

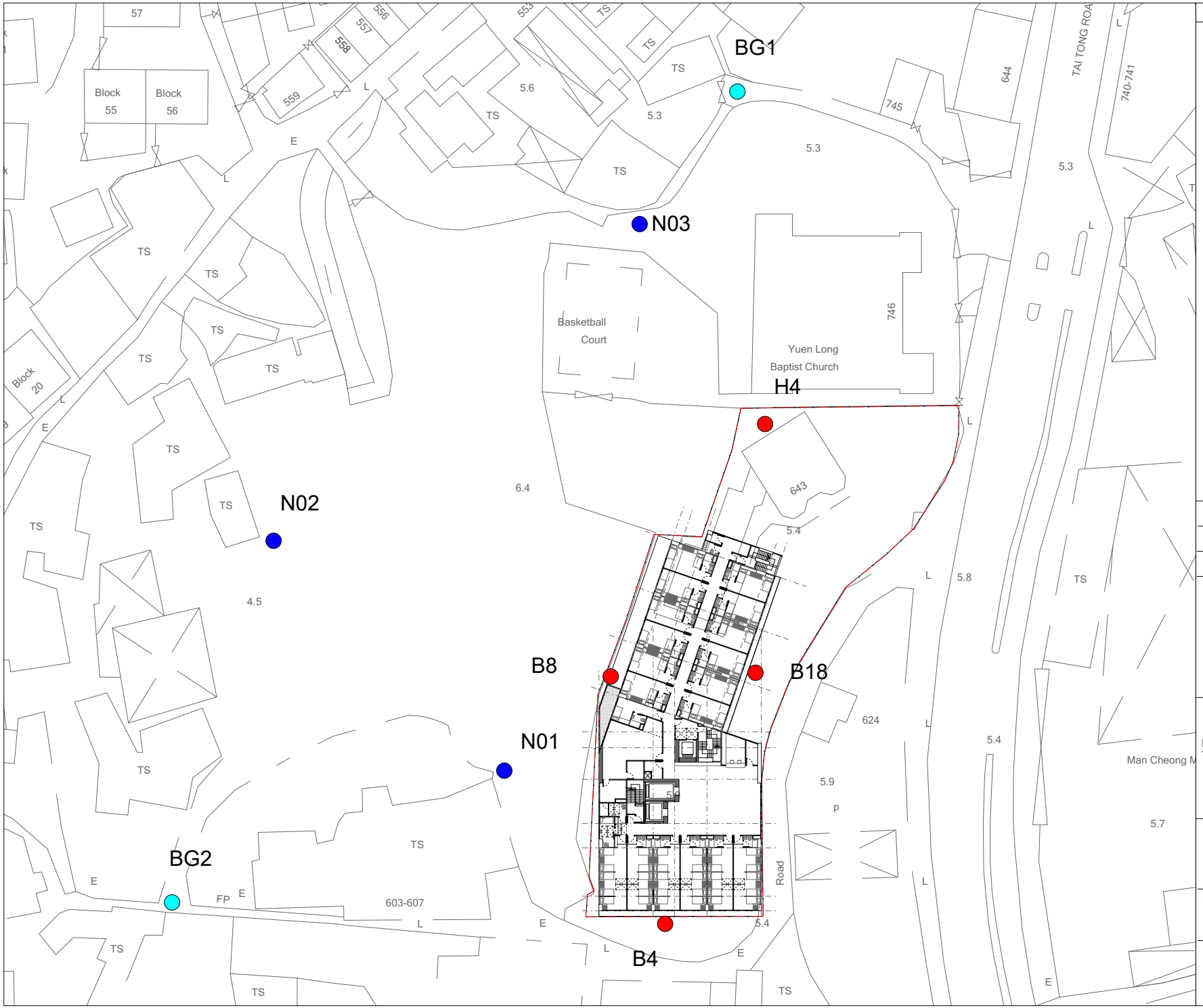
Drawing Title

Figure 1

Site Location

Date

25 Nov 2021



LEGEND:

- Site Layout
- Existing NSR
- Planned NSR
- Background Noise Measurement

	Prepared	Checked	Approved
Initial	LY	CC	YS
Date	20230224	20230227	20230228

DrawingTitle

PLANNED AND EXISTING NSRS OF THE PROPOSED SITE

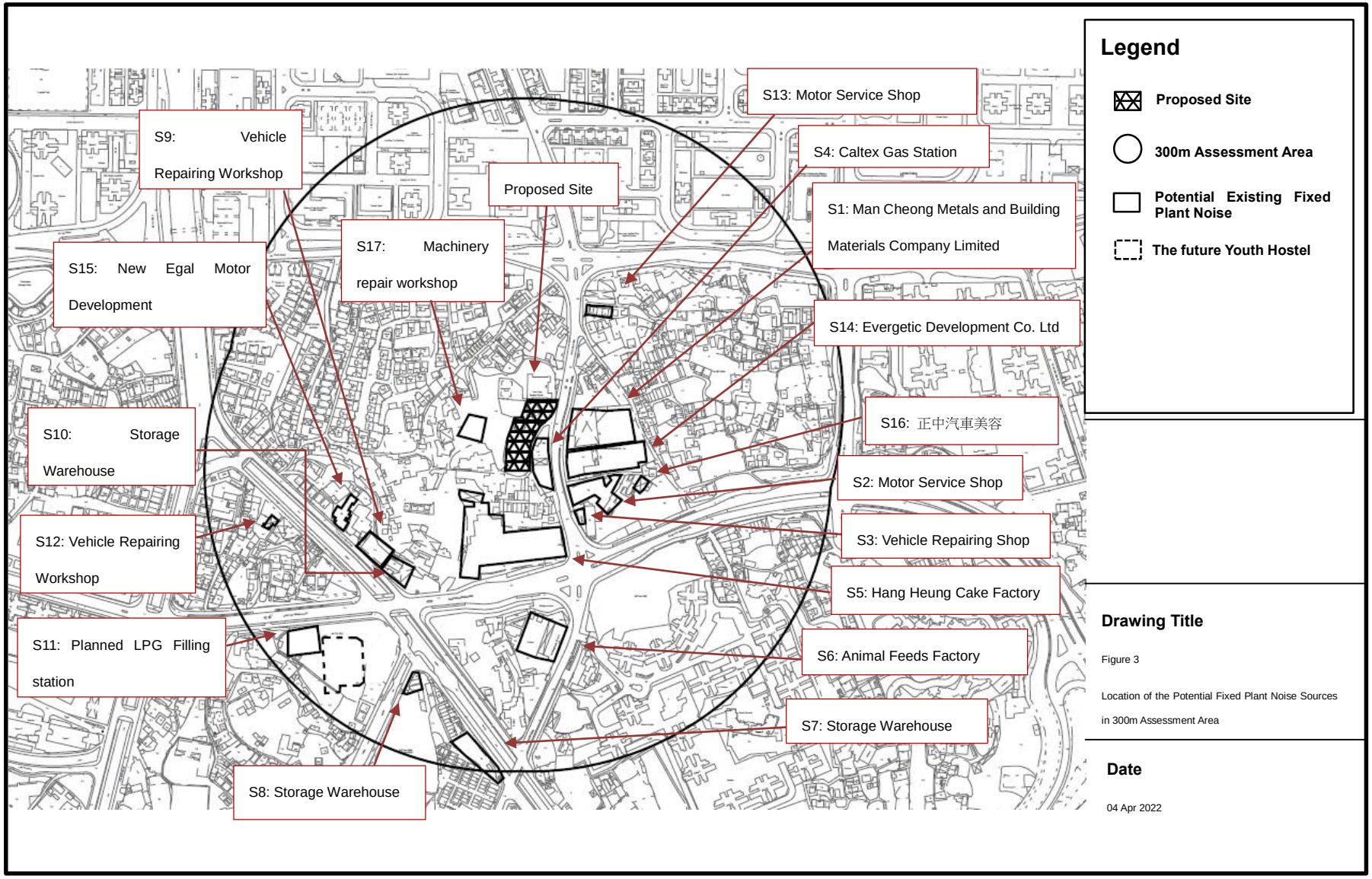
Drawing No.	Rev.
FIGURE 2	0

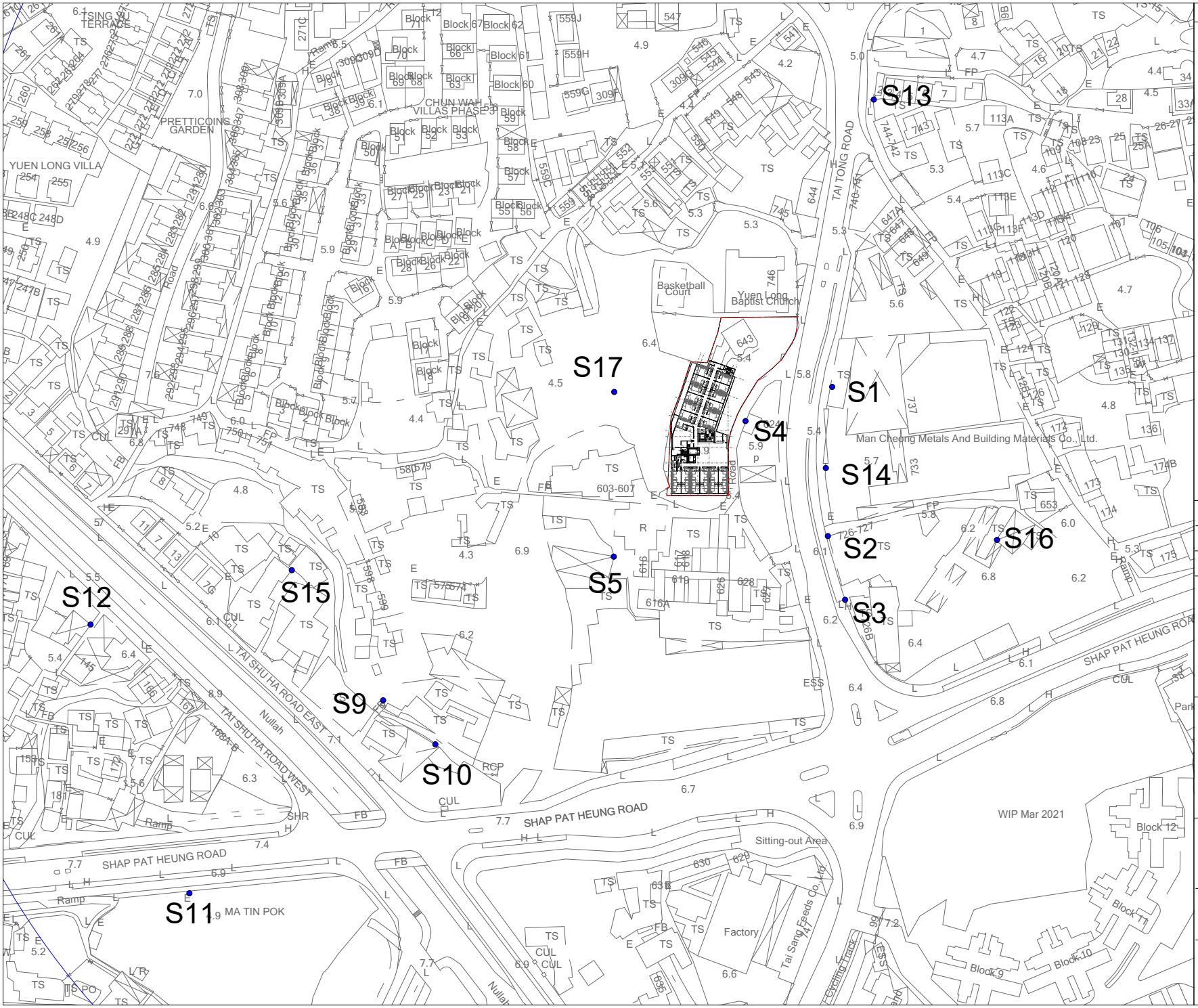
Scale:

A4 - 1:700

BXG

BeeXergy Consulting Limited


S13: Motor Service Shop
S9: Vehicle Repairing Workshop
S4: Caltex Gas Station
Proposed Site
S1: Man Cheong Metals and Building Materials Company Limited
S17: Machinery repair workshop
S15: New Egal Motor Development
S14: Evergetic Development Co. Ltd
S16: 正中汽車美容
S10: Storage Warehouse
S2: Motor Service Shop
S12: Vehicle Repairing Workshop
S3: Vehicle Repairing Shop
S5: Hang Heung Cake Factory
S11: Planned LPG Filling station
S6: Animal Feeds Factory
S7: Storage Warehouse
S8: Storage Warehouse
Legend
Proposed Site
300m Assessment Area
Potential Existing Fixed Plant Noise
The future Youth Hostel
Drawing Title
Figure 3
Location of the Potential Fixed Plant Noise Sources in 300m Assessment Area
Date
04 Apr 2022



LEGEND:

- Site Layout
- Existing Fixed Plant Noise Assessment Point

	Prepared	Checked	Approved
Initial	BW	CC	YS
Date	20230823	20230823	20230823

DrawingTitle

PLANNED AND EXISTING FIXED PLANT NOISE SOURCES

Drawing No.	Rev.
FIGURE 4	0

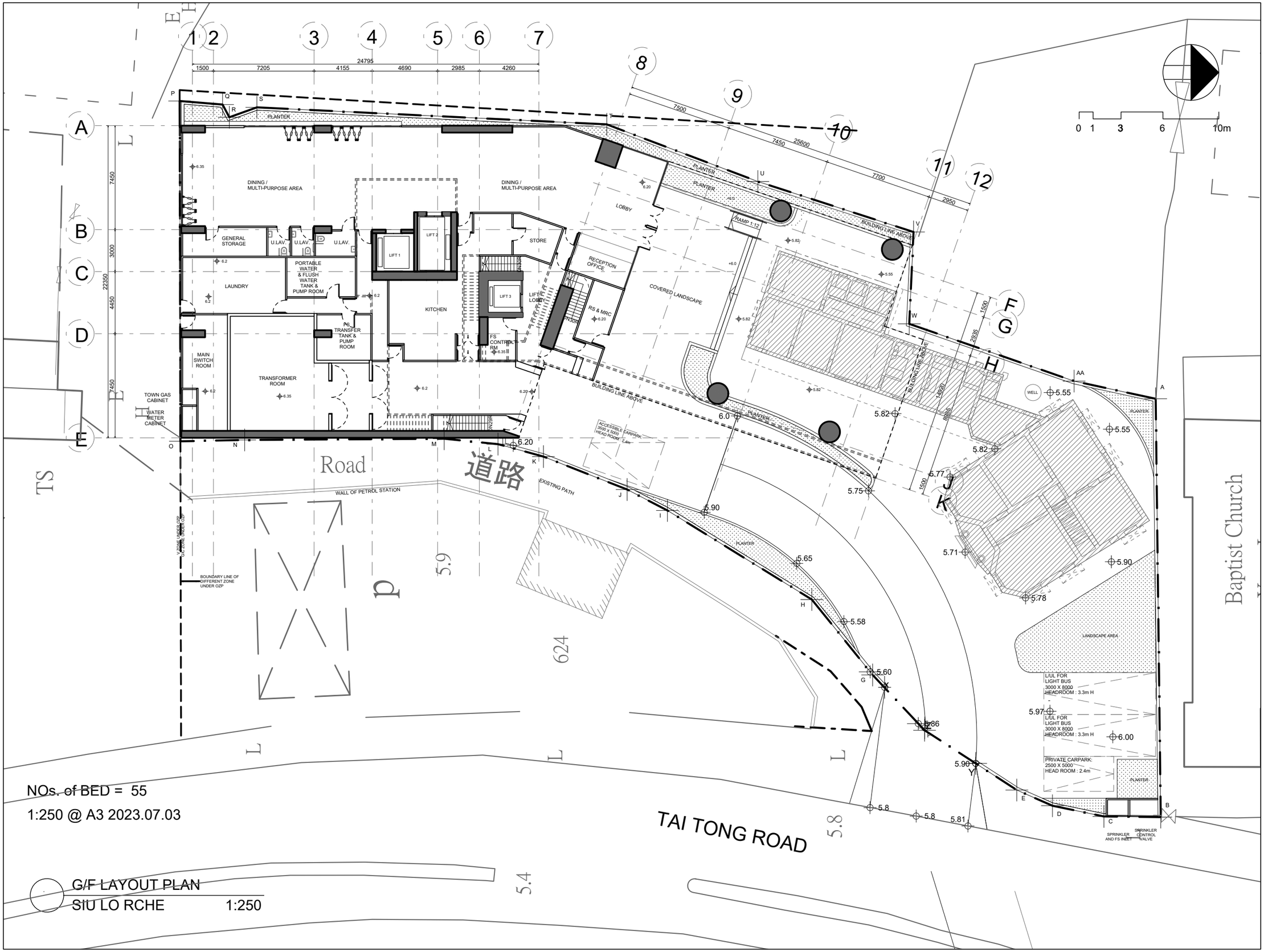
Scale:

A4 - 1:2000

BXG

BeeXergy Consulting Limited

APPENDIX 1 MASTER LAYOUT PLAN



NOs. of BED = 55

1:250 @ A3 2023.07.03

G/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

- Do not scale drawings: figured dimensions are to be taken in preference. 不可縮放圖紙；如有標示尺寸，須以標示尺寸為準。
- All dimensions should be checked and verify on site before commencing any work: discrepancies found in this drawing shall be reported to the designer. 所有於圖紙上標示的尺寸，須於現場覆核和修正。如在地盤發現有任何與圖紙不符之處，須盡快通知設計師。
- This drawing should not be used as construction drawings without approval. 除有批核外，此圖不可作為施工用。

AMENDMENT PARTICULARS 更改細節 :

Revision 修正版	Description 內容	Date 日期
A	DESIGN	20221116
B	DESIGN	20221118
C	DESIGN	20221128
D	DESIGN	20221205
E	DESIGN	20221227
F	DESIGN	20221230
G	DESIGN	20230210
H	DESIGN	20230315
J	DESIGN	20230705
K	DESIGN	20230809

TOWN PLANNER & SURVEYOR 城市規劃師及測量師 :
DeSPACE (International) Limited
E-mail 電郵 : despaceinternational@gmail.com
Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 創意
E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER 認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
E-mail 電郵 : irstwong@gmail.com
Tel 電話 : 2625 1776
Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
Fax 傳真 : 2399 0066
Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME 項目名稱 :
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

DRAWING TITLE 圖紙名稱 : G/F LAYOUT PLAN

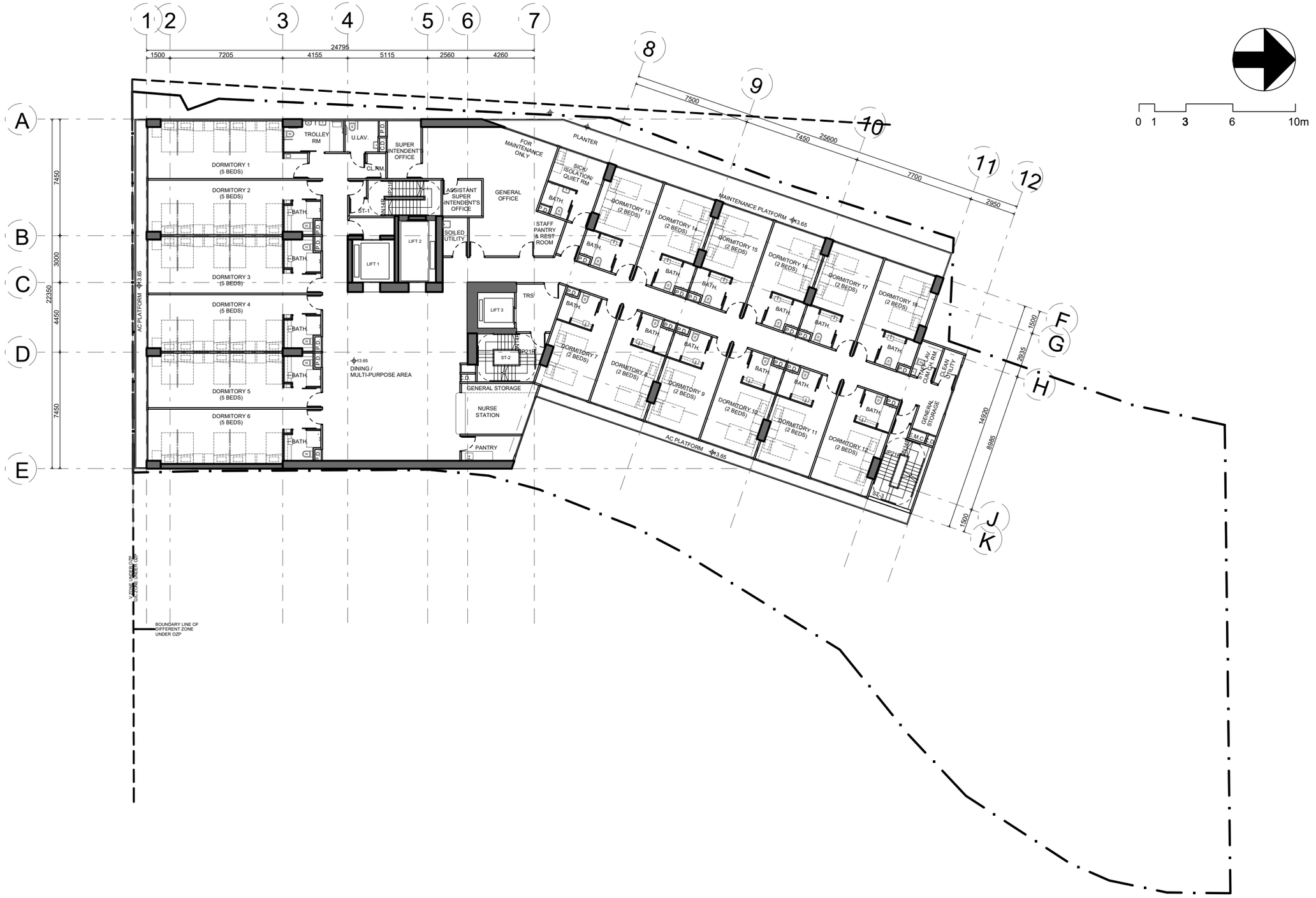
DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號 : P-101

SCALE 比例 : 1:250@A3

DATE 日期 : 20230705

APPENDIX 1 MASTER LAYOUT PLAN



0 1 **3** 6 10m

1/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

- Do not scale drawings: figured dimensions are to be taken in preference. 不可縮放圖紙；如有標示尺寸，須以標示尺寸為準。
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AMENDMENT PARTICULARS 更改細節 :

Revision 修正版	Description 內容	Date 日期
△	DESIGN	20221116
A	DESIGN	20221118
B	DESIGN	20221128
C	DESIGN	20221205
D	DESIGN	20221227
E	DESIGN	20221230
F	DESIGN	20230210
G	DESIGN	20230315
H	DESIGN	20230705

TOWN PLANNER & SURVEYOR 城市規劃師及測量師 :
DeSPACE (International) Limited
- E-mail 電郵 : despaceinternational@gmail.com
- Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 作室
- E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER 認可人士, 結構工程師 :
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- E-mail 電郵 : irstwong@gmail.com
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- Fax 傳真 : 2399 0066
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TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME 項目名稱 :
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DRAWING TITLE 圖紙名稱 : 1/F LAYOUT PLAN

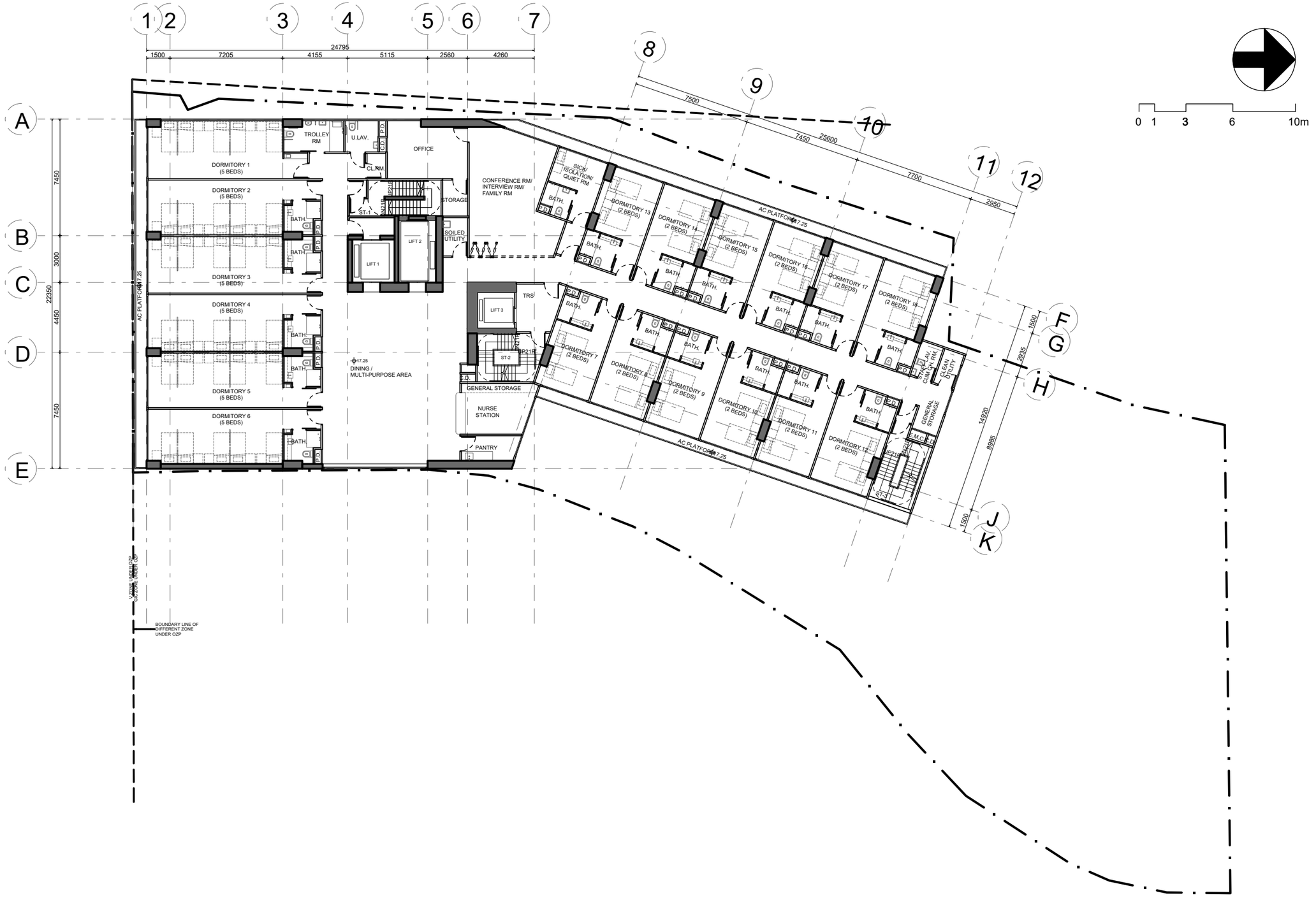
DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號 : P-102

SCALE 比例 : 1:250@A3

DATE 日期 : 20230705

APPENDIX 1 MASTER LAYOUT PLAN



2/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO.
項目編號 : HK-A22006

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AMENDMENT PARTICULARS
更改細節 :

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城市規劃師及測量師 :
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項目名稱 :
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DRAWING TITLE
圖紙名稱 : 2/F LAYOUT PLAN

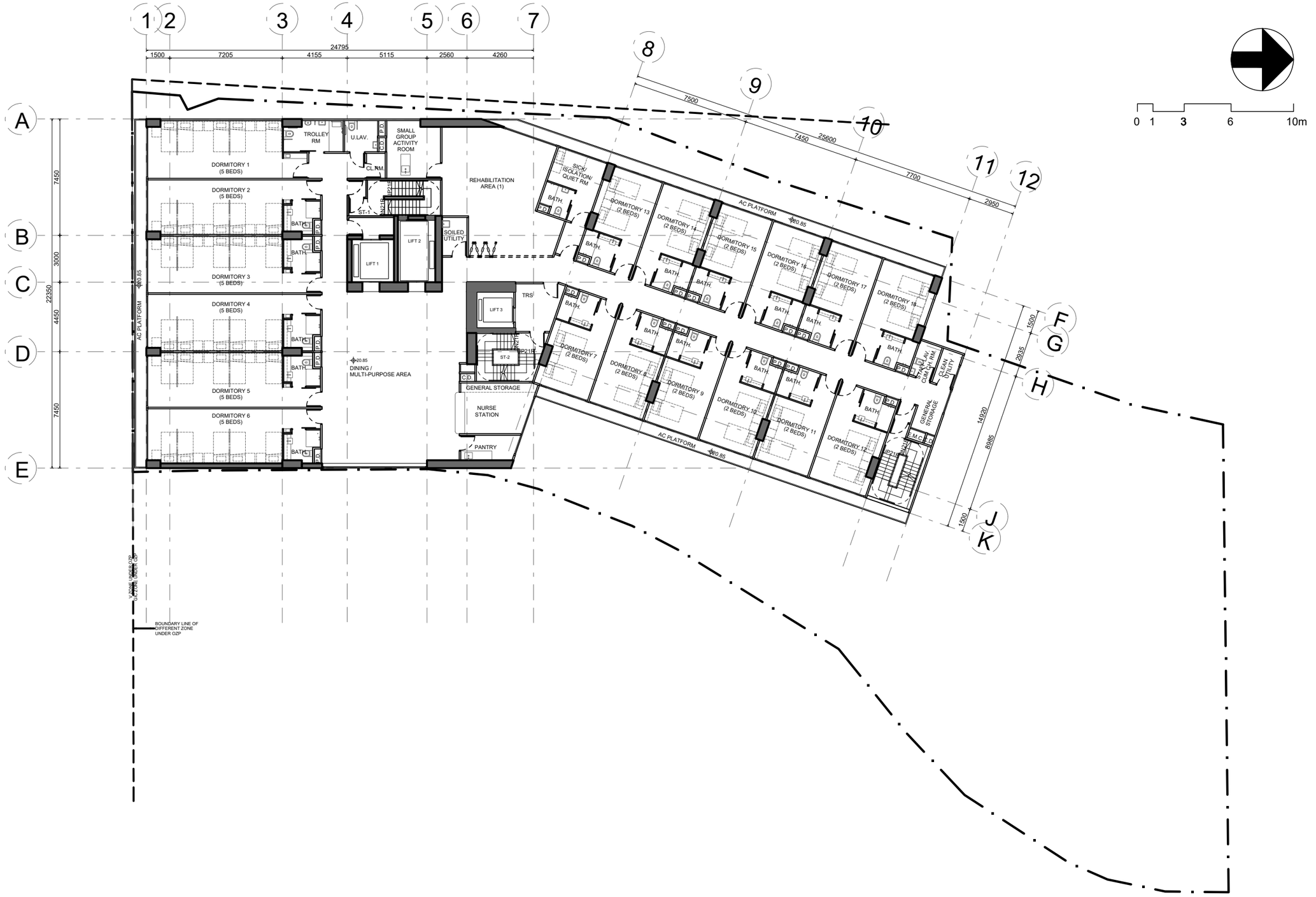
DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-103

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705

APPENDIX 1 MASTER LAYOUT PLAN



3/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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更改細節 :

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- Fax 傳真 : 2399 0066
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TRAFFIC CONSULTANT 交通顧問 :
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DRAWING TITLE
圖紙名稱 : 3/F LAYOUT PLAN

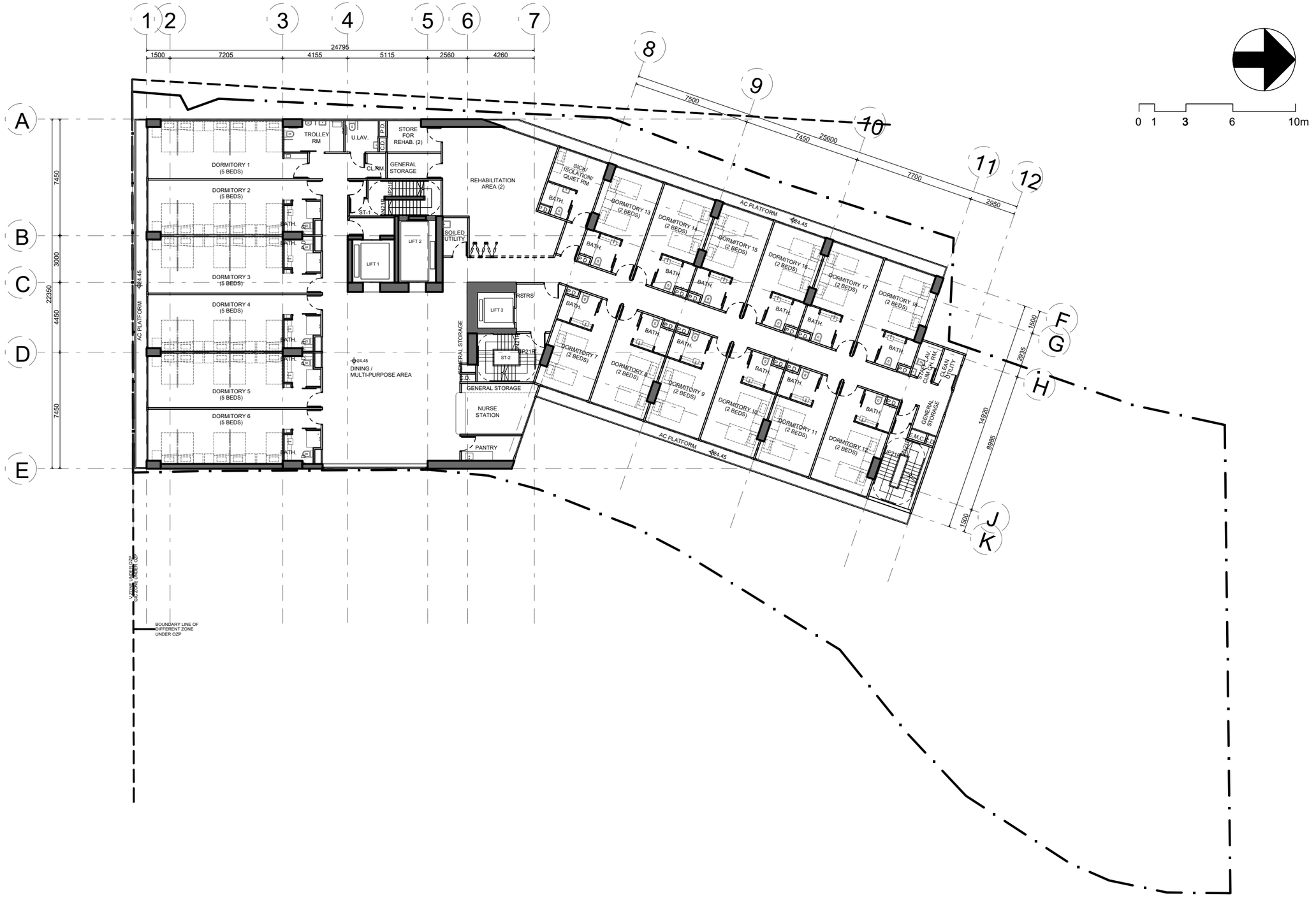
DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-104

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705

APPENDIX 1 MASTER LAYOUT PLAN



4/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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城市規劃師及測量師 :
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- E-mail 電郵 : despaceinternational@gmail.com
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- Fax 傳真 : 2399 0066
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TRAFFIC CONSULTANT 交通顧問 :
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PROJECT NAME
項目名稱 :
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DRAWING TITLE
圖紙名稱 : 4/F LAYOUT PLAN

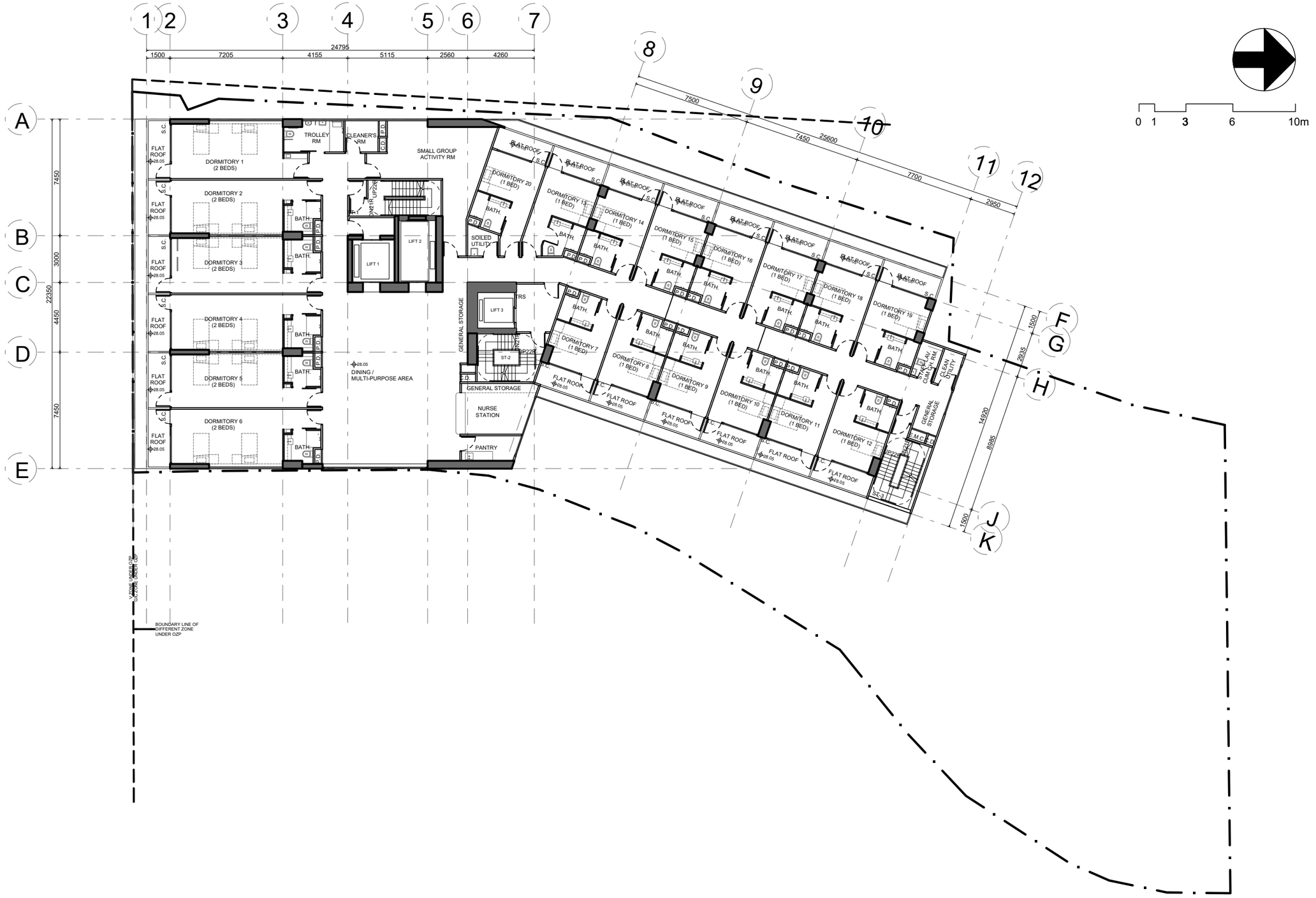
DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-105

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705

APPENDIX 1 MASTER LAYOUT PLAN



5/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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TRAFFIC CONSULTANT 交通顧問 :
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PROJECT NAME
項目名稱 :
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DRAWING TITLE
圖紙名稱 : 5/F LAYOUT PLAN

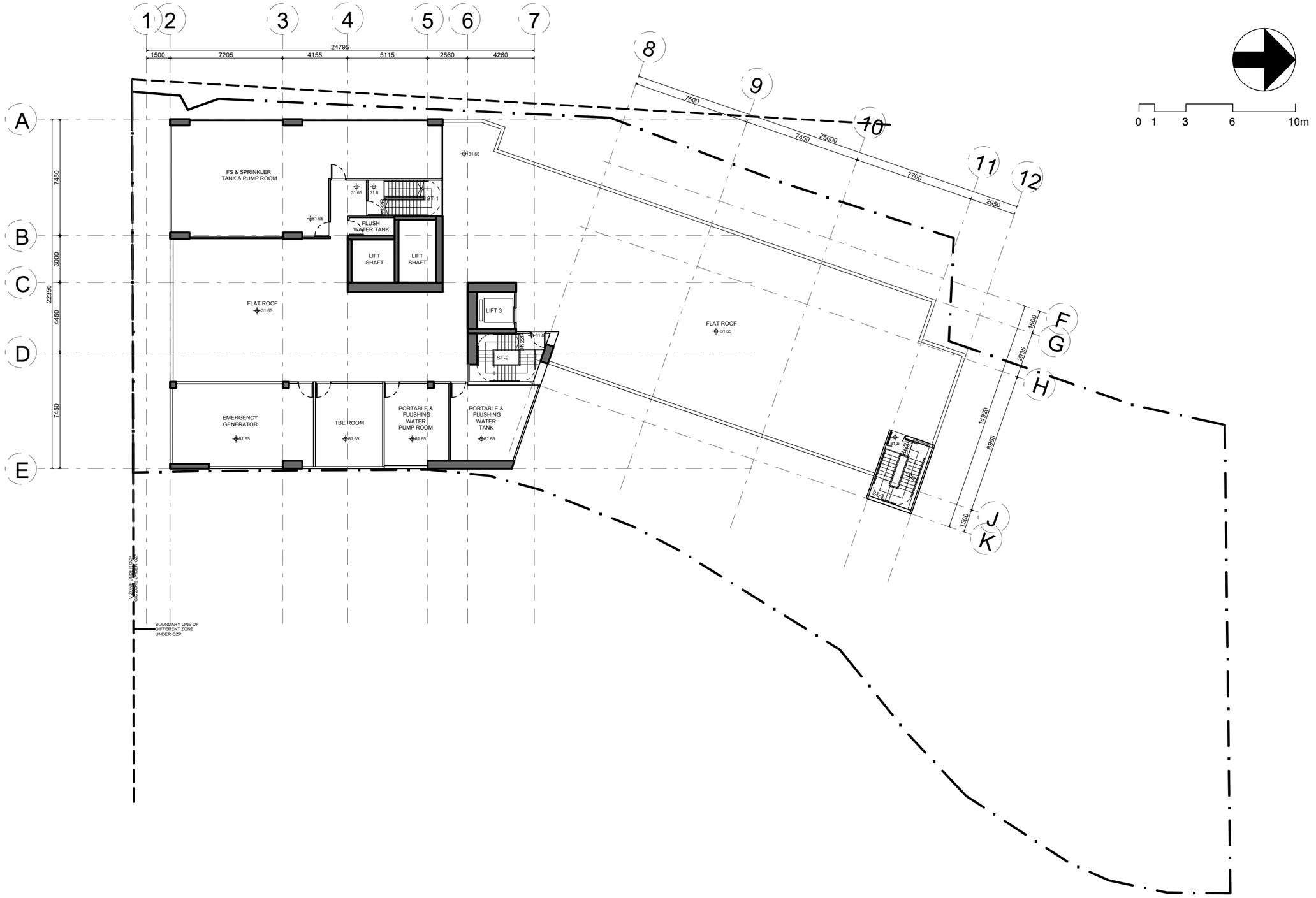
DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-106

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705

APPENDIX 1 MASTER LAYOUT PLAN



R/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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H	DESIGN	20230705

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TRAFFIC CONSULTANT 交通顧問 :
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PROJECT NAME
項目名稱 :
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DRAWING TITLE
圖紙名稱 : R/F LAYOUT PLAN

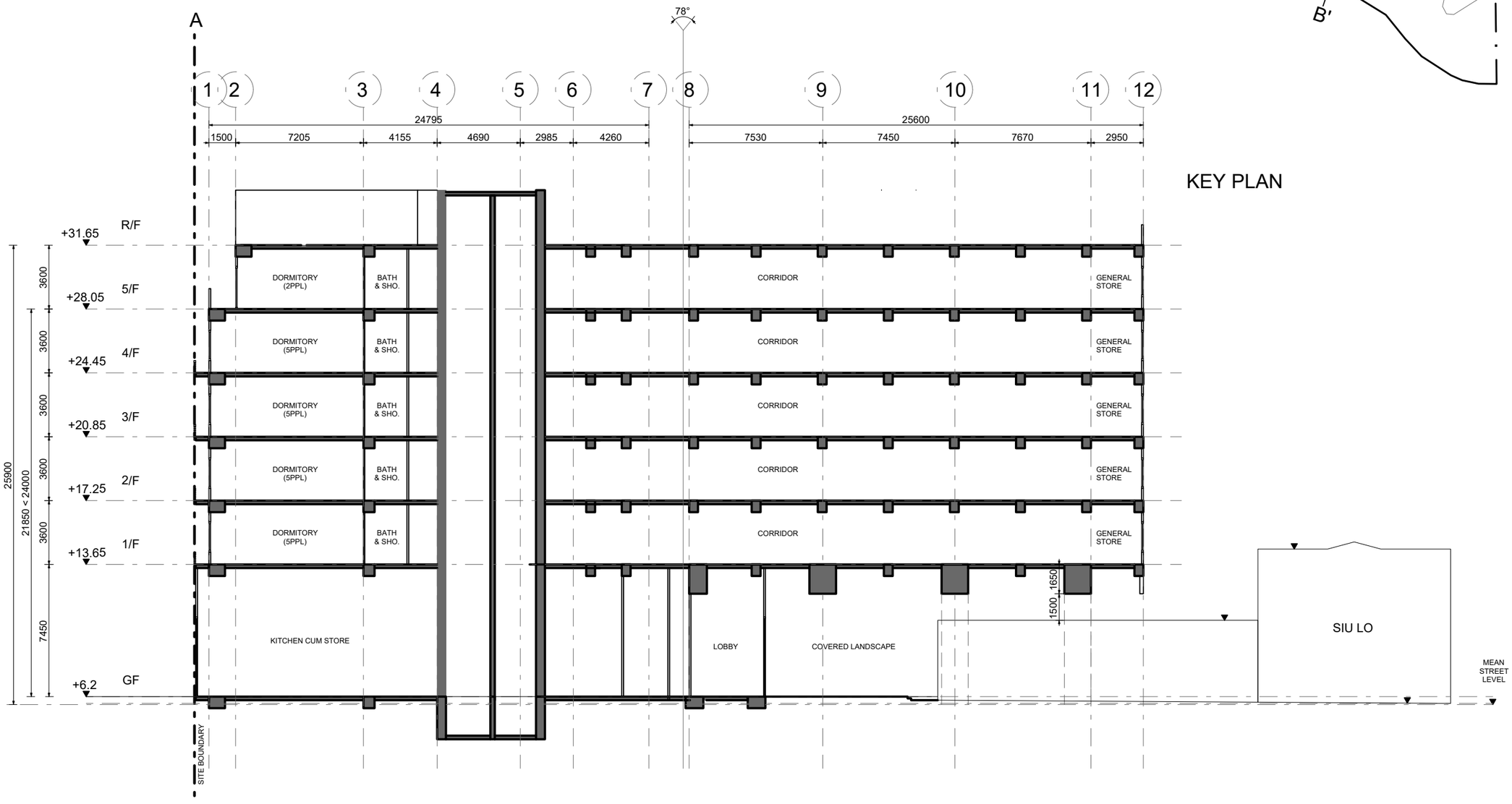
DESIGN IN CHARGE
設計負責人 KL

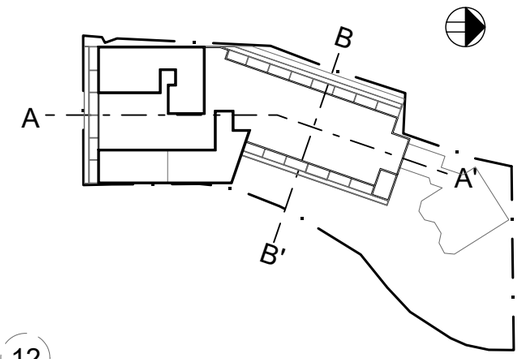
DWG NO.
圖紙編號 : P-107

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705

APPENDIX 1 MASTER LAYOUT PLAN





KEY PLAN

PROJECT NO. 項目編號 : HK-A22006

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H	DESIGN	20230707

TOWN PLANNER & SURVEYOR
城市規劃師及測量師 :
DeSPACE (International) Limited
E-mail 電郵 : despaceinternational@gmail.com
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ARCHITECT 建築師 :
MINOR 細 CREATIVE 創意
E-mail 電郵 : info@minorcreative.com

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DRAWING TITLE
圖紙名稱 : SCHEMATIC SECTION A

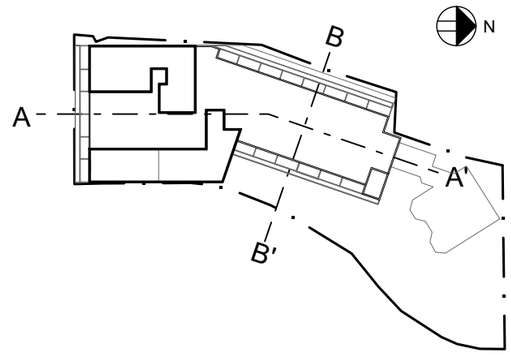
DESIGN IN CHARGE
設計負責人 KL

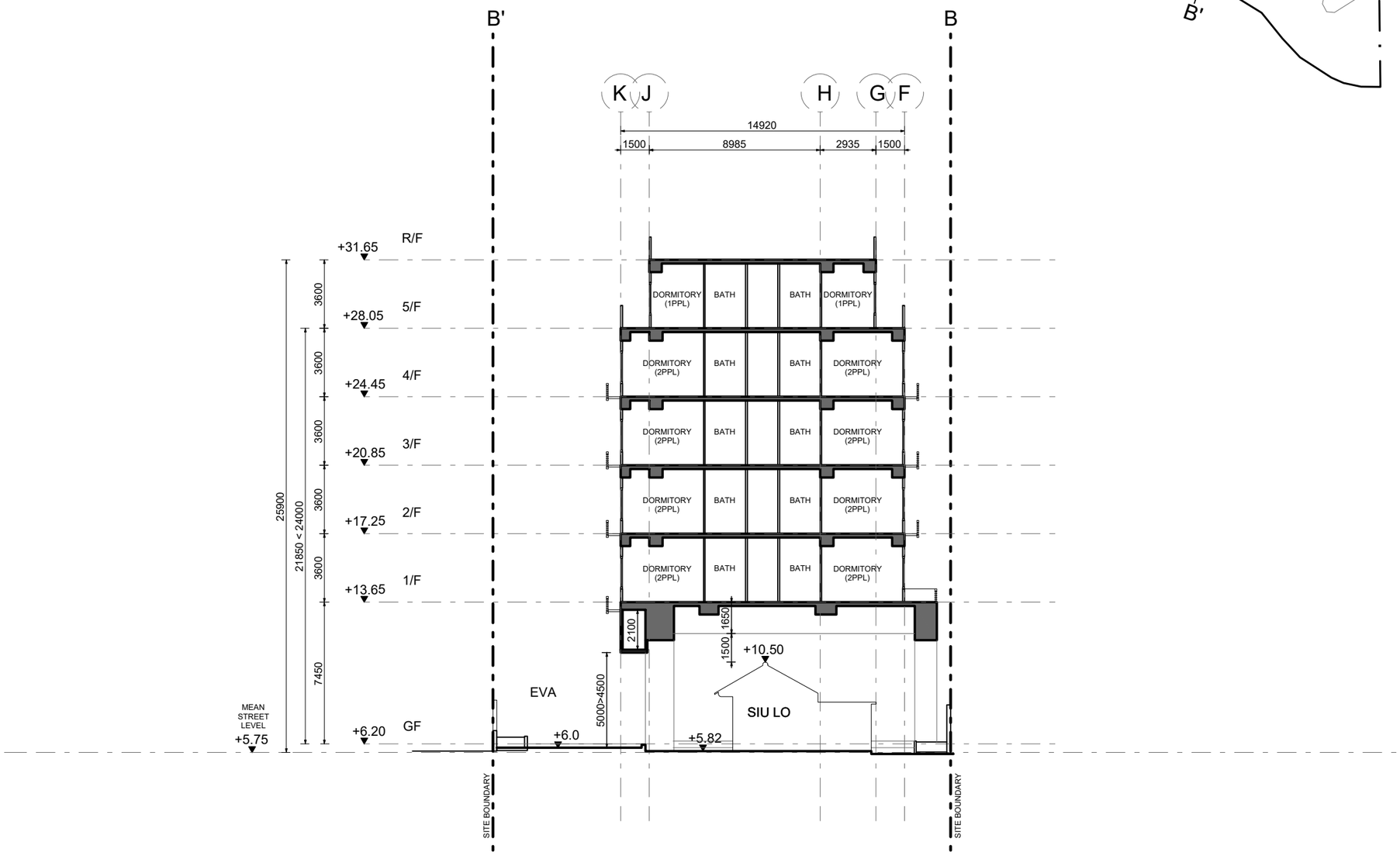
DWG NO.
圖紙編號 : S-101

SCALE
比例 : 1:250@A3

DATE
日期 : 20230707

APPENDIX 1 MASTER LAYOUT PLAN





- SCHEMATIC SECTION BB'

SIU LO RCHE 1:200

PROJECT NO. 項目編號 : HK-A22006

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AP, STRUCT ENGINEER 認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
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E&M CONSULTANT 機電顧問 :
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TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME 項目名稱 :
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

DRAWING TITLE 圖紙名稱 : SCHEMATIC SECTION B

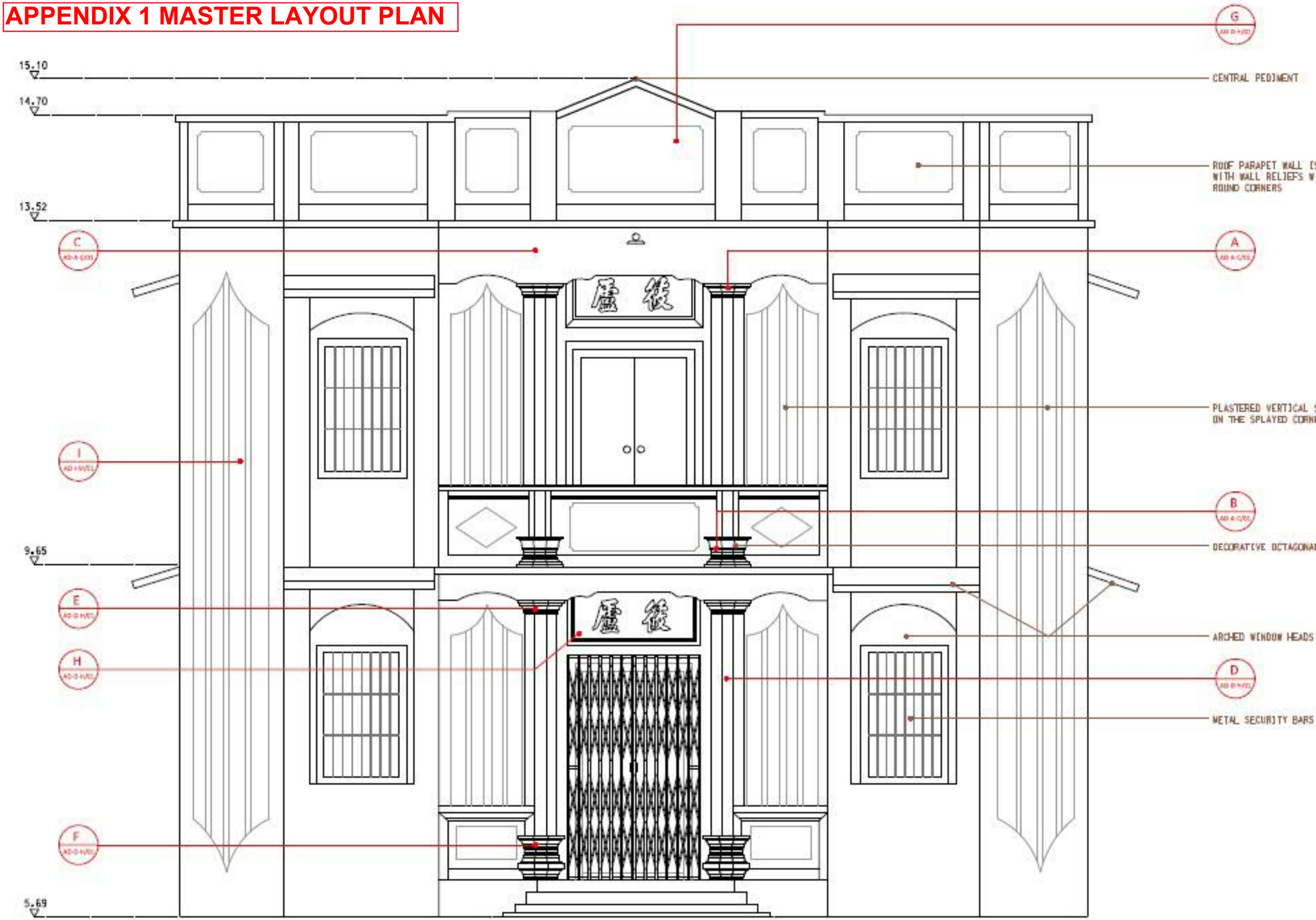
DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號 : S-102

SCALE 比例 : 1:250@A3

DATE 日期 : 20230707

APPENDIX 1 MASTER LAYOUT PLAN



APPENDIX 2.1 TRAFFIC DATA (2040 YEAR)

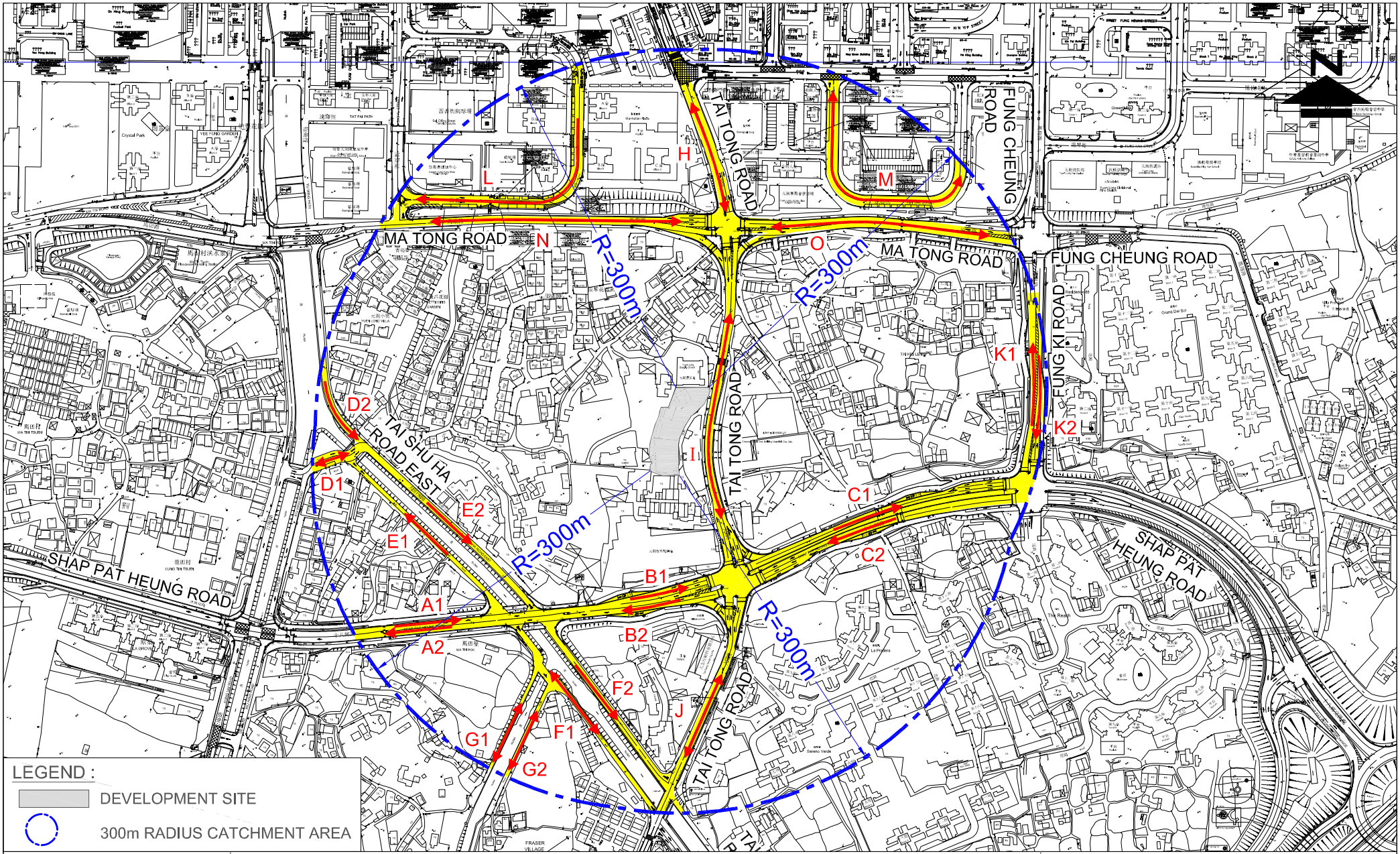


FIGURE NO.: 1	PROJECT TITLE:
PROJECT NO.: 21120HK	DRAWING TITLE: INDEX PLAN
SCALE: 1 : 4500 @A4	DATE: 04 OCT 2021

CTA Consultants Limited
志達顧問有限公司

APPENDIX 2.1 TRAFFIC DATA (2040 YEAR)

Town Planning Application of Siu Lo, Tai Kei Leng , Yuen Long
2040 Traffic Forecasts for Traffic Noise Impact Assessment (TNIA)

Road Link	Road Name	Direction	Speed Limit (km/h)	AM Peak		PM Peak	
				2040 Peak Hour Traffic Flows (in veh/hr)	% of HV	2040 Peak Hour Traffic Flows (in veh/hr)	% of HV
A1	Shap Pat Heung Road	EB	50	720	21%	430	17%
A2	Shap Pat Heung Road	WB	50	350	24%	370	15%
B1	Shap Pat Heung Road	EB	50	770	24%	500	16%
B2	Shap Pat Heung Road	WB	50	350	33%	460	20%
C1	Shap Pat Heung Road	EB	50	1070	21%	680	16%
C2	Shap Pat Heung Road	WB	50	610	23%	710	18%
D1	Kiu Hing Road	Two-way	50	170	28%	160	19%
D2	Tai Shu Ha Road East	SB	50	250	25%	260	20%
E1	Tai Shu Ha Road West	NB	50	20	8%	30	13%
E2	Tai Shu Ha Road East	SB	50	150	20%	170	8%
F1	Tai Shu Ha Road West	Two-way	50	130	23%	120	14%
F2	Tai Shu Ha Road East	SB	50	180	19%	230	10%
G1	Local Road	Two-way	50	10	20%	10	20%
G2	Local Road	Two-way	50	20	20%	20	20%
H	Tai Tong Road	Two-way	50	950	17%	1220	11%
I	Tai Tong Road	Two-way	50	1150	23%	1050	16%
J	Tai Tong Road	Two-way	50	1010	27%	880	16%
K1	Fung Ki Road	NB	50	590	16%	690	9%
K2	Fung Ki Road	SB	50	400	14%	620	11%
L	Sai Ching Street	WB	50	370	14%	380	8%
M	Kin Tak Street	Two-way	50	200	5%	150	4%
N	Ma Tong Road	Two-way	50	600	15%	580	6%
O	Ma Tong Road	Two-way	50	340	18%	420	9%

Notes : ***(1) Please refer to the Location Plan (i.e. Figure 1) attached in Appendix A.***
(2) HV includes Light Van, Public Light Bus, Light Goods Vehicle, Medium Goods Vehicle, Heavy Bus includes Coach and Bus

Appendix 2.1 TD Endorsement

運輸署
Transport Department

本署檔案 Our Ref. : (NKWA9) in TD NR157/161/YLDD-120
來函檔號 Your Ref. : 21120HK/kvl/wkk/03
電 話 Tel. : 2399 2565
圖文傳真 Fax : 2381 3799
電 郵 Email : szemanfok@td.gov.hk

5 August 2022

CTA Consultants Ltd.
Unit 801, 8/F, Technology Plaza,
651 King's Road, North Point, Hong Kong

Attn: Kelvin LEUNG

Dear Mr LEUNG,

Proposed Residential Development Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo

Technical Note on Methodology for Estimating Traffic Forecasts for Traffic Noise Impact Assessment (TNIA) Summary of 'Responses to Comments' (June 2022)

We have no comment on your submission.

Yours faithfully,

(FOK Sze-man)
for Commissioner for Transport

新界分區辦事處
NT Regional Office
九龍聯運街三十號旺角政府合署七樓
7th Floor, Mong Kok Government Offices, 30 Luen Wan Street, Kowloon.
圖文傳真 Fax No.: 2381 3799 (新界區) (NTRO)
網址 Web Site: http://www.td.gov.hk

Appendix 2.1 Traffic Consultant Confirmation Letter

CTA Consultants Limited
Transportation, Planning, Engineering, Research and Development
We commit We deliver

用心以誠

Our Ref: 21120HK /kvl/wkk/04

By E-mail
(Email: henry.mak@beexergy.com)

19 May 2023

BeeXergy Consulting Limited (BXG)
Unit 2001-05, Apec Plaza,
49 Hoi Yuen Road, Kwun Tong,
Kowloon, Hong Kong

Attn: Mr. Henry Mak

Dear Mr. Mak,

Proposed Residential Development Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo

Technical Note on Methodology for Estimating Traffic Forecasts for Traffic Noise Impact Assessment (TNIA)

We refer to our submission of traffic forecast and the endorsement letters from Transport Department [Ref No. (NKWA9) in TD NR157/161/YLDD-120] dated 5 August 2022 regarding to the captioned subject as per attached.

We write to confirm that Transport Department's endorsed methodology prepared by us has been strictly adopted in preparing the traffic forecast for the Noise Impact Assessment Report prepared by BeeXergy Consulting Limited (BXG).

Should you have any queries or require further information, please do not hesitate to contact the undersigned or Mr. W K Kwong at 2214 0849.

Thank you very much for your kind attention and we are looking forward to your favourable reply at your earliest convenience.

Yours Faithfully,
For and on behalf of
CTA Consultants Ltd.

W.K. Kwong

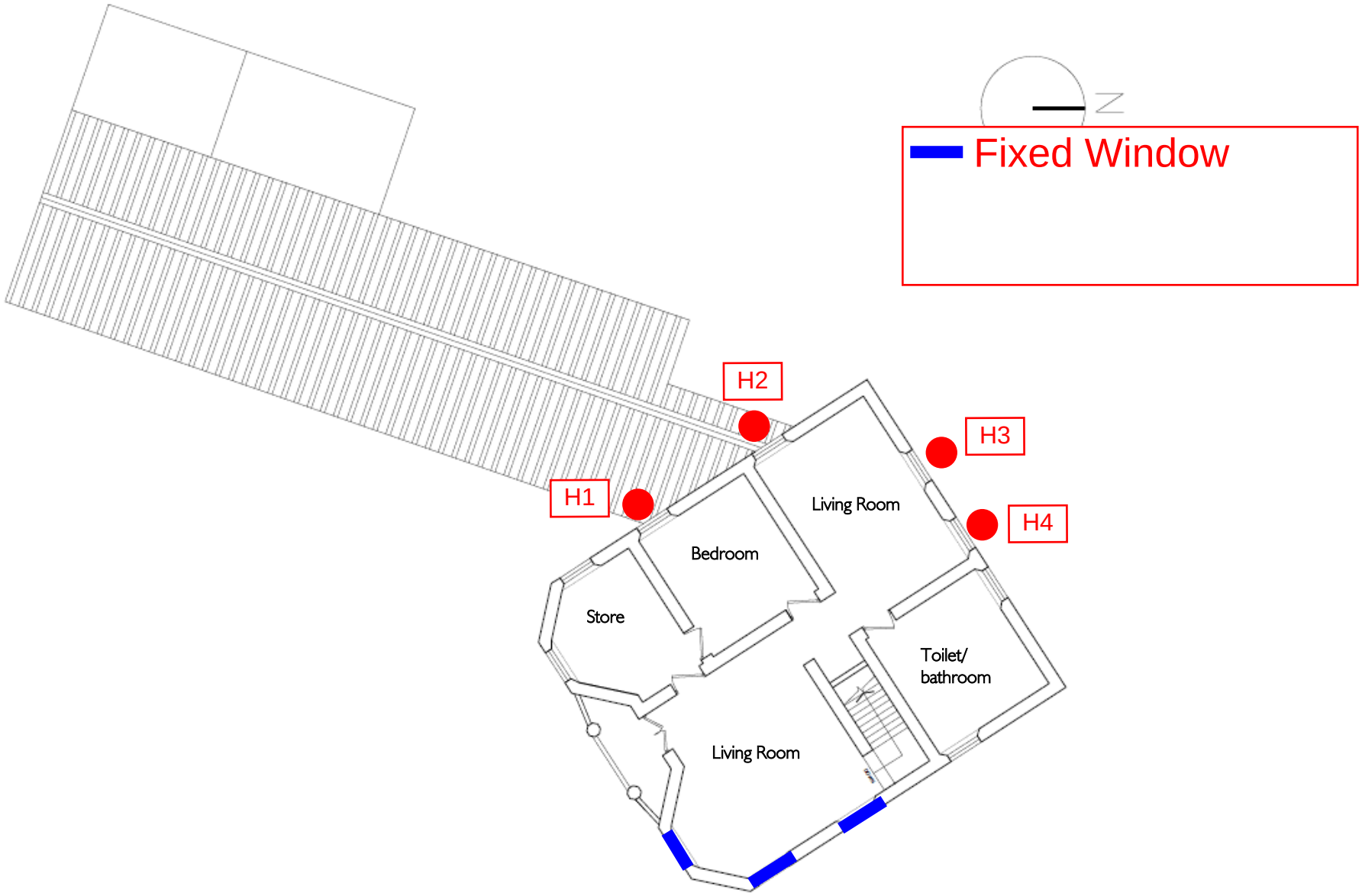
p.p. Kelvin Leung
CEO
Encl.

CTA Consultants Limited 志達顧問有限公司
Unit 801, 8/F, Technology Plaza, 651 King's Road, North Point, Hong Kong
香港北角英皇道 651 號科匯中心 8 樓 801 室
Tel: (852) 2214 0849 / Fax: (852) 2214 0817
Email: cta@ctaconsultants.com / website: www.ctaconsultants.com

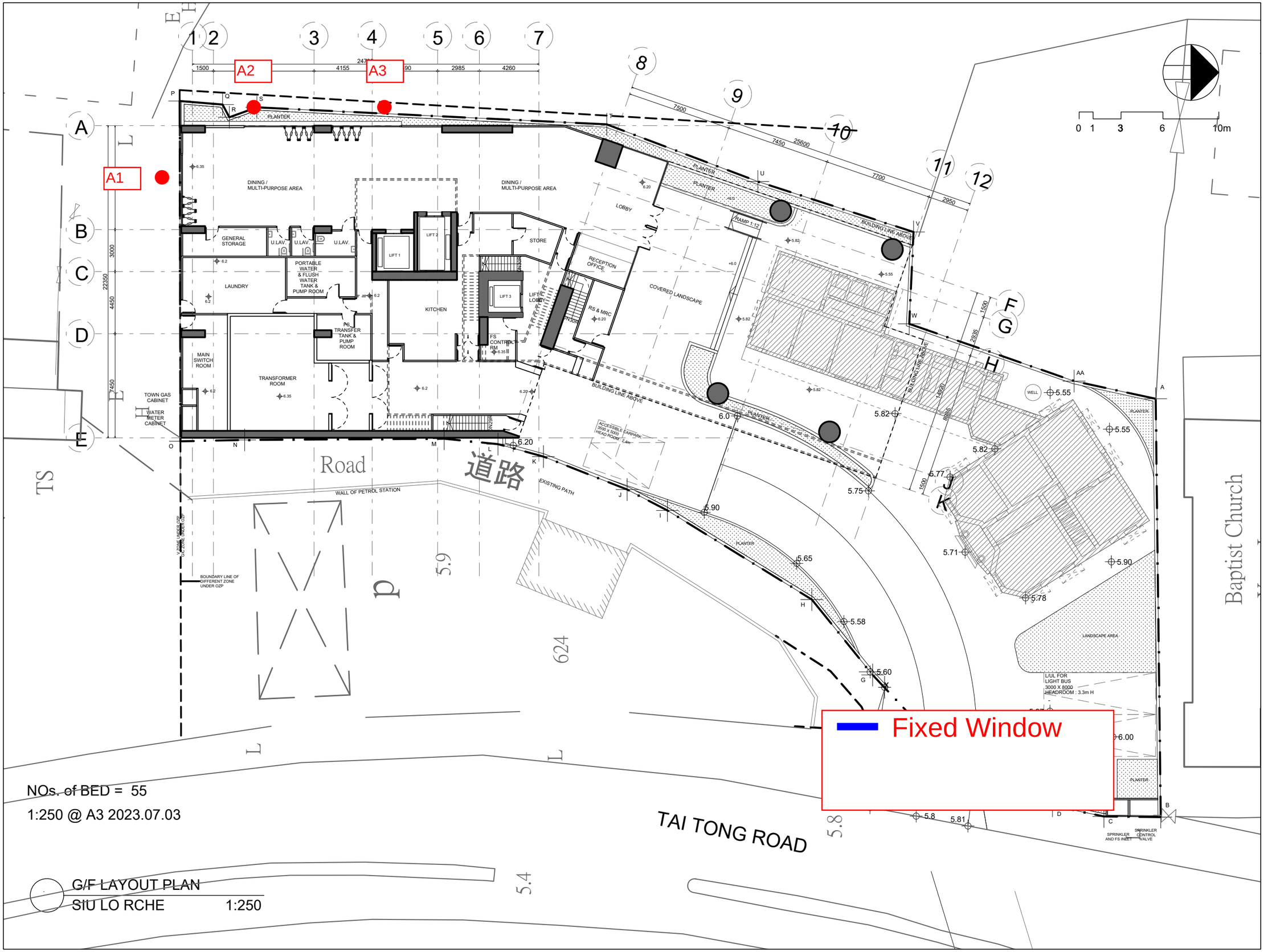
APPENDIX 2.2 TRAFFIC NOISE ASSESSMENT POINT

Fig. 306. Proposed uses and works in Siu Lo – Ground Floor.

APPENDIX 2.2 TRAFFIC NOISE ASSESSMENT POINT



APPENDIX 2.2 TRAFFIC NOISE ASSESSMENT POINT



PROJECT NO. 項目編號 : HK-A22006

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AMENDMENT PARTICULARS 更改細節 :

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A	DESIGN	20221116
B	DESIGN	20221118
C	DESIGN	20221128
D	DESIGN	20221205
E	DESIGN	20221227
F	DESIGN	20221230
G	DESIGN	20230210
H	DESIGN	20230315
I	DESIGN	20230705
J	DESIGN	20230809

TOWN PLANNER & SURVEYOR 城市規劃師及測量師 :
DeSPACE (International) Limited
- E-mail 電郵 : despaceinternational@gmail.com
- Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 創意
- E-mail 電郵 : info@minorcreative.com

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DRAWING TITLE 圖紙名稱 : G/F LAYOUT PLAN

DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號 : P-101

SCALE 比例 : 1:250@A3

DATE 日期 : 20230705

APPENDIX 2.2 TRAFFIC NOISE ASSESSMENT POINT

0 1 3 6 10m

1/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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DRAWING TITLE 圖紙名稱 : 1/F LAYOUT PLAN

DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號 : P-102

SCALE 比例 : 1:250@A3

DATE 日期 : 20230705

APPENDIX 2.2 TRAFFIC NOISE ASSESSMENT POINT

2/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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DRAWING TITLE 圖紙名稱 : 2/F LAYOUT PLAN

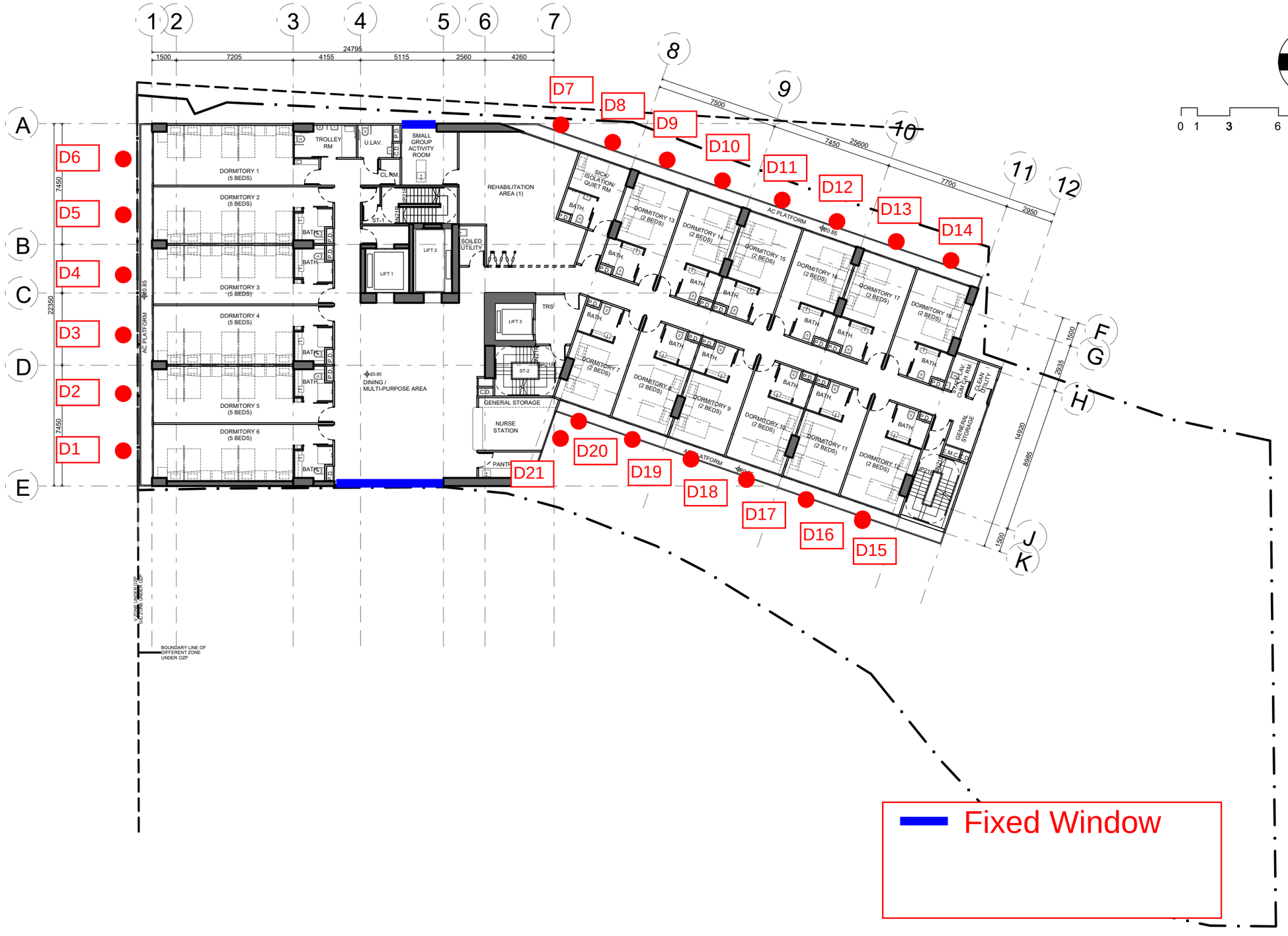
DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號 : P-103

SCALE 比例 : 1:250@A3

DATE 日期 : 20230705

APPENDIX 2.2 TRAFFIC NOISE ASSESSMENT POINT



3/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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城市規劃師及測量師 :
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DRAWING TITLE
圖紙名稱 : 3/F LAYOUT PLAN

DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-104

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705

APPENDIX 2.2 TRAFFIC NOISE ASSESSMENT POINT

4/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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DRAWING TITLE
圖紙名稱 : 4/F LAYOUT PLAN

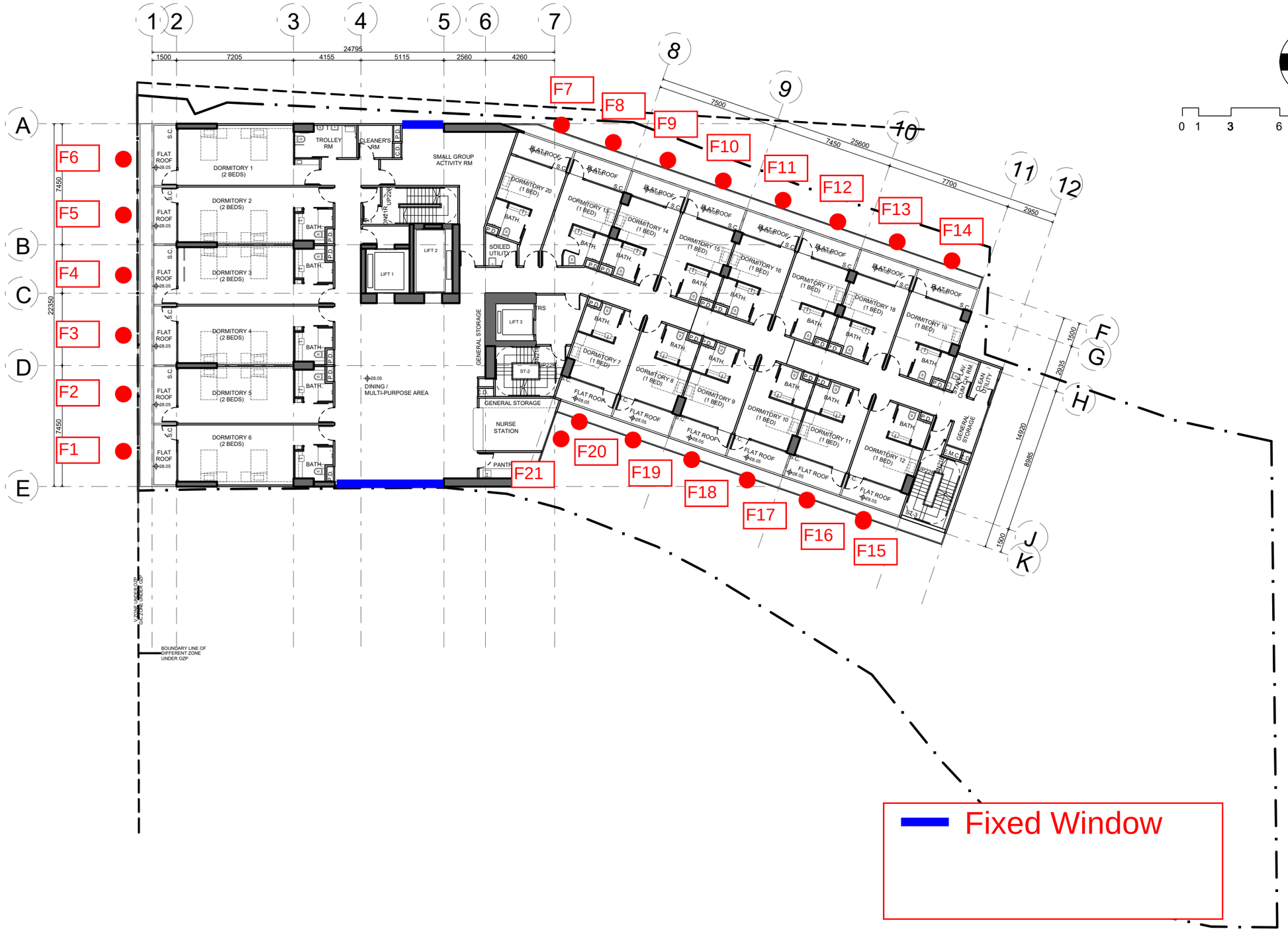
DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-105

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705

APPENDIX 2.2 TRAFFIC NOISE ASSESSMENT POINT



5/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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PROJECT NAME 項目名稱 :
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

DRAWING TITLE 圖紙名稱 : 5/F LAYOUT PLAN

DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號 : P-106

SCALE 比例 : 1:250@A3

DATE 日期 : 20230705

APPENDIX 2.3 TRAFFIC NOISE RESULT SUMMARY (BASELINE)

Predicted Road Noise Level (AM Section)

Project Name: Proposed RCHE at Lot Nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 in Tai Kei Leng, Yuen Long			
ID	Description	mPD levels of Noise Assessment Points	Predicted Traffic Noise Level (Base Case), L10 (dB(A))
G/F			
A1	Dining/Multi-Purpose Area	7.4	65.1
A2	Dining/Multi-Purpose Area	7.4	61.1
A3	Dining/Multi-Purpose Area	7.4	61.0
G1	Siu Lo Pantry/ Resting Area	6.9	68.1
G2	Siu Lo Study Room	6.9	66.8
G3	Siu Lo Living Room	6.9	59.1
G4	Siu Lo Living Room	6.9	58.3
G5	Siu Lo Living Room	6.9	54.6
1/F			
B1	Dormitory	14.9	70.4
B2	Dormitory	14.9	69.6
B3	Dormitory	14.9	69.0
B4	Dormitory	14.9	68.6
B5	Dormitory	14.9	68.0
B6	Dormitory	14.9	67.6
B7	General Office	14.9	61.2
B8	Sick/ Isolation/ Quiet Room	14.9	60.9
B9	Dormitory	14.9	60.7
B10	Dormitory	14.9	60.6
B11	Dormitory	14.9	60.7
B12	Dormitory	14.9	60.7
B13	Dormitory	14.9	60.5
B14	Dormitory	14.9	60.5
B15	Dormitory	14.9	**72.3**
B16	Dormitory	14.9	**72.2**
B17	Dormitory	14.9	**72.1**
B18	Dormitory	14.9	**72.0**
B19	Dormitory	14.9	**71.9**
B20	Dormitory	14.9	70.2
B21	Nurse Station	14.9	70.2
H1	Siu Lo Bedroom	10.9	66.8
H2	Siu Lo Living Room	10.9	61.1
H3	Siu Lo Living Room	10.9	58.3
H4	Siu Lo Living Room	10.9	55.2
2/F			
C1	Dormitory	18.5	**70.9**
C2	Dormitory	18.5	70.1
C3	Dormitory	18.5	69.6
C4	Dormitory	18.5	69.1
C5	Dormitory	18.5	68.6
C6	Dormitory	18.5	68.2
C7	Conference Room/ Interview Room/ Family Room	18.5	61.6
C8	Sick/ Isolation/ Quiet Room	18.5	61.5
C9	Dormitory	18.5	61.3
C10	Dormitory	18.5	61.2
C11	Dormitory	18.5	61.2
C12	Dormitory	18.5	61.2
C13	Dormitory	18.5	60.8
C14	Dormitory	18.5	60.7
C15	Dormitory	18.5	**72.2**
C16	Dormitory	18.5	**72.1**
C17	Dormitory	18.5	**72.1**
C18	Dormitory	18.5	**71.9**
C19	Dormitory	18.5	**71.9**
C20	Dormitory	18.5	70.2
C21	Nurse Station	18.5	70.2

APPENDIX 2.3 TRAFFIC NOISE RESULT SUMMARY (BASELINE)

3/F			
D1	Dormitory	22.1	**71.1**
D2	Dormitory	22.1	70.4
D3	Dormitory	22.1	70.0
D4	Dormitory	22.1	69.6
D5	Dormitory	22.1	69.1
D6	Dormitory	22.1	68.7
D7	Rehabilitation Area (1)	22.1	62.0
D8	Sick/ Isolation/ Quiet Room	22.1	62.0
D9	Dormitory	22.1	61.8
D10	Dormitory	22.1	61.7
D11	Dormitory	22.1	61.7
D12	Dormitory	22.1	61.6
D13	Dormitory	22.1	61.2
D14	Dormitory	22.1	61.2
D15	Dormitory	22.1	**72.1**
D16	Dormitory	22.1	**72.0**
D17	Dormitory	22.1	**72.1**
D18	Dormitory	22.1	**71.9**
D19	Dormitory	22.1	**71.9**
D20	Dormitory	22.1	70.4
D21	Nurse Station	22.1	70.1
4/F			
E1	Dormitory	25.7	**71.1**
E2	Dormitory	25.7	**70.6**
E3	Dormitory	25.7	70.1
E4	Dormitory	25.7	69.8
E5	Dormitory	25.7	69.4
E6	Dormitory	25.7	69.1
E7	Rehabilitation Area (2)	25.7	62.6
E8	Sick/ Isolation/ Quiet Room	25.7	62.5
E9	Dormitory	25.7	62.3
E10	Dormitory	25.7	62.2
E11	Dormitory	25.7	62.1
E12	Dormitory	25.7	62.1
E13	Dormitory	25.7	61.7
E14	Dormitory	25.7	61.8
E15	Dormitory	25.7	**72.2**
E16	Dormitory	25.7	**72.1**
E17	Dormitory	25.7	**72.1**
E18	Dormitory	25.7	**72.0**
E19	Dormitory	25.7	**71.9**
E20	Dormitory	25.7	70.4
E21	Nurse Station	25.7	70.2
5/F			
F1	Dormitory	29.3	69.9
F2	Dormitory	29.3	69.5
F3	Dormitory	29.3	69.4
F4	Dormitory	29.3	69.2
F5	Dormitory	29.3	69.0
F6	Dormitory	29.3	68.8
F7	Sick/ Isolation/ Quiet Room	29.3	62.2
F8	Dormitory	29.3	62.6
F9	Dormitory	29.3	62.6
F10	Dormitory	29.3	62.5
F11	Dormitory	29.3	64.6
F12	Dormitory	29.3	62.4
F13	Dormitory	29.3	63.4
F14	Dormitory	29.3	62.4
F15	Dormitory	29.3	**70.6**
F16	Dormitory	29.3	**70.9**
F17	Dormitory	29.3	**70.9**
F18	Dormitory	29.3	**70.6**
F19	Dormitory	29.3	**70.7**
F20	Dormitory	29.3	69.2
F21	Nurse Station	29.3	70.3

Remark:

70.5 = Noise Exceedance (highlighted in red)

APPENDIX 2.3 TRAFFIC NOISE RESULT SUMMARY (BASELINE)

Predicted Road Noise Level (PM Section)

Project Name: Proposed RCHE at Lot Nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 in Tai Kei Leng, Yuen Long			
ID	Description	mPD levels of Noise Assessment Points	Predicted Traffic Noise Level (Base Case), L10 (dB(A))
		G/F	
A1	Dining/Multi-Purpose Area	7.4	63.6
A2	Dining/Multi-Purpose Area	7.4	59.2
A3	Dining/Multi-Purpose Area	7.4	59.1
G1	Siu Lo Pantry/ Resting Area	6.9	66.7
G2	Siu Lo Study Room	6.9	65.3
G3	Siu Lo Living Room	6.9	57.1
G4	Siu Lo Living Room	6.9	56.4
G5	Siu Lo Living Room	6.9	53.1
		1/F	
B1	Dormitory	14.9	69.0
B2	Dormitory	14.9	68.1
B3	Dormitory	14.9	67.6
B4	Dormitory	14.9	67.2
B5	Dormitory	14.9	66.5
B6	Dormitory	14.9	66.1
B7	General Office	14.9	59.3
B8	Sick/ Isolation/ Quiet Room	14.9	59.0
B9	Dormitory	14.9	58.8
B10	Dormitory	14.9	58.6
B11	Dormitory	14.9	58.9
B12	Dormitory	14.9	58.9
B13	Dormitory	14.9	58.6
B14	Dormitory	14.9	58.5
B15	Dormitory	14.9	70.8
B16	Dormitory	14.9	70.7
B17	Dormitory	14.9	70.6
B18	Dormitory	14.9	70.5
B19	Dormitory	14.9	70.4
B20	Dormitory	14.9	68.7
B21	Nurse Station	14.9	68.6
H1	Siu Lo Bedroom	10.9	65.4
H2	Siu Lo Living Room	10.9	59.5
H3	Siu Lo Living Room	10.9	56.5
H4	Siu Lo Living Room	10.9	53.8
		2/F	
C1	Dormitory	18.5	69.4
C2	Dormitory	18.5	68.7
C3	Dormitory	18.5	68.1
C4	Dormitory	18.5	67.6
C5	Dormitory	18.5	67.1
C6	Dormitory	18.5	66.7
C7	Conference Room/ Interview Room/ Family Room	18.5	59.7
C8	Sick/ Isolation/ Quiet Room	18.5	59.7
C9	Dormitory	18.5	59.5
C10	Dormitory	18.5	59.4
C11	Dormitory	18.5	59.4
C12	Dormitory	18.5	59.3
C13	Dormitory	18.5	58.9
C14	Dormitory	18.5	58.8
C15	Dormitory	18.5	70.7
C16	Dormitory	18.5	70.6
C17	Dormitory	18.5	70.6
C18	Dormitory	18.5	70.5
C19	Dormitory	18.5	70.4
C20	Dormitory	18.5	68.7
C21	Nurse Station	18.5	68.7

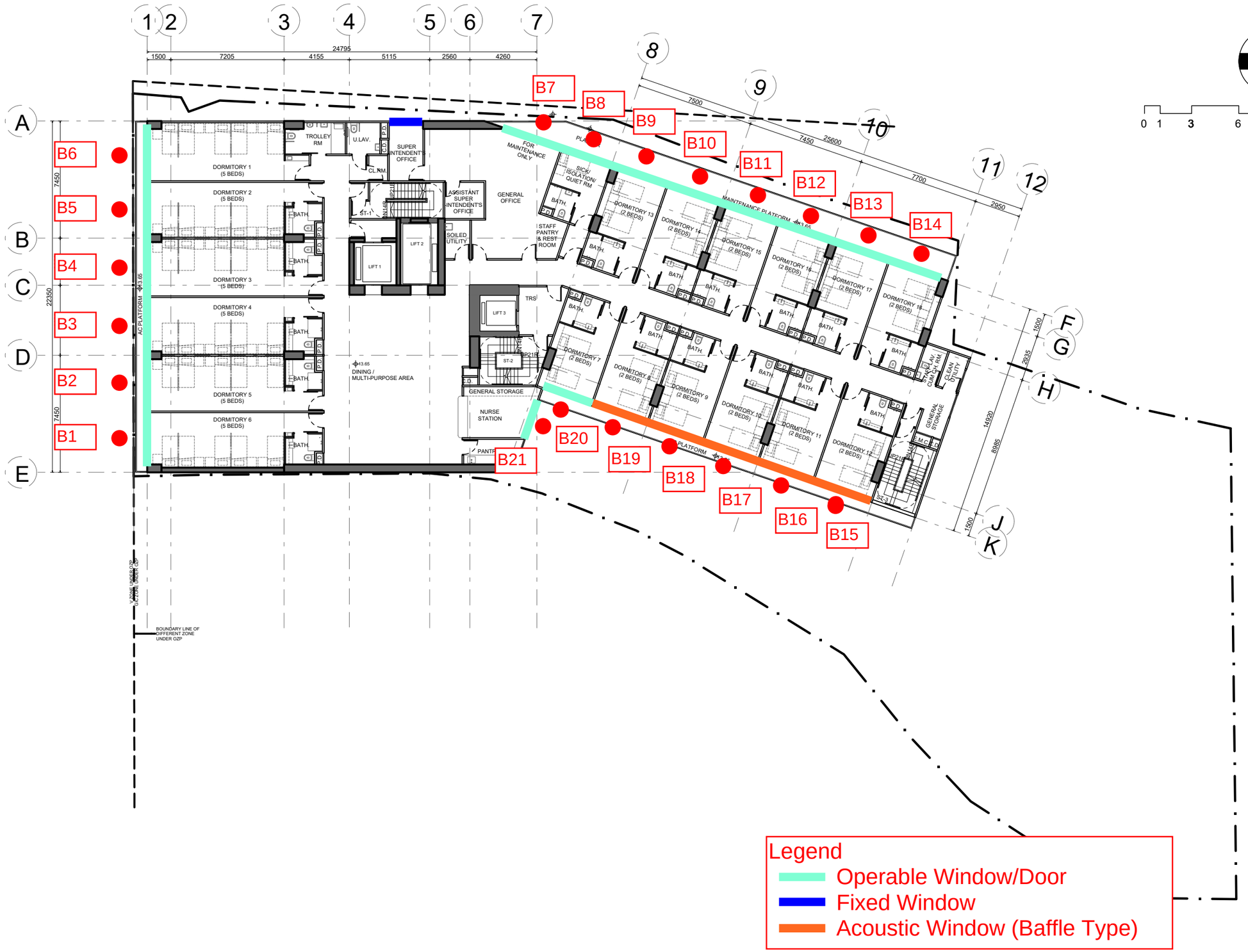
APPENDIX 2.3 TRAFFIC NOISE RESULT SUMMARY (BASELINE)

		3/F	
D1	Dormitory	22.1	69.6
D2	Dormitory	22.1	68.9
D3	Dormitory	22.1	68.5
D4	Dormitory	22.1	68.1
D5	Dormitory	22.1	67.6
D6	Dormitory	22.1	67.2
D7	Rehabilitation Area (1)	22.1	60.2
D8	Sick/ Isolation/ Quiet Room	22.1	60.2
D9	Dormitory	22.1	59.9
D10	Dormitory	22.1	59.8
D11	Dormitory	22.1	59.8
D12	Dormitory	22.1	59.8
D13	Dormitory	22.1	59.3
D14	Dormitory	22.1	59.3
D15	Dormitory	22.1	70.7
D16	Dormitory	22.1	70.6
D17	Dormitory	22.1	70.6
D18	Dormitory	22.1	70.4
D19	Dormitory	22.1	70.4
D20	Dormitory	22.1	68.9
D21	Nurse Station	22.1	68.6
		4/F	
E1	Dormitory	25.7	69.7
E2	Dormitory	25.7	69.1
E3	Dormitory	25.7	68.7
E4	Dormitory	25.7	68.3
E5	Dormitory	25.7	67.9
E6	Dormitory	25.7	67.6
E7	Rehabilitation Area (2)	25.7	60.8
E8	Sick/ Isolation/ Quiet Room	25.7	60.7
E9	Dormitory	25.7	60.5
E10	Dormitory	25.7	60.4
E11	Dormitory	25.7	60.4
E12	Dormitory	25.7	60.3
E13	Dormitory	25.7	59.8
E14	Dormitory	25.7	59.9
E15	Dormitory	25.7	70.8
E16	Dormitory	25.7	70.6
E17	Dormitory	25.7	70.6
E18	Dormitory	25.7	70.5
E19	Dormitory	25.7	70.5
E20	Dormitory	25.7	68.9
E21	Nurse Station	25.7	68.7
		5/F	
F1	Dormitory	29.3	68.4
F2	Dormitory	29.3	68.0
F3	Dormitory	29.3	67.9
F4	Dormitory	29.3	67.7
F5	Dormitory	29.3	67.5
F6	Dormitory	29.3	67.3
F7	Sick/ Isolation/ Quiet Room	29.3	60.5
F8	Dormitory	29.3	60.8
F9	Dormitory	29.3	60.8
F10	Dormitory	29.3	60.8
F11	Dormitory	29.3	63.0
F12	Dormitory	29.3	60.7
F13	Dormitory	29.3	61.7
F14	Dormitory	29.3	60.6
F15	Dormitory	29.3	69.1
F16	Dormitory	29.3	69.4
F17	Dormitory	29.3	69.4
F18	Dormitory	29.3	69.1
F19	Dormitory	29.3	69.2
F20	Dormitory	29.3	67.6
F21	Nurse Station	29.3	68.8

Remark:

70.5 = Noise Exceedance (highlighted in red)

APPENDIX 2.4 NOISE MITIGATION MEASURES LOCATION



Legend

- Operable Window/Door
- Fixed Window
- Acoustic Window (Baffle Type)

1/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

- Do not scale drawings: figured dimensions are to be taken in preference. 不可縮放圖紙；如有標示尺寸，須以標示尺寸為準。
- All dimensions should be checked and verify on site before commencing any work: discrepancies found in this drawing shall be reported to the designer. 所有於圖紙上標示的尺寸，須於現場覆核和修正。如在地盤發現有任何與圖紙不符之處，須盡快通知設計師。
- This drawing should not be used as construction drawings without approval. 除有批核外，此圖不可作為施工用。

AMENDMENT PARTICULARS 更改細節 :

Revision 修正版	Description 內容	Date 日期
△	DESIGN	20221116
A	DESIGN	20221118
B	DESIGN	20221128
C	DESIGN	20221205
D	DESIGN	20221227
E	DESIGN	20221230
F	DESIGN	20230210
G	DESIGN	20230315
H	DESIGN	20230705

TOWN PLANNER & SURVEYOR 城市規劃師及測量師 :
DeSPACE (International) Limited
- E-mail 電郵 : despaceinternational@gmail.com
- Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 作室
- E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER 認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
- E-mail 電郵 : irstwong@gmail.com
- Tel 電話 : 2625 1776
- Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
- Fax 傳真 : 2399 0066
- Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME 項目名稱 :
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

DRAWING TITLE 圖紙名稱 : 1/F LAYOUT PLAN

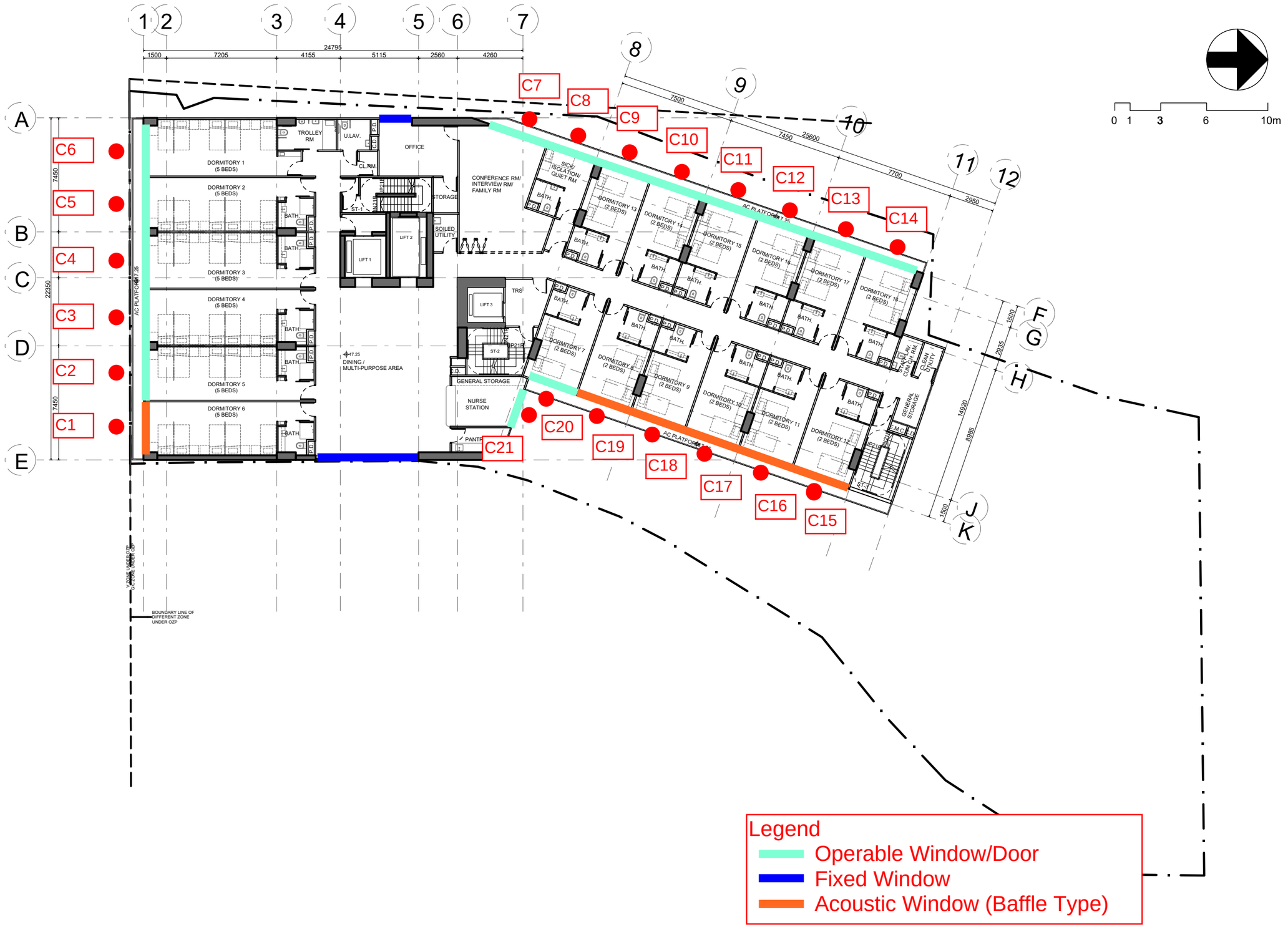
DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號 : P-102

SCALE 比例 : 1:250@A3

DATE 日期 : 20230705

APPENDIX 2.4 NOISE MITIGATION MEASURES LOCATION



Legend

- Operable Window/Door
- Fixed Window
- Acoustic Window (Baffle Type)

2/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

- Do not scale drawings: figured dimensions are to be taken in preference. 不可縮放圖紙；如有標示尺寸，須以標示尺寸為準。
- All dimensions should be checked and verify on site before commencing any work: discrepancies found in this drawing shall be reported to the designer. 所有於圖紙上標示的尺寸，須於現場覆核和修正。如在地盤發現有任何與圖紙不符之處，須盡快通知設計師。
- This drawing should not be used as construction drawings without approval. 除有批核外，此圖不可作為施工用。

AMENDMENT PARTICULARS 更改細節 :

Revision 修正版	Description 內容	Date 日期
△	DESIGN	20221116
A	DESIGN	20221118
B	DESIGN	20221128
C	DESIGN	20221205
D	DESIGN	20221227
E	DESIGN	20221230
F	DESIGN	20230210
G	DESIGN	20230315
H	DESIGN	20230705

TOWN PLANNER & SURVEYOR 城市規劃師及測量師 :
DeSPACE (International) Limited
E-mail 電郵 : despaceinternational@gmail.com
Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 作室
E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER 認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
E-mail 電郵 : irstwong@gmail.com
Tel 電話 : 2625 1776
Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
Fax 傳真 : 2399 0066
Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME 項目名稱 :
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

DRAWING TITLE 圖紙名稱 : 2/F LAYOUT PLAN

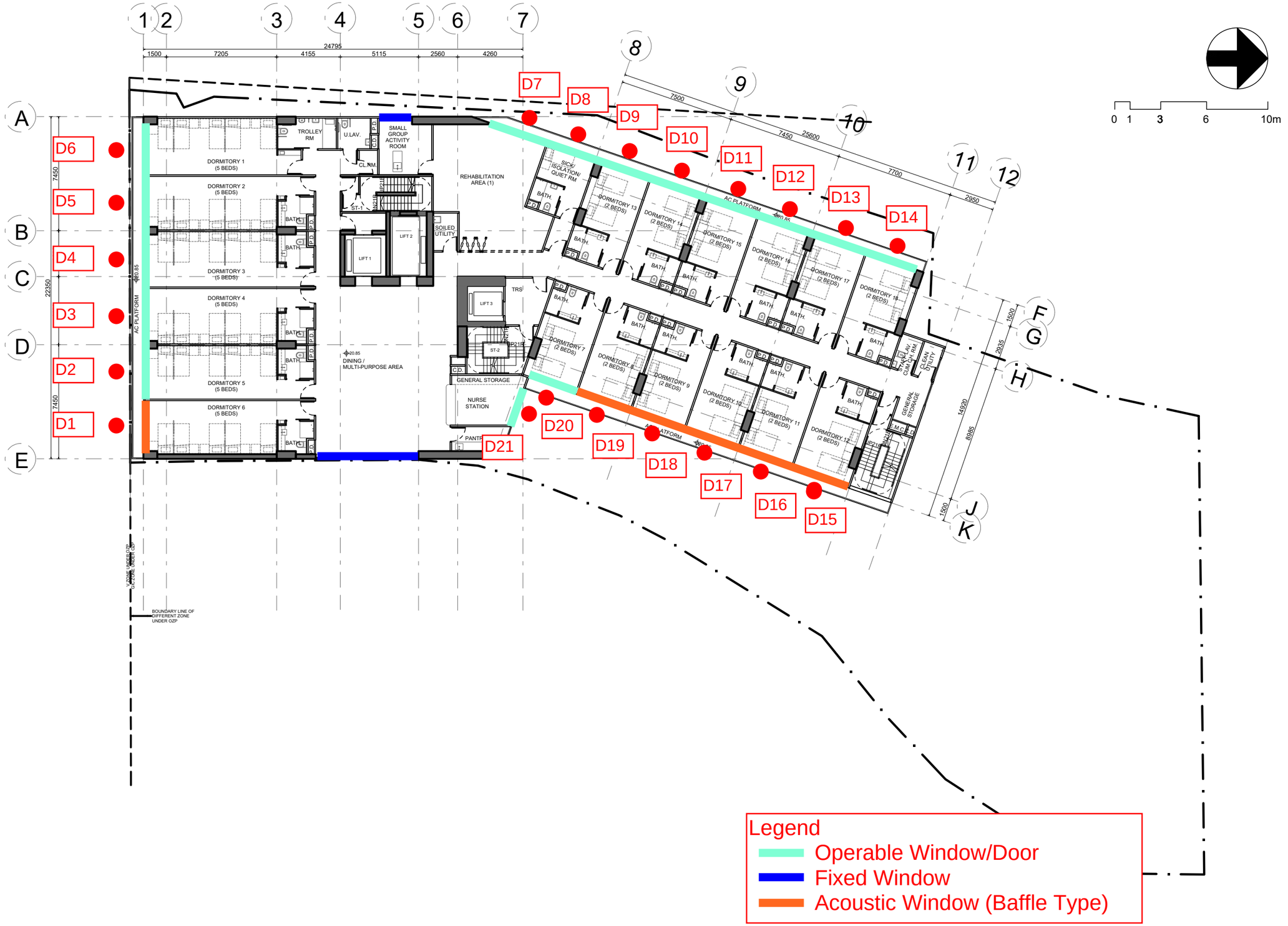
DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號 : P-103

SCALE 比例 : 1:250@A3

DATE 日期 : 20230705

APPENDIX 2.4 NOISE MITIGATION MEASURES LOCATION



Legend

- Operable Window/Door
- Fixed Window
- Acoustic Window (Baffle Type)

3/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

- Do not scale drawings: figured dimensions are to be taken in preference.
  不可縮放圖紙：如有標示尺寸，須以標示尺寸為準。
- All dimensions should be checked and verify on site before commencing any work: discrepancies found in this drawing shall be reported to the designer.
  所有於圖紙上標示的尺寸，須於現場覆核和修正。如在地盤發現有任何與圖紙不符之處，須盡快通知設計師。
- This drawing should not be used as construction drawings without approval.
  除有批核外，此圖不可作為施工用。

AMENDMENT PARTICULARS
更改細節 :

Revision 修正版	Description 內容	Date 日期
△	DESIGN	20221116
A	DESIGN	20221118
B	DESIGN	20221128
C	DESIGN	20221205
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E	DESIGN	20221230
F	DESIGN	20230210
G	DESIGN	20230315
H	DESIGN	20230705

TOWN PLANNER & SURVEYOR
城市規劃師及測量師 :
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- E-mail 電郵 : despaceinternational@gmail.com
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- E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
- E-mail 電郵 : irstwong@gmail.com
- Tel 電話 : 2625 1776
- Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
- Fax 傳真 : 2399 0066
- Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME
項目名稱 :
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

DRAWING TITLE
圖紙名稱 : 3/F LAYOUT PLAN

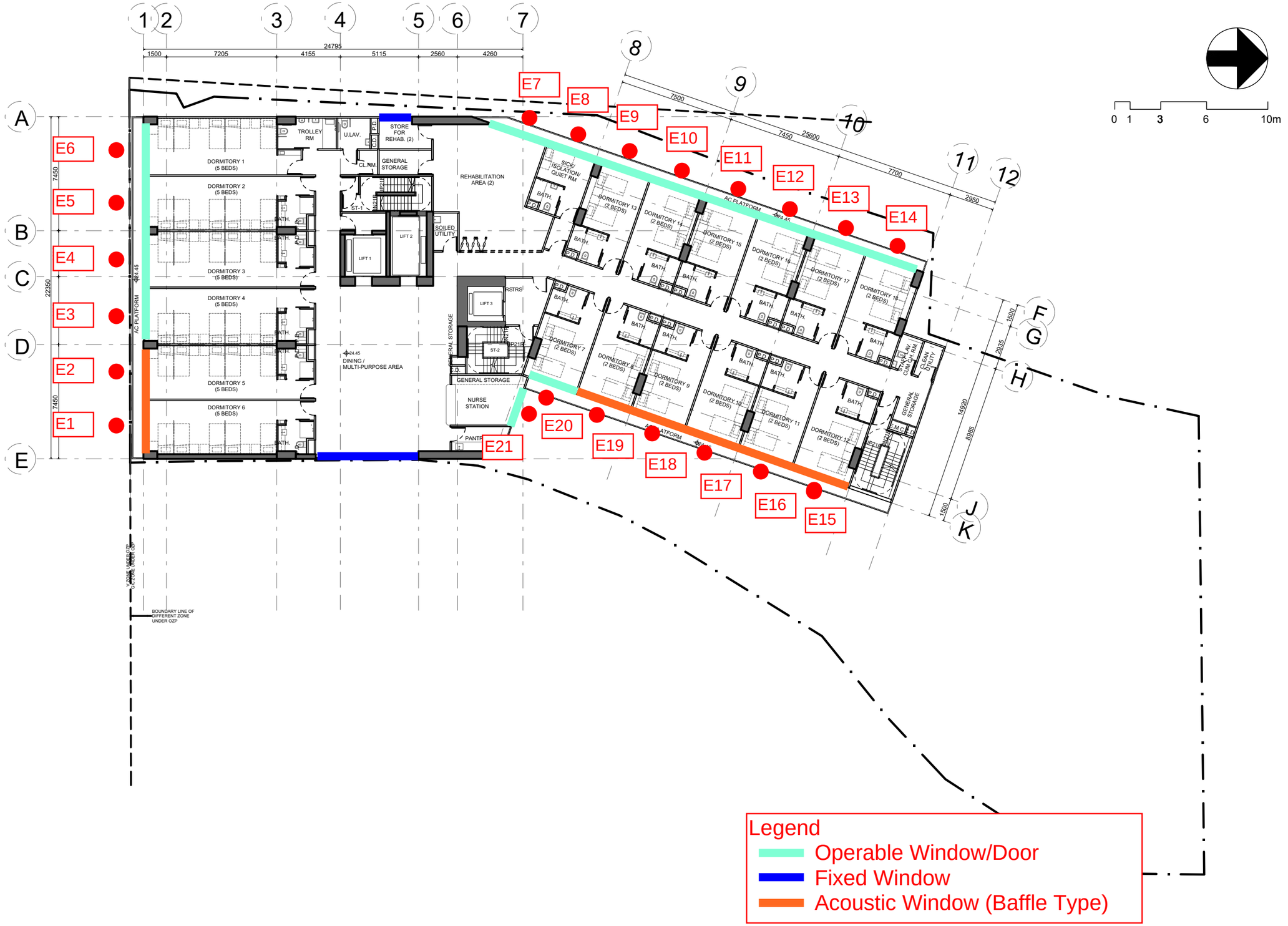
DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-104

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705

APPENDIX 2.4 NOISE MITIGATION MEASURES LOCATION



Legend

- Operable Window/Door
- Fixed Window
- Acoustic Window (Baffle Type)

4/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

- Do not scale drawings: figured dimensions are to be taken in preference. 不可縮放圖紙；如有標示尺寸，須以標示尺寸為準。
- All dimensions should be checked and verify on site before commencing any work: discrepancies found in this drawing shall be reported to the designer. 所有於圖紙上標示的尺寸，須於現場覆核和修正。如在地盤發現有任何與圖紙不符之處，須盡快通知設計師。
- This drawing should not be used as construction drawings without approval. 除有批核外，此圖不可作為施工用。

AMENDMENT PARTICULARS 更改細節 :

Revision 修正版	Description 內容	Date 日期
△	DESIGN	20221116
△A	DESIGN	20221118
△B	DESIGN	20221128
△C	DESIGN	20221205
△D	DESIGN	20221227
△E	DESIGN	20221230
△F	DESIGN	20230210
△G	DESIGN	20230315
△H	DESIGN	20230705

TOWN PLANNER & SURVEYOR 城市規劃師及測量師 :
DeSPACE (International) Limited
E-mail 電郵 : despaceinternational@gmail.com
Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 作室
E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER 認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
E-mail 電郵 : irstwong@gmail.com
Tel 電話 : 2625 1776
Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
Fax 傳真 : 2399 0066
Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME 項目名稱 :
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

DRAWING TITLE 圖紙名稱 : 4/F LAYOUT PLAN

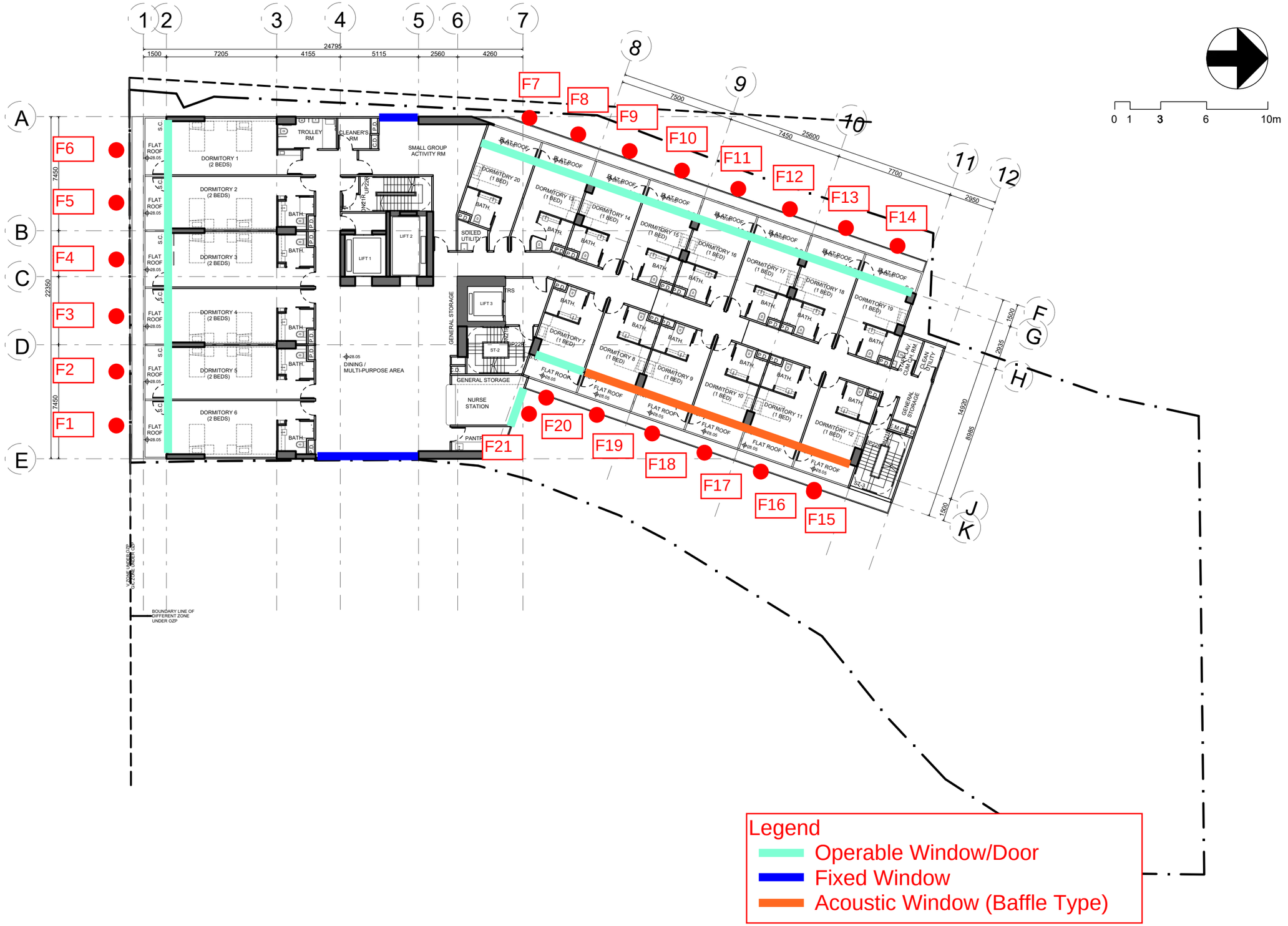
DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號 : P-105

SCALE 比例 : 1:250@A3

DATE 日期 : 20230705

APPENDIX 2.4 NOISE MITIGATION MEASURES LOCATION



0 1 **3** 6 10m

Legend

- Operable Window/Door
- Fixed Window
- Acoustic Window (Baffle Type)

5/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

- Do not scale drawings: figured dimensions are to be taken in preference. 不可縮放圖紙；如有標示尺寸，須以標示尺寸為準。
- All dimensions should be checked and verify on site before commencing any work: discrepancies found in this drawing shall be reported to the designer. 所有於圖紙上標示的尺寸，須於現場覆核和修正。如在地盤發現有任何與圖紙不符之處，須盡快通知設計師。
- This drawing should not be used as construction drawings without approval. 除有批核外，此圖不可作為施工用。

AMENDMENT PARTICULARS 更改細節 :

Revision 修正版	Description 內容	Date 日期
△	DESIGN	20221116
A	DESIGN	20221118
B	DESIGN	20221128
C	DESIGN	20221205
D	DESIGN	20221227
E	DESIGN	20221230
F	DESIGN	20230210
G	DESIGN	20230315
H	DESIGN	20230705

TOWN PLANNER & SURVEYOR 城市規劃師及測量師 :
DeSPACE (International) Limited
- E-mail 電郵 : despaceinternational@gmail.com
- Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 作室
- E-mail 電郵 : info@minorcreative.com

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S.T. WONG & PARTNERS LIMITED
- E-mail 電郵 : irstwong@gmail.com
- Tel 電話 : 2625 1776
- Fax 傳真 : 2467 9618

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- Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME 項目名稱 :
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

DRAWING TITLE 圖紙名稱 : 5/F LAYOUT PLAN

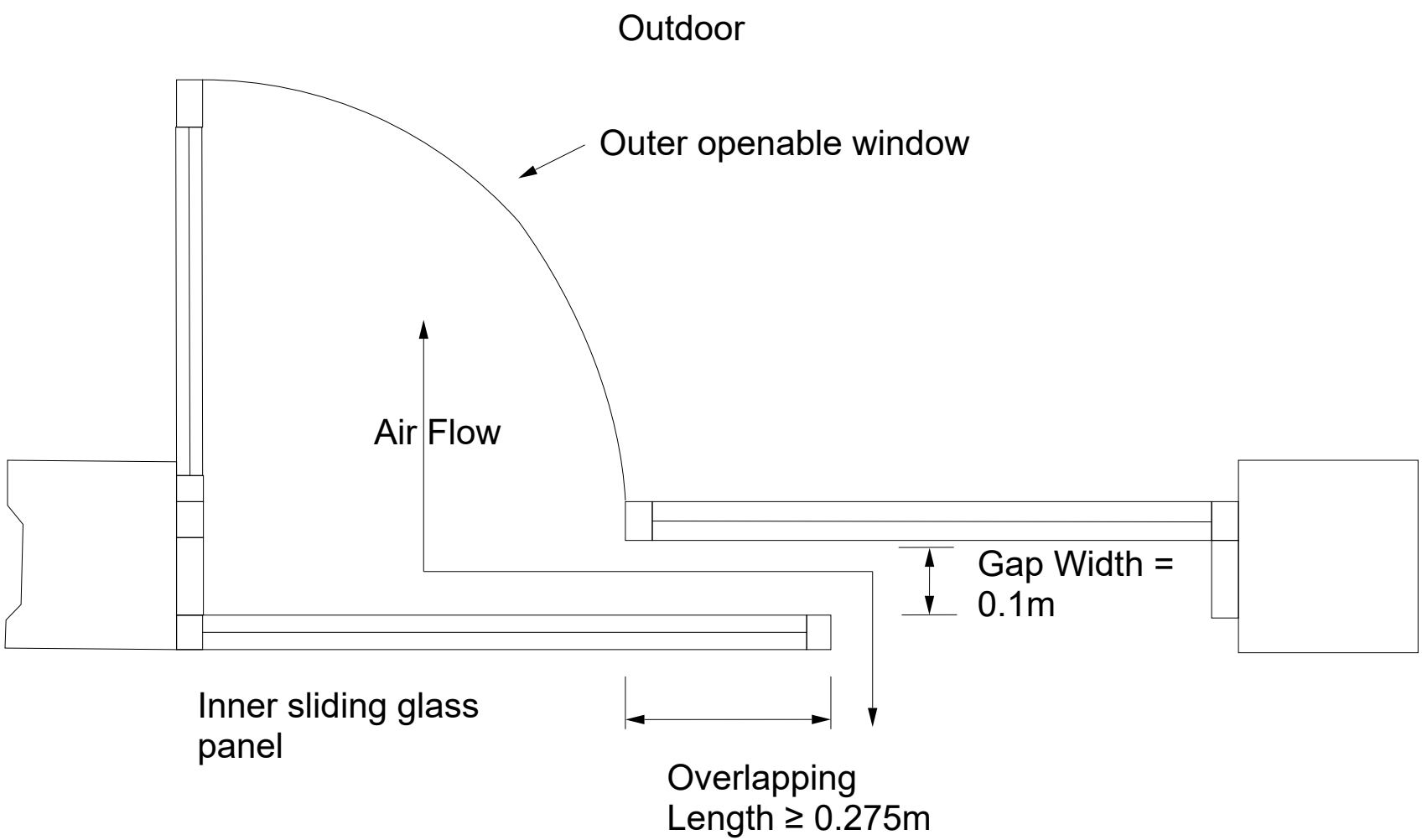
DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號 : P-106

SCALE 比例 : 1:250@A3

DATE 日期 : 20230705

APPENDIX 2.5 TYPICAL DRAWING ACOUSTIC WINDOW



	Prepared	Checked	Approved
Initial	LY	CC	YS
Date	202302	202302	202302

DrawingTitle

TYPICAL DRAWING OF ACOUSTIC WINDOW

Drawing No.	Rev.
Appendix 2.5	1

Scale:

A4 - NTS

BXG

BeeXergy Consulting Limited

APPENDIX 2.5 CALCULATION OF ACOUSTIC WINDOW

Onsite Noise Measurement Results for Baffle Type Windows at North Point Estate

Tower	Flat, Room	Type	FA (m2)	Quantity	PARAMETERS OF ACOUSTIC WINDOW & HABITABLE ROOM								Sound Attenuation, dBA
					OOW (m)	OOH (m)	OOA (m2)	G (m)	O (m)	IOW (m)	IOH (m)	IOA (m2)	
North Point Estate	Living Room	Without sound absorptive material	**38.3**	**1**	1.275	2.535	**3.2**	**0.1**	**0.275**	1.480	2.535	**3.8**	**8.8**

Baffle Type Windows at Proposed RCHE

Tower	Flat, Room	Type	FA (m2)	Quantity	PARAMETERS OF ACOUSTIC WINDOW & HABITABLE ROOM								Sound Attenuation from Reference Case, dBA [a]	Room Correction[1], dBA [b]	Estimated Sound Attenuation, dBA [a]+[b]	Claimed for Noise Reduction, dBA
					OOW (m)	OOH (m)	OOA (m2)	G (m)	O (m)	IOW (m)	IOH (m)	IOA (m2)				
RCHE in Tai Kei Leng	Type A Dormitory (2 Beds) on 2 to 5/F	Without sound absorptive material	**19.7**	**25**	1.275	2.535	**3.2**	**0.1**	**0.275**	1.480	2.535	**3.8**	8.8	-2.9	**5.9**	**4.0**
	Type B Dormitory (5 Beds) on 2 to 4/F		**32.3**	**4**	1.275	2.535	**3.2**	**0.1**	**0.275**	1.480	2.535	**3.8**	8.8	-0.7	**8.1**	**4.0**

Note::
FA - Floor Area, m2
G - Gap width, mm
O - Overlapping width, mm
OOH - outer opening height, mm
OOW - outer opening width, mm
IOH - Inner opening height, mm
IOW - Inner opening width, mm
MAP - Micro-perforated absorber
OOA - Outer Opening Area, m2
IOA - Inner Opening Area, m2

[1] Since the Proposed Room Size (PRS) is smaller than the Reference Room Size (RRS), room correction will be adopted based on the calculation: 10*log(PRS/RRS)

APPENDIX 2.6 TRAFFIC NOISE RESULT SUMMARY (MITIGATED)

Predicted Road Noise Level (AM Section)

Project Name: Proposed RCHE at Lot Nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 in Tai Kei Leng, Yuen Long				
ID	Description	mPD levels of Noise Assessment Points	Predicted Traffic Noise Level (Base Case), L10 (dB(A))	Predicted Traffic Noise Level (with mitigation measures of acoustic window (Baffle Type)), L10 (dB(A))[1] (4.0dBA reduction)
		G/F		
A1	Dining/Multi-Purpose Area	7.4	65.1	65.1
A2	Dining/Multi-Purpose Area	7.4	61.1	61.1
A3	Dining/Multi-Purpose Area	7.4	61.0	61.0
G1	Siu Lo Pantry/ Resting Area	6.9	68.1	68.1
G2	Siu Lo Study Room	6.9	66.8	66.8
G3	Siu Lo Living Room	6.9	59.1	59.1
G4	Siu Lo Living Room	6.9	58.3	58.3
G5	Siu Lo Living Room	6.9	54.6	54.6
		1/F		
B1	Dormitory	14.9	70.4	70.4
B2	Dormitory	14.9	69.6	69.6
B3	Dormitory	14.9	69.0	69.0
B4	Dormitory	14.9	68.6	68.6
B5	Dormitory	14.9	68.0	68.0
B6	Dormitory	14.9	67.6	67.6
B7	General Office	14.9	61.2	61.2
B8	Sick/ Isolation/ Quiet Room	14.9	60.9	60.9
B9	Dormitory	14.9	60.7	60.7
B10	Dormitory	14.9	60.6	60.6
B11	Dormitory	14.9	60.7	60.7
B12	Dormitory	14.9	60.7	60.7
B13	Dormitory	14.9	60.5	60.5
B14	Dormitory	14.9	60.5	60.5
B15	Dormitory	14.9	72.3	68.3
B16	Dormitory	14.9	72.2	68.2
B17	Dormitory	14.9	72.1	68.1
B18	Dormitory	14.9	72.0	68.0
B19	Dormitory	14.9	71.9	67.9
B20	Dormitory	14.9	70.2	70.2
B21	Nurse Station	14.9	70.2	70.2
H1	Siu Lo Bedroom	10.9	66.8	66.8
H2	Siu Lo Living Room	10.9	61.1	61.1
H3	Siu Lo Living Room	10.9	58.3	58.3
H4	Siu Lo Living Room	10.9	55.2	55.2
		2/F		
C1	Dormitory	18.5	70.9	66.9
C2	Dormitory	18.5	70.1	70.1
C3	Dormitory	18.5	69.6	69.6
C4	Dormitory	18.5	69.1	69.1
C5	Dormitory	18.5	68.6	68.6
C6	Dormitory	18.5	68.2	68.2
C7	Conference Room/ Interview Room/ Family Room	18.5	61.6	61.6
C8	Sick/ Isolation/ Quiet Room	18.5	61.5	61.5
C9	Dormitory	18.5	61.3	61.3
C10	Dormitory	18.5	61.2	61.2
C11	Dormitory	18.5	61.2	61.2
C12	Dormitory	18.5	61.2	61.2
C13	Dormitory	18.5	60.8	60.8
C14	Dormitory	18.5	60.7	60.7
C15	Dormitory	18.5	72.2	68.2
C16	Dormitory	18.5	72.1	68.1
C17	Dormitory	18.5	72.1	68.1
C18	Dormitory	18.5	71.9	67.9
C19	Dormitory	18.5	71.9	67.9
C20	Dormitory	18.5	70.2	70.2
C21	Nurse Station	18.5	70.2	70.2
		3/F		
D1	Dormitory	22.1	71.1	67.1
D2	Dormitory	22.1	70.4	70.4
D3	Dormitory	22.1	70.0	70.0
D4	Dormitory	22.1	69.6	69.6
D5	Dormitory	22.1	69.1	69.1
D6	Dormitory	22.1	68.7	68.7
D7	Rehabilitation Area (1)	22.1	62.0	62.0
D8	Sick/ Isolation/ Quiet Room	22.1	62.0	62.0
D9	Dormitory	22.1	61.8	61.8
D10	Dormitory	22.1	61.7	61.7
D11	Dormitory	22.1	61.7	61.7
D12	Dormitory	22.1	61.6	61.6
D13	Dormitory	22.1	61.2	61.2
D14	Dormitory	22.1	61.2	61.2
D15	Dormitory	22.1	72.1	68.1
D16	Dormitory	22.1	72.0	68.0
D17	Dormitory	22.1	72.1	68.1
D18	Dormitory	22.1	71.9	67.9
D19	Dormitory	22.1	71.9	67.9
D20	Dormitory	22.1	70.4	70.4
D21	Nurse Station	22.1	70.1	70.1

APPENDIX 2.6 TRAFFIC NOISE RESULT SUMMARY (MITIGATED)

		4/F		
E1	Dormitory	25.7	71.1	67.1
E2	Dormitory	25.7	70.6	66.6
E3	Dormitory	25.7	70.1	70.1
E4	Dormitory	25.7	69.8	69.8
E5	Dormitory	25.7	69.4	69.4
E6	Dormitory	25.7	69.1	69.1
E7	Rehabilitation Area (2)	25.7	62.6	62.6
E8	Sick/ Isolation/ Quiet Room	25.7	62.5	62.5
E9	Dormitory	25.7	62.3	62.3
E10	Dormitory	25.7	62.2	62.2
E11	Dormitory	25.7	62.1	62.1
E12	Dormitory	25.7	62.1	62.1
E13	Dormitory	25.7	61.7	61.7
E14	Dormitory	25.7	61.8	61.8
E15	Dormitory	25.7	72.2	68.2
E16	Dormitory	25.7	72.1	68.1
E17	Dormitory	25.7	72.1	68.1
E18	Dormitory	25.7	72.0	68.0
E19	Dormitory	25.7	71.9	67.9
E20	Dormitory	25.7	70.4	70.4
E21	Nurse Station	25.7	70.2	70.2
		5/F		
F1	Dormitory	29.3	69.9	69.9
F2	Dormitory	29.3	69.5	69.5
F3	Dormitory	29.3	69.4	69.4
F4	Dormitory	29.3	69.2	69.2
F5	Dormitory	29.3	69.0	69.0
F6	Dormitory	29.3	68.8	68.8
F7	Sick/ Isolation/ Quiet Room	29.3	62.2	62.2
F8	Dormitory	29.3	62.6	62.6
F9	Dormitory	29.3	62.6	62.6
F10	Dormitory	29.3	62.5	62.5
F11	Dormitory	29.3	64.6	64.6
F12	Dormitory	29.3	62.4	62.4
F13	Dormitory	29.3	63.4	63.4
F14	Dormitory	29.3	62.4	62.4
F15	Dormitory	29.3	70.6	66.6
F16	Dormitory	29.3	70.9	66.9
F17	Dormitory	29.3	70.9	66.9
F18	Dormitory	29.3	70.6	66.6
F19	Dormitory	29.3	70.7	66.7
F20	Dormitory	29.3	69.2	69.2
F21	Nurse Station	29.3	70.3	70.3

Remark:

[1] Predicted noise level with mitigation of Acoustic Window (Baffle Type) does not represent the noise level at 1m away from the external façade, but the equivalent noise level at 1m from the external facade after accounting the reduction in noise levels inside the flat offered by the Acoustic Window (Baffle Type)

[2] 70.5 = Noise Exceedance (highlighted in red)

APPENDIX 2.6 TRAFFIC NOISE RESULT SUMMARY (MITIGATED)

Predicted Road Noise Level (PM Section)

Project Name: Proposed RCHE at Lot Nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 in Tai Kei Leng, Yuen Long				
ID	Description	mPD levels of Noise Assessment Points	Predicted Traffic Noise Level (Base Case), L10 (dB(A))	Predicted Traffic Noise Level (with mitigation measures of acoustic window (Baffle Type)), L10 (dB(A))[1] (4.0dBA reduction)
G/F				
A1	Dining/Multi-Purpose Area	7.4	63.6	63.6
A2	Dining/Multi-Purpose Area	7.4	59.2	59.2
A3	Dining/Multi-Purpose Area	7.4	59.1	59.1
G1	Siu Lo Pantry/ Resting Area	6.9	66.7	66.7
G2	Siu Lo Study Room	6.9	65.3	65.3
G3	Siu Lo Living Room	6.9	57.1	57.1
G4	Siu Lo Living Room	6.9	56.4	56.4
G5	Siu Lo Living Room	6.9	53.1	53.1
1/F				
B1	Dormitory	14.9	69.0	69.0
B2	Dormitory	14.9	68.1	68.1
B3	Dormitory	14.9	67.6	67.6
B4	Dormitory	14.9	67.2	67.2
B5	Dormitory	14.9	66.5	66.5
B6	Dormitory	14.9	66.1	66.1
B7	General Office	14.9	59.3	59.3
B8	Sick/ Isolation/ Quiet Room	14.9	59.0	59.0
B9	Dormitory	14.9	58.8	58.8
B10	Dormitory	14.9	58.6	58.6
B11	Dormitory	14.9	58.9	58.9
B12	Dormitory	14.9	58.9	58.9
B13	Dormitory	14.9	58.6	58.6
B14	Dormitory	14.9	58.5	58.5
B15	Dormitory	14.9	70.8	66.8
B16	Dormitory	14.9	70.7	66.7
B17	Dormitory	14.9	70.6	66.6
B18	Dormitory	14.9	70.5	66.5
B19	Dormitory	14.9	70.4	70.4
B20	Dormitory	14.9	68.7	68.7
B21	Nurse Station	14.9	68.6	68.6
H1	Siu Lo Bedroom	10.9	65.4	65.4
H2	Siu Lo Living Room	10.9	59.5	59.5
H3	Siu Lo Living Room	10.9	56.5	56.5
H4	Siu Lo Living Room	10.9	53.8	53.8
2/F				
C1	Dormitory	18.5	69.4	69.4
C2	Dormitory	18.5	68.7	68.7
C3	Dormitory	18.5	68.1	68.1
C4	Dormitory	18.5	67.6	67.6
C5	Dormitory	18.5	67.1	67.1
C6	Dormitory	18.5	66.7	66.7
C7	Conference Room/ Interview Room/ Family Room	18.5	59.7	59.7
C8	Sick/ Isolation/ Quiet Room	18.5	59.7	59.7
C9	Dormitory	18.5	59.5	59.5
C10	Dormitory	18.5	59.4	59.4
C11	Dormitory	18.5	59.4	59.4
C12	Dormitory	18.5	59.3	59.3
C13	Dormitory	18.5	58.9	58.9
C14	Dormitory	18.5	58.8	58.8
C15	Dormitory	18.5	70.7	66.7
C16	Dormitory	18.5	70.6	66.6
C17	Dormitory	18.5	70.6	66.6
C18	Dormitory	18.5	70.5	66.5
C19	Dormitory	18.5	70.4	70.4
C20	Dormitory	18.5	68.7	68.7
C21	Nurse Station	18.5	68.7	68.7
3/F				
D1	Dormitory	22.1	69.6	69.6
D2	Dormitory	22.1	68.9	68.9
D3	Dormitory	22.1	68.5	68.5
D4	Dormitory	22.1	68.1	68.1
D5	Dormitory	22.1	67.6	67.6
D6	Dormitory	22.1	67.2	67.2
D7	Rehabilitation Area (1)	22.1	60.2	60.2
D8	Sick/ Isolation/ Quiet Room	22.1	60.2	60.2
D9	Dormitory	22.1	59.9	59.9
D10	Dormitory	22.1	59.8	59.8
D11	Dormitory	22.1	59.8	59.8
D12	Dormitory	22.1	59.8	59.8
D13	Dormitory	22.1	59.3	59.3
D14	Dormitory	22.1	59.3	59.3
D15	Dormitory	22.1	70.7	66.7
D16	Dormitory	22.1	70.6	66.6
D17	Dormitory	22.1	70.6	66.6
D18	Dormitory	22.1	70.4	70.4
D19	Dormitory	22.1	70.4	70.4
D20	Dormitory	22.1	68.9	68.9
D21	Nurse Station	22.1	68.6	68.6

APPENDIX 2.6 TRAFFIC NOISE RESULT SUMMARY (MITIGATED)

4/F				
E1	Dormitory	25.7	69.7	69.7
E2	Dormitory	25.7	69.1	69.1
E3	Dormitory	25.7	68.7	68.7
E4	Dormitory	25.7	68.3	68.3
E5	Dormitory	25.7	67.9	67.9
E6	Dormitory	25.7	67.6	67.6
E7	Rehabilitation Area (2)	25.7	60.8	60.8
E8	Sick/ Isolation/ Quiet Room	25.7	60.7	60.7
E9	Dormitory	25.7	60.5	60.5
E10	Dormitory	25.7	60.4	60.4
E11	Dormitory	25.7	60.4	60.4
E12	Dormitory	25.7	60.3	60.3
E13	Dormitory	25.7	59.8	59.8
E14	Dormitory	25.7	59.9	59.9
E15	Dormitory	25.7	70.8	66.8
E16	Dormitory	25.7	70.6	66.6
E17	Dormitory	25.7	70.6	66.6
E18	Dormitory	25.7	70.5	66.5
E19	Dormitory	25.7	70.5	66.5
E20	Dormitory	25.7	68.9	68.9
E21	Nurse Station	25.7	68.7	68.7
5/F				
F1	Dormitory	29.3	68.4	68.4
F2	Dormitory	29.3	68.0	68.0
F3	Dormitory	29.3	67.9	67.9
F4	Dormitory	29.3	67.7	67.7
F5	Dormitory	29.3	67.5	67.5
F6	Dormitory	29.3	67.3	67.3
F7	Sick/ Isolation/ Quiet Room	29.3	60.5	60.5
F8	Dormitory	29.3	60.8	60.8
F9	Dormitory	29.3	60.8	60.8
F10	Dormitory	29.3	60.8	60.8
F11	Dormitory	29.3	63.0	63.0
F12	Dormitory	29.3	60.7	60.7
F13	Dormitory	29.3	61.7	61.7
F14	Dormitory	29.3	60.6	60.6
F15	Dormitory	29.3	69.1	69.1
F16	Dormitory	29.3	69.4	69.4
F17	Dormitory	29.3	69.4	69.4
F18	Dormitory	29.3	69.1	69.1
F19	Dormitory	29.3	69.2	69.2
F20	Dormitory	29.3	67.6	67.6
F21	Nurse Station	29.3	68.8	68.8

Remark:

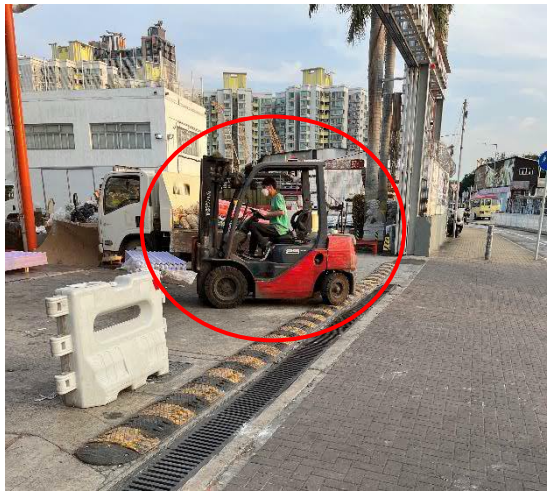
[1] Predicted noise level with mitigation of Acoustic Window (Baffle Type) does not represent the noise level at 1m away from the external façade, but the equivalent noise level at 1m from the external facade after accounting the reduction in noise levels inside the flat offered by the Acoustic Window (Baffle Type)

[2] 70.5 = Noise Exceedance (highlighted in red)

APPENDIX 3.1 EXTRACTED SITE SURVEY RECORDS OF IDENTIFIED FIXED NOISE SOURCES

Fixed Noise Sources Survey
Noise Source ID: S1

Name	Date	Noisy activities	Site observation
Man Cheong Metals and Building Materials Company Limited	11 Mar 2022 17 Mar 2022 23 Mar 2022 29 Mar 2022	- Loading and unloading - Forklift	- Loading and unloading activities with forklift were observed during site visit. - No evening and night-time operation was observed.



APPENDIX 3.1 EXTRACTED SITE SURVEY RECORDS OF IDENTIFIED FIXED NOISE SOURCES

Fixed Noise Sources Survey
Noise Source ID: S2

Name	Date	Noisy activities	Site observation
Motor Service Shop	11 Mar 2022 17 Mar 2022 23 Mar 2022 29 Mar 2022	- Vehicle cleaning	- Vehicle cleaning with air compressor was observed during site visit. - No evening and night-time operation was observed.

APPENDIX 3.1 EXTRACTED SITE SURVEY RECORDS OF IDENTIFIED FIXED NOISE SOURCES

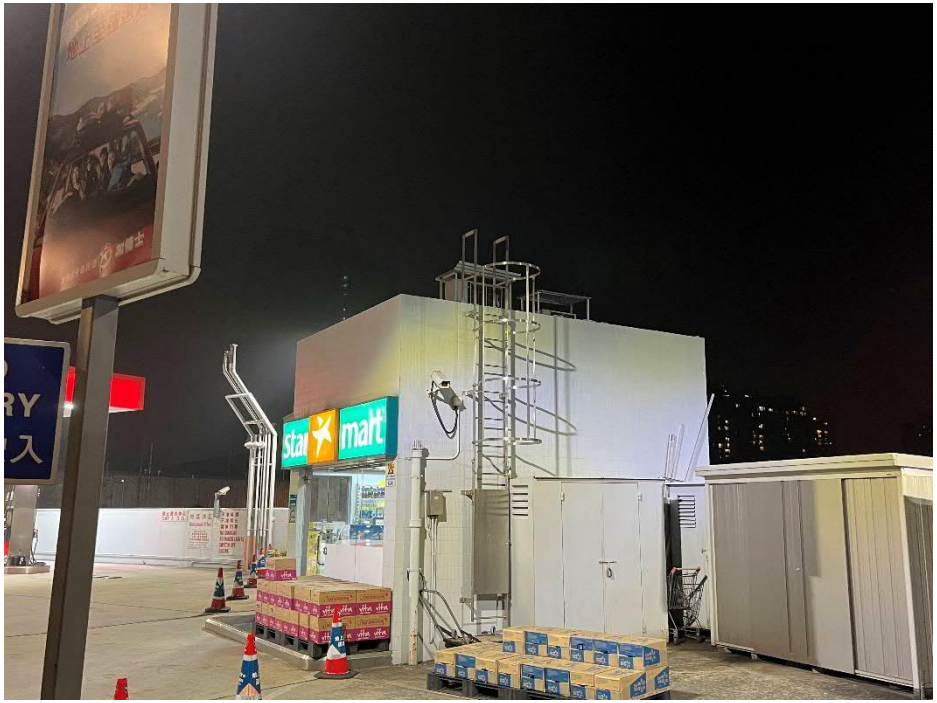
Fixed Noise Sources Survey
Noise Source ID: S3

Name	Date	Noisy activities	Site observation
Vehicle Repairing Shop	11 Mar 2022 17 Mar 2022 23 Mar 2022 29 Mar 2022	- Vehicle repairing	- Vehicle repairing activities with handheld grinder and drill were observed during site visit. - No evening and night-time operation was observed.

APPENDIX 3.1 EXTRACTED SITE SURVEY RECORDS OF IDENTIFIED FIXED NOISE SOURCES

Fixed Noise Sources Survey
Noise Source ID: S4

Name	Date	Noisy activities	Site observation
Caltex Gas Station	11 Mar 2022 17 Mar 2022 23 Mar 2022 29 Mar 2022	- N/A	- Air conditioners were observed during site visit, no noticeable noise was perceived. - Evening and night-time operation was observed.



APPENDIX 3.1 EXTRACTED SITE SURVEY RECORDS OF IDENTIFIED FIXED NOISE SOURCES

Fixed Noise Sources Survey
Noise Source ID: S5

Name	Date	Noisy activities	Site observation
Hang Heung Cake Factory	11 Mar 2022 17 Mar 2022 23 Mar 2022 29 Mar 2022	- N/A	- Cooling tower were observed during site visit, no noticeable noise was perceived. - No operation was observed.

APPENDIX 3.1 EXTRACTED SITE SURVEY RECORDS OF IDENTIFIED FIXED NOISE SOURCES

Fixed Noise Sources Survey
Noise Source ID: S6

Name	Date	Noisy activities	Site observation
Animal Feeds Factory	11 Mar 2022 17 Mar 2022 23 Mar 2022 29 Mar 2022	- Loading and unloading	- Air conditioners were observed during site visit, no noticeable noise was perceived. - No evening and night-time operation was observed.

APPENDIX 3.1 EXTRACTED SITE SURVEY RECORDS OF IDENTIFIED FIXED NOISE SOURCES

Fixed Noise Sources Survey
Noise Source ID: S7

Name	Date	Noisy activities	Site observation
Storage Warehouse	11 Mar 2022 17 Mar 2022 23 Mar 2022 29 Mar 2022	- N/A	- No noticeable noise was perceived. - No evening and night-time operation was observed.

APPENDIX 3.1 EXTRACTED SITE SURVEY RECORDS OF IDENTIFIED FIXED NOISE SOURCES

Fixed Noise Sources Survey
Noise Source ID: S8

Name	Date	Noisy activities	Site observation
Storage Warehouse	11 Mar 2022 17 Mar 2022 23 Mar 2022 29 Mar 2022	- N/A	- No noticeable noise was perceived. - No evening and night-time operation was observed.

APPENDIX 3.1 EXTRACTED SITE SURVEY RECORDS OF IDENTIFIED FIXED NOISE SOURCES

Fixed Noise Sources Survey
Noise Source ID: S9

Name	Date	Noisy activities	Site observation
Vehicle Repairing Workshop	11 Mar 2022 17 Mar 2022 23 Mar 2022 29 Mar 2022	- Vehicle repairing	- No noticeable noise was observed during site visit. - No evening and night-time operation was observed.

APPENDIX 3.1 EXTRACTED SITE SURVEY RECORDS OF IDENTIFIED FIXED NOISE SOURCES

Fixed Noise Sources Survey
Noise Source ID: S10

Name	Date	Noisy activities	Site observation
Storage Warehouse	11 Mar 2022 17 Mar 2022 23 Mar 2022 29 Mar 2022	- N/A	- No noticeable noise was perceived. - No evening and night-time operation was observed.

APPENDIX 3.1 EXTRACTED SITE SURVEY RECORDS OF IDENTIFIED FIXED NOISE SOURCES

Fixed Noise Sources Survey
Noise Source ID: S12

Name	Date	Noisy activities	Site observation
Vehicle Repairing Workshop	11 Mar 2022 17 Mar 2022 23 Mar 2022 29 Mar 2022	- Vehicle repairing	- Vehicle repairing activities with handheld grinder and drill were observed during site visit. - No evening and night-time operation was observed.

APPENDIX 3.1 EXTRACTED SITE SURVEY RECORDS OF IDENTIFIED FIXED NOISE SOURCES

Fixed Noise Sources Survey
Noise Source ID: S13

Name	Date	Noisy activities	Site observation
Motor Service Shop	11 Mar 2022 17 Mar 2022 23 Mar 2022 29 Mar 2022	- Vehicle Cleaning	- Vehicle cleaning with air compressor was observed during site visit. - No evening and night-time operation was observed.

APPENDIX 3.1 EXTRACTED SITE SURVEY RECORDS OF IDENTIFIED FIXED NOISE SOURCES

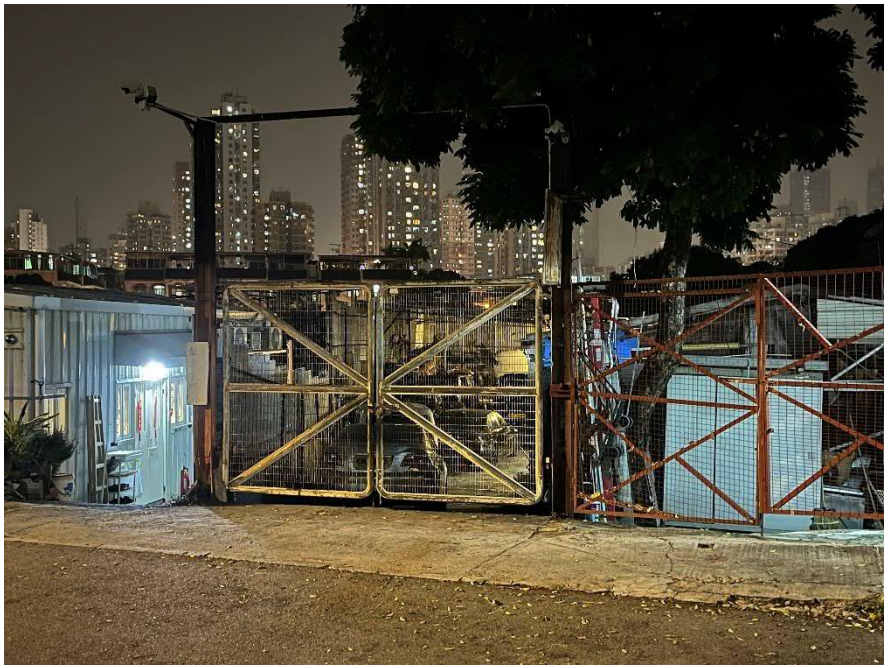
Fixed Noise Sources Survey
Noise Source ID: S14

Name	Date	Noisy activities	Site observation
Evergetic Development Co. Ltd	11 Mar 2022 17 Mar 2022 23 Mar 2022 29 Mar 2022	- Loading and unloading - Forklift	- Loading and unloading activities with forklift were observed during site visit. - No evening and night-time operation was observed.

APPENDIX 3.1 EXTRACTED SITE SURVEY RECORDS OF IDENTIFIED FIXED NOISE SOURCES

Fixed Noise Sources Survey
Noise Source ID: S15

Name	Date	Noisy activities	Site observation
New Egal Motor Development	11 Mar 2022 17 Mar 2022 23 Mar 2022 29 Mar 2022	- Vehicle repairing	- Vehicle repairing activities with handheld grinder and drill were observed during site visit. - No evening and night-time operation was observed.



APPENDIX 3.1 EXTRACTED SITE SURVEY RECORDS OF IDENTIFIED FIXED NOISE SOURCES

Fixed Noise Sources Survey
Noise Source ID: S16

Name	Date	Noisy activities	Site observation
正中汽車美容	11 Mar 2022 17 Mar 2022 23 Mar 2022 29 Mar 2022	- N/A	- No noisy activity was observed during site visit. - No evening and night-time operation was observed.

APPENDIX 3.1 EXTRACTED SITE SURVEY RECORDS OF IDENTIFIED FIXED NOISE SOURCES

Fixed Noise Sources Survey
Noise Source ID: S17

Name	Date	Noisy activities	Site observation
Machinery repair workshop	11 Mar 2022 17 Mar 2022 23 Mar 2022 29 Mar 2022	- N/A	- No noticeable noise was perceived. - No evening and night-time operation was observed.

APPENDIX 3.2 CALCULATION OF MAXIMUM ALLOWABLE SOUND POWER LEVEL OF PLANNED FIXED PLANT NOISE SOURCES

Period	Source	Nearest NSR	Noise Criteria	Shortest Distance to Noise Assessment Point, m	Correction, dBA				Maximum Allowable SWL, dBA
					Distance	Façade	Tonality	Screening[a]	
Daytime	Building equipment in the site	Village Type Residential Building (N01) (X:821023 ; Y:833280)	41	15	32	-3	-3	0	67
Nighttime			39	15	32	-3	-3	0	65
Daytime		Village Type Residential Building (N02) (X:820991 ; Y:833313)	41	50	42	-3	-3	0	77
Nighttime			39	50	42	-3	-3	0	75
Daytime		Village Type Residential Building(N03) (X:821041 ; Y:833357)	41	31	38	-3	-3	0	73
Nighttime			39	31	38	-3	-3	0	71

[a] Barrier Correction:

0dB = the NSR with direct line of sight to the source which is not blocked by other building(s).

-5dB = fixed plant noise sources falling within the view angle of the NSR but with no direct line of sight to the soruce opening, a 5 dB(A) attenuation would be applied.

-10dB = the NSR with no direct line of sight to the source/opening which is located on the other side of the building or completely blocked by other building(s).

APPENDIX 3.3 CALCULATION OF FIXED PLANT NOISE ASSESSMENT

Project:	Proposed RCHE at Tai Kei Leng
Project number:	W21220
Title:	Assessment for Noise from Fixed Sources
Subtitle:	Calculation of SPL at Assessment Points
NSR ID:	B4
NSR x coord:	821045
NSR y coord:	833260
NSR floor (/F)	1
NSR height (mPD)	14.85
ASR	B

Noise Source ID	Description	Activities/Equipment	Operation		SWL, dB(A)		Shortest Separation Distance from Ref. Point, m	Worst Operation Duration, %	Correction, dB(A)				Predicted Daytime SPL @ NSR, Leq, 30mins, dB(A)	Predicted Night-time SPL @ NSR, Leq, 30mins, dB(A)	Remark
			Daytime	Night-time	Daytime	Night-time			Distance	Time	Barrier	Façade			
S1	Man Cheong Metals and Building Materials Company Limited	Loading and Unloading	Y	N	98	-	69	100%	-45	-	-10	3	46	-	No line of sight
S2	Motor Service Shop	Vehicle Cleaning	Y	N	86	-	54	100%	-43	-	-10	3	37	-	No line of sight
S3	Vehicle Repairing Shop	Vehicle Repairing	Y	N	88	-	71	100%	-45	-	-10	3	36	-	No line of sight
S4	Caltex Gas Station	Air Conditioner	Y	Y	70	70	36	100%	-39	-	-10	3	24	34	No line of sight
S5	Hang Heung Cake Factory	Cooling Tower	N	N	90	-	39	100%	-40	-	-	3	53	-	
S6	Animal Feeds Factory	Manufacture	Y	N	-	-	142	-	-	-	-	-	-	-	
S7	Storage Warehouse	Open Storage	Y	N	-	-	265	-	-	-	-	-	-	-	
S8	Storage Warehouse	Open Storage	Y	N	-	-	223	-	-	-	-	-	-	-	
S9	Vehicle Repairing Workshop	Vehicle Repairing	Y	N	86	-	145	100%	-51	-	-	3	38	-	
S10	Storage Warehouse	Open Storage	Y	N	-	-	170	-	-	-	-	-	-	-	
S11	Planned LPG Filling station	Air Conditioner	Y	Y	70	70	251	100%	-56	-	-10	3	7	17	No line of sight
S12	Vehicle Repairing Workshop	Vehicle Repairing	Y	N	81	-	241	100%	-56	-	-	3	28	-	
S13	Motor Service Shop	Vehicle Cleaning	Y	N	78	-	171	100%	-53	-	-10	3	18	-	No line of sight
S14	Evergetic Development Co. Ltd	Loading and Unloading	Y	N	98	-	52	100%	-42	-	-10	3	48	-	No line of sight
S15	New Egal Motor Development	Vehicle Repairing	Y	N	86	-	160	100%	-52	-	-	3	37	-	
S16	正中汽車美容	Vehicle Cleaning	Y	N	78	-	119	100%	-50	-	-10	3	21	-	No line of sight
S17	Machinery repair workshop	Machinery Repairing	Y	N	95	-	53	100%	-42	-	-	3	56	-	
										Total SPL			58	34	
										Criteria ANL			65	55	
										Exceedance			-	-	

APPENDIX 3.3 CALCULATION OF FIXED PLANT NOISE ASSESSMENT

Project:	Proposed RCHE at Tai Kei Leng
Project number:	W21220
Title:	Assessment for Noise from Fixed Sources
Subtitle:	Calculation of SPL at Assessment Points
NSR ID:	B8
NSR x coord:	821038
NSR y coord:	833294
NSR floor (/F)	1
NSR height (mPD)	14.85
ASR	B

Noise Source ID	Description	Activities/Equipment	Operation		SWL, dB(A)		Shortest Separation Distance from Ref. Point, m	Worst Operation Duration, %	Correction, dB(A)				Predicted Daytime SPL @ NSR, Leq, 30mins, dB(A)	Predicted Night-time SPL @ NSR, Leq, 30mins, dB(A)	Remark
			Daytime	Night-time	Daytime	Night-time			Distance	Time	Barrier	Façade			
S1	Man Cheong Metals and Building Materials Company Limited	Loading and Unloading	Y	N	98	-	62	100%	-44	-	-10	3	47	-	No line of sight
S2	Motor Service Shop	Vehicle Cleaning	Y	N	86	-	77	100%	-46	-	-5	3	39	-	Semi-enclosed
S3	Vehicle Repairing Shop	Vehicle Repairing	Y	N	88	-	99	100%	-48	-	-5	3	38	-	Semi-enclosed
S4	Caltex Gas Station	Air Conditioner	Y	Y	70	70	27	100%	-37	-	-10	3	26	36	No line of sight
S5	Hang Heung Cake Factory	Cooling Tower	N	N	90	-	62	100%	-44	-	-	3	49	-	
S6	Animal Feeds Factory	Manufacture	Y	N	-	-	176	-	-	-	-	-	-	-	
S7	Storage Warehouse	Open Storage	Y	N	-	-	298	-	-	-	-	-	-	-	
S8	Storage Warehouse	Open Storage	Y	N	-	-	252	-	-	-	-	-	-	-	
S9	Vehicle Repairing Workshop	Vehicle Repairing	Y	N	86	-	161	100%	-52	-	-	3	37	-	
S10	Storage Warehouse	Open Storage	Y	N	-	-	186	-	-	-	-	-	-	-	
S11	Planned LPG Filling station	Air Conditioner	Y	Y	70	70	269	100%	-57	-	-10	3	6	16	No line of sight
S12	Vehicle Repairing Workshop	Vehicle Repairing	Y	N	81	-	244	100%	-56	-	-	3	28	-	
S13	Motor Service Shop	Vehicle Cleaning	Y	N	78	-	144	100%	-51	-	-10	3	19	-	No line of sight
S14	Evergetic Development Co. Ltd	Loading and Unloading	Y	N	98	-	62	100%	-44	-	-10	3	47	-	No line of sight
S15	New Egal Motor Development	Vehicle Repairing	Y	N	86	-	163	100%	-52	-	-	3	37	-	
S16	正中汽車美容	Vehicle Cleaning	Y	N	78	-	135	100%	-51	-	-10	3	20	-	No line of sight
S17	Machinery repair workshop	Machinery Repairing	Y	N	95	-	26	100%	-36	-	-10	3	52	-	No line of sight
										Total SPL			55	36	
										Criteria ANL			65	55	
										Exceedance			-	-	

APPENDIX 3.3 CALCULATION OF FIXED PLANT NOISE ASSESSMENT

Project:	Proposed RCHE at Tai Kei Leng
Project number:	W21220
Title:	Assessment for Noise from Fixed Sources
Subtitle:	Calculation of SPL at Assessment Points
NSR ID:	B18
NSR x coord:	821057
NSR y coord:	833294
NSR floor (/F)	1
NSR height (mPD)	14.85
ASR	B

Noise Source ID	Description	Activities/Equipment	Operation		SWL, dB(A)		Shortest Separation Distance from Ref. Point, m	Worst Operation Duration, %	Correction, dB(A)				Predicted Daytime SPL @ NSR, Leq, 30mins, dB(A)	Predicted Night-time SPL @ NSR, Leq, 30mins, dB(A)	Remark
			Daytime	Night-time	Daytime	Night-time			Distance	Time	Barrier	Façade			
S1	Man Cheong Metals and Building Materials Company Limited	Loading and Unloading	Y	N	98	-	43	100%	-41	-	-	3	60	-	
S2	Motor Service Shop	Vehicle Cleaning	Y	N	86	-	63	100%	-44	-	-5	3	40	-	Semi-enclosed
S3	Vehicle Repairing Shop	Vehicle Repairing	Y	N	88	-	88	100%	-47	-	-5	3	40	-	Semi-enclosed
S4	Caltex Gas Station	Air Conditioner	Y	Y	70	70	9	100%	-27	-	-	3	46	46	
S5	Hang Heung Cake Factory	Cooling Tower	N	N	90	-	71	100%	-45	-	-10	3	38	-	No line of sight
S6	Animal Feeds Factory	Manufacture	Y	N	-	-	175	-	-	-	-	-	-	-	
S7	Storage Warehouse	Open Storage	Y	N	-	-	301	-	-	-	-	-	-	-	
S8	Storage Warehouse	Open Storage	Y	N	-	-	259	-	-	-	-	-	-	-	
S9	Vehicle Repairing Workshop	Vehicle Repairing	Y	N	86	-	175	100%	-53	-	-10	3	26	-	No line of sight
S10	Storage Warehouse	Open Storage	Y	N	-	-	200	-	-	-	-	-	-	-	
S11	Planned LPG Filling station	Air Conditioner	Y	Y	70	70	283	100%	-57	-	-10	3	6	16	No line of sight
S12	Vehicle Repairing Workshop	Vehicle Repairing	Y	N	81	-	262	100%	-56	-	-10	3	17	-	No line of sight
S13	Motor Service Shop	Vehicle Cleaning	Y	N	78	-	135	100%	-51	-	-	3	30	-	
S14	Evergetic Development Co. Ltd	Loading and Unloading	Y	N	98	-	45	100%	-41	-	-	3	59	-	
S15	New Egal Motor Development	Vehicle Repairing	Y	N	86	-	181	100%	-53	-	-10	3	26	-	No line of sight
S16	正中汽車美容	Vehicle Cleaning	Y	N	78	-	118	100%	-49	-	-10	3	21	-	No line of sight
S17	Machinery repair workshop	Machinery Repairing	Y	N	95	-	45	100%	-41	-	-10	3	47	-	No line of sight
										Total SPL			63	46	
										Criteria ANL			65	55	
										Exceedance			-	-	

APPENDIX 3.3 CALCULATION OF FIXED PLANT NOISE ASSESSMENT

Project:	Proposed RCHE at Tai Kei Leng
Project number:	W21220
Title:	Assessment for Noise from Fixed Sources
Subtitle:	Calculation of SPL at Assessment Points
NSR ID:	H4
NSR x coord:	821059
NSR y coord:	833328
NSR floor (/F)	1
NSR height (mPD)	10.85
ASR	B

Noise Source ID	Description	Activities/Equipment	Operation		SWL, dB(A)		Shortest Separation Distance from Ref. Point, m	Worst Operation Duration, %	Correction, dB(A)				Predicted Daytime SPL @ NSR, Leq, 30mins, dB(A)	Predicted Night-time SPL @ NSR, Leq, 30mins, dB(A)	Remark
			Daytime	Night-time	Daytime	Night-time			Distance	Time	Barrier	Façade			
S1	Man Cheong Metals and Building Materials Company Limited	Loading and Unloading	Y	N	98	-	47	100%	-41	-	-10	3	49	-	No line of sight
S2	Motor Service Shop	Vehicle Cleaning	Y	N	86	-	91	100%	-47	-	-10	3	32	-	No line of sight
S3	Vehicle Repairing Shop	Vehicle Repairing	Y	N	88	-	117	100%	-49	-	-10	3	32	-	No line of sight
S4	Caltex Gas Station	Air Conditioner	Y	Y	70	70	38	100%	-40	-	-10	3	23	23	No line of sight
S5	Hang Heung Cake Factory	Cooling Tower	N	N	90	-	102	100%	-48	-	-10	3	35	-	No line of sight
S6	Animal Feeds Factory	Manufacture	Y	N	-	-	209	-	-	-	-	-	-	-	
S7	Storage Warehouse	Open Storage	Y	N	-	-	335	-	-	-	-	-	-	-	
S8	Storage Warehouse	Open Storage	Y	N	-	-	291	-	-	-	-	-	-	-	
S9	Vehicle Repairing Workshop	Vehicle Repairing	Y	N	86	-	200	100%	-54	-	-10	3	25	-	No line of sight
S10	Storage Warehouse	Open Storage	Y	N	-	-	225	-	-	-	-	-	-	-	
S11	Planned LPG Filling station	Air Conditioner	Y	Y	70	70	308	100%	-58	-	-10	3	5	5	No line of sight
S12	Vehicle Repairing Workshop	Vehicle Repairing	Y	N	81	-	276	100%	-57	-	-	3	27	-	
S13	Motor Service Shop	Vehicle Cleaning	Y	N	78	-	104	100%	-48	-	-	3	32	-	
S14	Evergetic Development Co. Ltd	Loading and Unloading	Y	N	98	-	67	100%	-45	-	-10	3	46	-	No line of sight
S15	New Egal Motor Development	Vehicle Repairing	Y	N	86	-	197	100%	-54	-	-	3	35	-	
S16	正中汽車美容	Vehicle Cleaning	Y	N	78	-	134	100%	-51	-	-10	3	20	-	No line of sight
S17	Machinery repair workshop	Machinery Repairing	Y	N	95	-	53	100%	-42	-	-	3	56	-	
										Total SPL			57	23	
										Criteria ANL			65	55	
										Exceedance			-	-	

APPENDIX 3.4 ADOPTED NOISE LEVEL OF FIXED PLANT SOURCES

Project: Proposed Proposed RCHE at Tai Kei Leng
Title: Predicted Sound Power Level (SWL) from Fixed Noise Sources

Source Location	Source Description	Source ID	X-coordinate	Y-coordinate	Avg. Measured SPL, dB(A) [1]	Measurement Dist. From Source, m [2]	Worst Operation Duration, %	Distance Correction, dB(A)	SWL, dB(A)		Operation		Remarks and Assumption
									Daytime / Evening	Night-time	Daytime	Night-time	
Man Cheong Metals and Building Materials Company Limited	Loading and Unloading	S1	821099	833303	69.5	10	100%	28	98	-	Y	N	Forklift
Motor Service Shop	Vehicle Cleaning	S2	821097	833245	60.2	8	100%	26	86	-	Y	N	Air compressor, jet washing
Vehicle Repairing Shop	Vehicle Repairing	S3	821104	833220	62.3	8	100%	26	88	-	Y	N	Grinding, hammering, drilling
Caltex Gas Station	Air Conditioner	S4	821065	833290	-	-	-	-	70	70	Y	Y	Referenced to previous S.16 application
Hang Heung Cake Factory	Cooling Tower	S5	821014	833237	-	-	-	-	90	-	N	N	Referenced to previous S.16 application
Animal Feeds Factory	Manufacture	S6	821060	833119	-	-	-	-	-	-	Y	N	Not considered as noise source
Storage Warehouse	Open Storage	S7	820997	832999	-	-	-	-	-	-	Y	N	Not considered as noise source
Storage Warehouse	Open Storage	S8	820948	833059	-	-	-	-	-	-	Y	N	Not considered as noise source
Vehicle Repairing Workshop	Vehicle Repairing	S9	820924	833181	-	-	-	-	86	-	Y	N	Referenced to S15 for simliar nature
Storage Warehouse	Open Storage	S10	820905	833164	-	-	-	-	-	-	Y	N	Not considered as noise source
Planned LPG Filling station	Air Conditioner	S11	820847	833105	-	-	-	-	70	70	Y	Y	Referenced to S4 for similar nature
Vehicle Repairing Workshop	Vehicle Repairing	S12	820809	833210	57.1	6	100%	24	81	-	Y	N	Grinding, hammering, drilling
Motor Service Shop	Vehicle Cleaning	S13	821115	833416	55.6	5	100%	22	78	-	Y	N	Air compressor, jet washing
Evergetic Development Co. Ltd	Loading and Unloading	S14	821096	833272	-	-	-	-	98	-	Y	N	Referenced to S1 for similar nature
New Egal Motor Development	Vehicle Repairing	S15	820887	833232	56.7	12	100%	30	86	-	Y	N	Grinding, hammering, drilling
正中汽車美容	Vehicle Cleaning	S16	821163	833243	-	-	-	-	78	-	Y	N	Referenced to S13 for similar nature
Machinery repair workshop	Machinery Repairing	S17	821013	833302	-	-	-	-	95	-	Y	N	Referenced to previous S.16 application

Remarks:
[1] The maximum measured SPL was adopted for conservative assessment and no correction for background noise level was conducted.
[2] The distance from noise source were measured from the site boundary of the plants.
[3] Based on observation of site inspection, no obvious tonality, intermittency or impulsiveness characteristic was observed in all identified fixed noise sources.

Sound Level Meter: SVAN 979 (46199)

Hong Kong Calibration Ltd.
香 港 校 正 有 限 公 司

Calibration Certificate

Certificate No. 110716 Page 1 of 4 Pages

Customer : Beexergy Consulting Limited

Address : Unit 2001-05, Apec Plaza, 49 Hoi Yuen Road, Kwun Tong, Kowloon, Hong Kong

Order No. : Q14208 **Date of receipt :** 1-Nov-21

Item Tested

Description : Sound Level Meter & Vibration Meter with Vibration Sensor
Manufacturer : SVANTEK **I.D.** : --
Model : SVAN 979, SV 80 **Serial No.** : 46199

Test Conditions

Date of Test : 16-Nov-21 **Supply Voltage** : --
Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.
Ref. Document/Procedure: Z01, IEC 61672, M41, JJG 676-2000.

Test Results

All results were within the IEC 61672 Type 1 or manufacturer's specification. (where applicable)
The results are shown in the attached page(s).

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S017	Multi-Function Generator	C211339	SCL-HKSAR
S240	Sound Level Calibrator	106446	NIM-PRC & SCL-HKSAR
S012	Function Generator	911721	SCL-HKSAR
S187A	Std. Vibration Meter	011344	NIM-PRC
S187B	Std. Accelerometer	011343	SCL-HKSAR, NIM-PRC

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI), or by reference to a natural constant.
The test results apply to the above Unit-Under-Test only

Calibrated by : Elva Chong **Approved by :** Kin Wong
Date: 16-Nov-21

This Certificate is issued by:
Hong Kong Calibration Ltd.
Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street,Kwai Chung, NT,Hong Kong.
Tel: 2425 6801 Fax: 2425 8646

Appendix 3.5 Calibration Certificate of Equipment

Hong Kong Calibration Ltd.
香 港 校 正 有 限 公 司

Calibration Certificate

Certificate No. 110716 Page 2 of 4 Pages

Results :

1. Sound Level Meter

1.1 Self-generated noise: 16.0 dBA

1.2 Acoustical signal test

UUT Setting				Applied Value (dB)	UUT Reading (dB)
Level Range	Octave Filter	Weight	Response		
Low	OFF	A	Fast	94.0	94.0
			Slow		94.0
		C	Fast		94.0
		Z			94.0
	OFF	A	Fast	114.0	114.0
			Slow		114.0
		C	Fast		114.0
		Z			114.0
	1/1 1/3	A			114.1
					114.1

IEC 61672 Type 1 Spec. : ± 1.1 dB
Uncertainty : ± 0.1 dB

1.3 Electrical signal tests of frequency weightings (A weighting)

Frequency	Attenuation (dB)	IEC 61672 Type 1 Spec.
31.5 Hz	-39.5	- 39.4 dB, ± 2 dB
63 Hz	-26.2	- 26.2 dB, ± 1.5 dB
125 Hz	-16.2	- 16.1 dB, ± 1.5 dB
250 Hz	-8.7	- 8.6 dB, ± 1 dB
500 Hz	-3.3	- 3.2 dB, ± 1.4 dB
1 kHz	0.0 (Ref)	0 dB, ± 1.1 dB
2 kHz	+1.2	+ 1.2 dB, ± 1.6 dB
4 kHz	+1.0	+ 1.0 dB, ± 1.6 dB
8 kHz	-1.0	- 1.1 dB, + 2.1 dB ~ -3.1 dB
16 kHz	-6.9	- 6.6 dB, + 3.5 dB ~ - 17.0 dB

Uncertainty : ± 0.1 dB

Appendix 3.5 Calibration Certificate of Equipment

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

1.4 Frequency & Time weightings at 1 kHz

1.4.1 Frequency Weighting (Fast)

UUT Setting	Applied Value (dB)	UUT Reading (dB)	Difference (dB)	IEC 61672 Type 1 Spec.
A	94.0	94.0 (Ref.)	- -	± 0.4 dB
C	94.0	94.0	0.0	
Z	94.0	94.0	0.0	

1.4.2 Time Weighting (A-weighted)

UUT Setting	Applied Value (dB)	UUT Reading (dB)	Difference (dB)	IEC 61672 Type 1 Spec.
Fast	94.0	94.0 (Ref.)	- -	± 0.3 dB
Slow	94.0	94.0	0.0	
Time-averaging	94.0	94.0	0.0	

Uncertainty : ± 0.1 dB

2. Vibration Meter (Sensitivity Setting : 10.28 mV/m/s²)

2.1 Acceleration (159.2 Hz, RMS, HP 10)

UUT Range	Applied Value (m/s²)	UUT Reading (m/s²)	Mfr's Spec.
Low	5.00	4.98	± 5 %.
	10.00	9.98	
	20.00	19.91	
	50.0	49.8	
	90.0	89.6	
High	100.0	99.5	

2.2 Velocity (159.2 Hz, RMS, Vel 10)

Applied Value (mm/s)	UUT Reading (mm/s)
5.00	4.97
10.00	9.94
20.00	19.88
50.0	49.8
90.0	89.6

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Calibration Certificate

2.3 Displacement (40 Hz, P-P, Dil 10)

Applied Value	UUT Reading
200 µm	203 µm
500 µm	509 µm
1.000 mm	1.015 mm

2.4 Frequency Response (10 m/s², HP 10)

Frequency (Hz)	UUT Reading (m/s²)	Mfr's Spec.
10	9.2	± 3 dB (0.5 Hz ~ 14 kHz)
20	10.1	
40	10.1	
80 (Ref.)	10.0 (Ref.)	
160	9.9	
500	9.7	
1 000	9.7	

Remarks : 1. UUT : Unit-Under-Test
2. The uncertainty claimed is for a confidence probability of not less than 95%.
3. Atmospheric Pressure : 1 009 hPa.
4. Preamplifier model : SV 17 , S/N : 57845.
5. Microphone model: PCB 377B02, S/N: 308202.
6. Firmware Version: 3.03.1
7. Power Supply Check: OK
8. The UUT was adjusted with the laboratory's sound calibrator at the reference sound pressure level before the calibration.
9. Accelerometer type : Svantek SV80, S/N : E3662.

---------- END ----------

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Sound Level Meter: CR:171B (G071909)

Hong Kong Calibration Ltd.
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Calibration Certificate

Certificate No. 111334 Page 1 of 4 Pages

Customer : Beexergy Consulting Limited

Address : Unit 2001-05, Apec Plaza, 49 Hoi Yuen Road, Kwun Tong, Kowloon, Hong Kong

Order No. : Q14530 **Date of receipt :** 19-Nov-21

Item Tested

Description : Sound Level Meter
Manufacturer : Cirrus **I.D.** : --
Model : CR:171B **Serial No.** : G071909

Test Conditions

Date of Test : 26-Nov-21 **Supply Voltage** : --
Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.
Ref. Document/Procudure: Z01, IEC 61672, IEC 61260.

Test Results

The results are shown in the attached page(s).

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S017	Multi-Function Generator	C211339	SCL-HKSAR
S240	Sound Level Calibrator	106446	NIM-PRC & SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI), or by reference to a natural constant.
The test results apply to the above Unit-Under-Test only

Calibrated by : Elva Chong **Approved by :** Kin Wong

Date: 26-Nov-21

This Certificate is issued by:
Hong Kong Calibration Ltd.
Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street,Kwai Chung, NT,Hong Kong
Tel: 2425 8801 Fax: 2425 8646

E

Appendix 3.5 Calibration Certificate of Equipment

Hong Kong Calibration Ltd.
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Calibration Certificate

Certificate No. 111334 Page 2 of 4 Pages

Results :

Acoustical signal test

1. **Self-generated noise:** 16.8 dBA (Mfr's Spec ≤18 dBA)

2. **Reference Sound Pressure Level**

UUT Setting				Applied Value (dB)	UUT Reading (dB)
Range (dB)	Frequency Weighting	Time Weighting	Octave Filter		
20-140	A	F	OFF	94.0	94.0
		S	OFF		94.0
	C	F	OFF		94.0
	Z	F	OFF		94.0
	A	F	OFF	114.0	114.1
		S	OFF		114.1
	C	F	OFF		114.1
	Z	F	OFF		114.1

IEC 61672 Type 1 Spec. : ± 1.1 dB
Uncertainty : ± 0.1 dB

Electrical signal tests

3. **Frequency weightings** (A weighting)

Frequency	Attenuation (dB)	IEC 61672 Type 1 Spec.
31.5 Hz	-39.4	- 39.4 dB, ± 2 dB
63 Hz	-26.0	- 26.2 dB, ± 1.5 dB
125 Hz	-15.9	- 16.1 dB, ± 1.5 dB
250 Hz	-8.5	- 8.6 dB, ± 1 dB
500 Hz	-3.1	- 3.2 dB, ± 1.4 dB
1 kHz	0.0 (Ref)	0 dB, ± 1.1 dB
2 kHz	+1.0	+ 1.2 dB, ± 1.6 dB
4 kHz	+0.6	+ 1.0 dB, ± 1.6 dB
8 kHz	-1.7	- 1.1 dB, + 2.1 dB ~ -3.1 dB
16 kHz	-6.5	- 6.6 dB, + 3.5 dB ~ - 17.0 dB

Uncertainty : ± 0.1 dB

Appendix 3.5 Calibration Certificate of Equipment

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. 111334 Page 3 of 4 Pages

4. Frequency & Time weightings at 1 kHz

4.1 Frequency Weighting (Fast)

UUT Setting	Applied Value (dB)	UUT Reading (dB)	Difference (dB)	IEC 61672 Type 1 Spec.
A	94.0	94.0 (Ref.)	--	± 0.4 dB
C	94.0	94.0	0.0	
Z	94.0	94.0	0.0	

4.2 Time Weighting (A-weighted)

UUT Setting	Applied Value (dB)	UUT Reading (dB)	Difference (dB)	IEC 61672 Type 1 Spec.
Fast	94.0	94.0 (Ref.)	--	± 0.3 dB
Slow	94.0	94.0	0.0	
Time-averaging	94.0	94.0	0.0	

Uncertainty : ± 0.1 dB

5. Filter Characteristics

5.1 1/1 – Octave Filter

Frequency	Attenuation (dB)	IEC 61260 Class 1 Spec. (dB)
125 Hz	-64.3	< - 61
250 Hz	-51.7	< - 42
500 Hz	-49.5	< - 17.5
707 Hz	-3.3	- 2 ~ - 5
1 kHz (Ref)	--	--
1.414 kHz	-3.8	- 2 ~ - 5
2 kHz	-64.3	< - 17.5
4 kHz	-68.8	< - 42
8 kHz	-68.3	< - 61

Uncertainty : ± 0.25 dB

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Calibration Certificate

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5.2 1/3 – Octave Filter

Frequency	Attenuation (dB)	IEC 61260 Class 1 Spec.(dB)
326 Hz	-65.6	< - 61
530 Hz	-51.2	< - 42
772 Hz	-28.7	< - 17.5
891 Hz	-3.2	+ 0.3 ~ - 5.0
1 kHz (Ref)	--	--
1.122 kHz	-3.5	+ 0.3 ~ - 5.0
1.296 kHz	-27.8	< - 17.5
1.887 kHz	-65.9	< - 42
3.070 kHz	-73.8	< - 61

Uncertainty : ± 0.25 dB

Remarks : 1. UUT : Unit-Under-Test
2. The uncertainty claimed is for a confidence probability of not less than 95%.
3. Atmospheric Pressure : 1 011 hPa.
4. Preamplifier model : MV200F, S/N :5332F
5. Microphone model: MK224 , S/N : 608035B
6. Power Supply Check: OK
7. Firmware : V2.4.1569 (1529)
8. The UUT was adjusted with the laboratory's sound calibrator at the reference sound pressure level before the calibration.

---------- END ----------

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Acoustic Calibrator: Svantek SV35A (58708)

Hong Kong Calibration Ltd.
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Calibration Certificate

Certificate No. 104111 Page 1 of 2 Pages

Customer : Beexergy Consulting Limited
Address : Unit 2001-05, Apec Plaza, 49 Hoi Yuen Road, Kwun Tong, Kowloon, Hong Kong
Order No. : Q11504 **Date of receipt :** 30-Apr-21

Item Tested

Description : Acoustic Calibrator
Manufacturer : Svantek **I.D.** : 217598
Model : SV35A **Serial No.** : 58708

Test Conditions

Date of Test : 12-May-21 **Supply Voltage** : --
Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.
Ref. Document/Procedure: F21, Z02, IEC 60942.

Test Results

All results were within the IEC 60942 Class 1 specifications.
The results are shown in the attached page(s).

Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S014	Spectrum Analyzer	005018	NIM-PRC & SCL-HKSAR
S240	Sound Level Calibrator	003053	NIM-PRC & SCL-HKSAR
S041	Universal Counter	101743	SCL-HKSAR
S206	Sound Level Meter	007031	SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI), or by reference to a natural constant.
The test results apply to the above Unit-Under-Test only

Calibrated by : Elva Chong **Approved by :** Kin Wong
Date: 12-May-21

This Certificate is issued by:
Hong Kong Calibration Ltd.
Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street,Kwai Chung, NT,Hong Kong.
Tel: 2425 6801 Fax: 2425 8646

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Appendix 3.5 Calibration Certificate of Equipment

Hong Kong Calibration Ltd.
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Calibration Certificate

Certificate No. 104111 Page 2 of 2 Pages

Results :

1. **Generated Sound Pressure Level**

UUT Nominal Value (dB)	Measured Value (dB)	IEC 60942 Class 1 Spec.
94.0	94.1	± 0.4 dB
114.0	114.1	

Uncertainty : ± 0.2 dB

2. **Short-term Level Fluctuation** : 0.0 dB
IEC 60942 Class 1 Spec. : ± 0.1 dB
Uncertainty : ± 0.01 dB

3. **Frequency**

UUT Nominal Value (kHz)	Measured Value (kHz)	IEC 60942 Class 1 Spec.
1	1.000	± 1 %

Uncertainty : $\pm 3.6 \times 10^{-6}$

4. **Total Distortion** : < 0.3%
IEC 60942 Class 1 Spec. : < 4 %
Uncertainty : ± 2.3 % of reading

Remark : 1. UUT : Unit-Under-Test
2. The uncertainty claimed is for a confidence probability of not less than 95%.
3. Atmospheric Pressure : 996hPa.

---------- END ----------

Appendix 3.6 Photo record of measurement set-up

Background noise measurement at BG1

Background noise measurement at BG2

Appendix 3.7 Board Paper for Yuen Long Baptist Church

RNTPC Paper No. A/YL/252A
For Consideration by
the Rural and New Town
Planning Committee
on 3.5.2019

APPLICATION FOR PERMISSION
UNDER SECTION 16 OF THE TOWN PLANNING ORDINANCE

APPLICATION NO. A/YL/252

Applicant	Yuen Long Baptist Church represented by DeSPACE (International) Limited
Site	Lots 1694, 1695 S.F RP (Part) and 3721 in D.D. 120, Tai Kei Leng, Yuen Long, New Territories
Site Area	1,762.29m^2
Lease	(i) Lots 1694 and 1695 S.F RP :– Block Government Lease (demised for agricultural use) (ii) Lot 3721:– Under New Grant No. 529 (restricted for non-industrial use and only a church is allowed with building height (BH) restriction not exceeding 11m and 2 storeys)
Plan	Approved Yuen Long Outline Zoning Plan (OZP) No. S/YL/23
Zoning	"Government, Institution or Community(1)" ("G/IC(1)") (about 81%) [*Restricted to a maximum BH of 3 storeys (8 storeys for 'School' and 'Hospital' uses) excluding basement(s). Based on the individual merits of a development or redevelopment proposal, minor relaxation of the BH restriction may be considered by the Town Planning Board on application under s.16 of the Town Planning Ordinance*] "Village Type Development" ("V") (about 19%) [*No development restriction for 'School' and 'Religious Institution' uses*]
Application	Proposed Composite School and Religious Institution (Church) Development, with minor relaxation of BH Restriction

1. The Proposal

1.1 The applicant seeks planning permission for a proposed composite building comprising school and religious institution (church) on the application site (the Site) which is mainly zoned "G/IC(1)" (81%) and a minor portion zoned "V" (19%) on the OZP. Planning permission is also sought for proposed minor relaxation of BH restriction under the "G/IC(1)" zone from 3 storeys to 8 storeys (excluding 2 basement

classified as a Class A, B or C site as it does not abut on a specified street, the development intensity should be determined under Building (Planning) Regulation 19(3) unless a right of way not less than 4.5m wide is granted by LandsD for the proposed run-in/out of the Site.

(b) If the Site is classified as Class A site, the proposed development parameter of the Site is acceptable under Schedule 1 of the Building (Planning) Regulation.

(c) The Site shall be provided with means of obtaining access thereto from a street under the Building (Planning) Regulation 5 and emergency vehicular access shall be provided for all the buildings to be erected on the Site in accordance with the requirements under the Building (Planning) Regulation 41D.

(d) Disregarding carparking spaces from GFA calculation under the Buildings Ordinance will be considered on the basis of the criteria set out in PNAP APP-2 during building plan submission stage.

(e) The proposed development should follow and comply with the pre-requisite for GFA concession in PNAP APP-151 and the Sustainable Building Design guidelines stipulated in PNAP APP-152 during the preparation of detailed building design.

(f) It is noted in applicant's FI submission in **Appendix Id** that the eastern, southern and northern sides of the building will be installed with fixed windows. The applicant should be reminded that the Building (Planning) Regulation 30 and 36 for natural lighting and ventilation by the provision of prescribed windows should be complied with.

(g) Detailed comment will only be offered during building plan submission stage.

Traffic

8.1.5 Comments of the Assistant Commissioner for Transport/NT, Transport Department (AC for T/NT, TD)

Having reviewed the FI (**Appendix Id**), he has no further comment on the application. Should the application be approved, the following approval conditions (a) to (c) are recommended to be stipulated :

(a) the submission and implementation of a detailed traffic management plan to the satisfaction of the Commissioner for Transport (C for T) or of the Board;

APPENDIX 7

SEWERAGE AND DRAINAGE IMPACT ASSESSMENT

SECTION 16 PLANNING APPLICATION

PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED SOCIAL WELFARE FACILITY (RESIDENTIAL CARE HOME FOR THE ELDERLY) AND PROPOSED HOUSE USE WITH CONSERVATION PROPOSAL AT LOT NOS. 1695 S.E SS.1 RP, 1695 S.F SS.1 AND 1695 S.H RP (PART) IN D.D. 120 AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG

SEWERAGE AND DRAINAGE IMPACT ASSESSMENT

18 May 2023

Ref No: RT21220-SDIA-02

Prepared By:

BeeXergy Consulting Limited (BXG)
Phone: (852) 3568-4701
Address: Unit 2608-09, Apec Plaza
49 Hoi Yuen Road, Kwun Tong
Kowloon, Hong Kong
Email: info@beexergy.com

Project:	SECTION 16 PLANNING APPLICATION PROPOSED MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED SOCIAL WELFARE FACILITY (RESIDENTIAL CARE HOME FOR THE ELDERLY) AND PROPOSED HOUSE USE WITH CONSERVATION PROPOSAL AT LOT NOS. 1695 S.E SS.1 RP, 1695 S.F SS.1 AND 1695 S.H RP (PART) IN D.D. 120 AND ADJOINING GOVERNMENT LAND, TAI KEI LENG, YUEN LONG SEWERAGE AND DRAINAGE IMPACT ASSESSMENT
Report No.:	RT21220-SDIA-02

Revision	Issue Date	Description	Author	Checker	Approver
0	16/03/2023	Issued for Comment	LY	YS	HM
1	18/05/2023	Issued for Comment	LY	YS	HM

Prepared by:

Leo Yu
Consultant

Checked by:

Sui Hang Yan
Technical Director

Approved by:

Henry Mak
Director

Disclaimer

TABLE OF CONTENTS

1 INTRODUCTION

1.1 PROJECT BACKGROUND

BeeXergy Consulting Limited was appointed by the DeSPACE (International) Limited to conduct a sewerage and drainage impact assessment for the Section 16 planning application under the Town Planning Ordinance (Cap 131) of the proposed heritage conservation of Siu Lo Cum Elderly Care Home development due to the proposed minor relaxation of building height restriction from 3 storeys to 6 storeys.

1.2 PROJECT LOCATION

The site is located at Yuen Long to the west of the Tia Tong Road surrounded by various land uses such as industrial and institutional facilities. **Figure 1** shows the project site location and its surrounding area.

Figure 1 Site Location Plan of the Project Area

1.3 PROPOSED LAND USE

The site is proposed for use and the master layout plan is provided in **Appendix A**. The site area, of approximately 1,877m^2, is expected to comprise of a 6-storey Elderly Care Home with 241 beds (or within a range of 220 – 260) in total and a heritage conservation building Siu Lo located at the northwest of the proposed Site. The anticipated year of construction completion and occupation is 2025. The proposed site is currently zoned as “Government, Institution or Community (1)” (“G/IC(1)”) under the Approved Yuen Long Outline Zoning Plan (OZP) No. S/YL/25.

2 SEWERAGE IMPACT ASSESSMENT

2.1 SCOPE OF WORKS

The objective of this Sewerage Impact Assessment (SIA) is to assess whether the capacity of the sewerage networking is sufficient to cope with the peak sewage flow arising from the proposed Development during its operation stage and to recommend appropriate mitigation measures to alleviate unacceptable sewerage impact, if any.

2.2 EXISTING AND PROPOSED SEWERAGE NETWORK

According to the drainage record plans, the sewage generated from the proposed Site is expected to be conveyed to the nearest public manhole FMH1009673 located east to the site via the proposed sewage pipeline consisting of a minimum size of 200mm diameter of an estimated length of 8.5m from the proposed terminal manhole S1. The Applicant will be responsible for the construction of all inter-connecting sewage pipework within the project site as well as any other proposed upgrade work in the vicinity. The sewage will be further conveyed to the downstream along Tai Tong Road, leading to Ping Shun Street Sewage Pumping Station and eventually discharged to the San Wai Sewage Treatment Works for treatment.

In consideration of the surrounding environment of the proposed Site, potential backflow problems are found underneath the junction of Tai Tong Road and Ma Tong Road in between section FMH1032444 to FMH1008899 (manhole involved namely FMH1032445, FMH1009570, FMH1009569, FMH1008905, FMH1008906, FMH1008900) due to either lack of manhole invert level details or higher invert level than the upstream. It is necessary to consider upgrade of the aforementioned section, therefore, new sewerage connection from manhole FMH1032444 to FMH1008899 by a new 375mm diameter sewer is recommended.

Appendix C shows the location and alignment of the proposed new manhole and sewerage connection. The following assessment will be based on the scenario of the proposed (mitigated) drainage plan.

2.3 ASSESSMENT CRITERIA, METHODOLOGY AND ASSUMPTIONS

In order to assess the acceptability of the sewerage impact arising from the operation of the proposed Development, the sewage generation has been estimated based on the assumptions shown in **Table 2.1**.

Table 2.1: Parameters for Estimating Wastewater Generation and Hydraulic Capacity

Parameter	Value	Justification
Population		
Elderly Home Guest	260 persons	According to the planning statement, there will be a total of 241 beds (or within a range of 220 – 260) in total, 260 persons is adopted for conservative approach.
Number of Employee in Elderly Home	30 persons	Information provided by the project applicant.
Unit Flow Factors		
Elderly Home Guest	0.27 m^3/day	'Modern Village / R2 Private Development' based on EPD's GESF Table T-1.
Employee in Elderly Home	0.28 m^3/day	'Commercial Employee + J11 Community, Social & Personal Services' based on EPD's GESF Table T-2.
Industrial Employee	2.08 m^3/day	'Industrial Employee + J1 Manufacturing in Yuen Long' based on EPD's GESF Table T-3.
Patrol Station Employee	0.18 m^3/day	'Commercial Employee + J3 Transport, Storage & Communication' based on EPD's GESF Table T-2.
Institutional Employee	0.28 m^3/day	'Commercial Employee + J11 Community, Social & Personal Services' based on EPD's GESF Table T-2.
School Student	0.04 m^3/day	'School Student' based on EPD's GESF Table T-2.
School Employee	0.28 m^3/day	'Commercial Employee + J11 Community, Social & Personal Services' based on EPD's GESF Table T-2.
Catchment Inflow Factor		
P_{CIF}	1.00	Catchment Inflow Factor = 1 for vicinity located in 'Yuen Long' based on EPD's GESF Table T-4.

Peaking Factor		
P	8	Peaking factor = 8 for contributing population <1,000 for sewer (including storm water allowance) based on EPD's GESF Table T-5.
Roughness Values (k_s)		
Existing Pipes	6mm	Conservative value of 'Old tuberculated water mains with Moderate degree of attack in a poor condition' was adopted based on the Sewerage Manual (Part 1) Table 5
Proposed New Pipes	0.6mm	Conservative value of 'Rusty wrought iron pipe in a normal condition' was adopted based on the Sewerage Manual (Part 1) Table 5

With reference to Sewerage Manual (Part 1)[1] issued by the DSD in May 2013, the Colebrook-White Equation will be used to analyse the flow conditions. Equation (i) for circular pipes flowing full will be adopted to estimate the sewage flow for the proposed Development. The Colebrook-White Equation is shown in **Figure 2** below.

(i) for circular pipes flowing full,

$$V = -\sqrt{(8gDs)}\,\log\left(\frac{ks}{3.7D} + \frac{2.51v}{D\sqrt{(2gDs)}}\right)$$

where
V = mean velocity (m/s)
g = gravitational acceleration (m/s2)
R = hydraulic radius (m)
D = internal pipe diameter (m)
ks = hydraulic pipeline roughness (m)
v = kinematic viscosity of fluid (m2/s)
s = hydraulic gradient (energy loss per unit length due to friction)

Figure 2 Colebrook – White Equation

[1] http://www.dsd.gov.hk/EN/Files/Technical_Manual/technical_manuals/Sewerage_Manual_1_Eurocodes.pdf

2.4 ASSESSMENT RESULTS & DISCUSSION

Detailed calculations of sewage generation and hydraulic capacity are provided in **Appendix D** and **Appendix E** respectively. The estimated cumulative peak discharge of all downstream sewerage of the proposed Site account for no more than 60% of the hydraulic capacity of the concerned sewer. No exceedance of hydraulic capacity for all cumulative peak discharge is anticipated under the proposed sewerage network with upgraded pipework.

2.5 ASSESSMENT SUMMARY

To summarize, there will be one sewer discharge point from the project site to the inlet of proposed sewer terminal manhole which will then be connected to the public sewer manhole along Tai Ting Road. In view of the proposed development and the vicinity, the following proposed new or upgraded pipe works are recommended:

- Proposed new sewer terminal manhole S1 connecting to FMH1009673 existing sewer manhole by a new P.E. pipe with 200mm dia.
- Proposed new sewer connection from manhole FMH10032444 to FMH1008900 and FMH1008900 to FMH1008899 by new 375mm dia. sewer.

According to the estimated sewage generation calculations, it is anticipated that the proposed sewerage will have sufficient capacity to cater for sewage generated from the proposed Site. No adverse sewerage impact associated with the proposed Development is anticipated.

Detailed alignment and design of the connecting sewer will be subject to detailed design of the Project. The Applicant shall be responsible for appointing a qualified engineer for properly design and construct of the connecting sewers, likely at the design stage of Project. Agreement and approval from relevant government departments, including DSD, shall be obtained in due course.

3 DRAINAGE IMPACT ASSESSMENT

3.1 SCOPE OF WORKS

The objectives of this Drainage Impact Assessment (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 plans from the Drainage Services Department were obtained for this DIA.

3.2 SITE LOCATION AND TOPOGRAPHY

The topographic levels of the Application site is approximately + 5.9mPD. The site is gradually sloping downwards from south to north direction from + 5.9mPD to + 5.4mPD. The site is currently used as a temporary open public car park and comprises a grade 3 historic building (including its main building and annex block) I.e., Siu Lo. The site condition is mainly paved with concrete.

3.3 DRAINAGE ANALYSIS

3.3.1 ASSUMPTIONS AND METHODOLOGY

Peak instantaneous runoff before and after the proposed Development was calculated based on the Rational Method. The recommended physical parameters, including runoff coefficient (C) and storm constants for different return periods, are as per the *Stormwater Drainage Manual*.

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

$$Q_p = 0.278\, C\, i\, A$$

where:

Q_p = peak runoff in m^3/s

C = runoff coefficient

i = rainfall intensity in mm/hr

A = catchment area in km^2

Rainfall intensity is calculated using the following expression:

$$i = \frac{a}{(t_d + b)^c}$$

where:

i = rainfall intensity in mm/hr

t_d = duration in minutes (td≤240)

a, b, c = storm constants given in Table 3 of SDM

For a single catchment, duration (t_d) can be assumed to be the time of concentration (t_c) which is calculated as follows:

$$t_c = t_0 + t_r$$

where:

t_c = time of concentration

t_0 = inlet time (time taken for flow from the most remote point to reach the most upstream point of the urban drainage system)

Generally, t_0 is much smaller than t_r. As shown in Equation 2, t_d is the divisor. Therefore, larger t_d will result in smaller rain intensity (i) as well as a smaller Q_p. For the worst-case scenario, t_r is assumed to be negligible and so:

$$t_d = t_c = t_0$$

$$t_0 = \frac{0.14465\, L}{H^{0.2}\, A^{0.1}}$$

where:

A = catchment area (m^2)

H = average slope (m per 100m), measure along the line of natural flow, from the summit of the catchment to the point under consideration

L = distance (on plan) measured on the line of natural flow between the summit and the point under consideration (m)

The capacities of the drainage pipes have been calculated using the Colebrook-White Equation, assuming full bore flow with no surcharge, as follows, incorporate 10% sedimentation in the calculation of drainage flow capacity in accordance with the *Stormwater Drainage Manual:*

$$V = -\sqrt{32gRs} \times \log\left(\frac{k_s}{14.8R} + \frac{1.25v}{R\sqrt{32gRs}}\right)$$

where:

V = mean velocity (m/s)

g = gravitation acceleration (m/s^2)

R = hydraulic radius (m)

k_s = hydraulic pipeline roughness (m)

V = kinematic viscosity of fluid (m^2/s)

S = hydraulic gradient (energy loss per unit length due to friction)

3.4 ASSESSMENT ASSUMPTIONS

3.4.1 PROJECT SITE

For the proposed Development, the Site will be occupied by the proposed residential care home building with concrete paved floor. Soft landscape will be also provided at flat roof top and areas around the proposed Development subject to the detailed design stage. For the worst-case scenario, it is assumed that the proposed Development will be 100% paved. As such the Site before development and after development will be the same and is summarized in ***Table 3.1***.

Table 3.1: Surface Characteristics and Runoff Coefficients of the Site

Scenario of Project	Area (m^2)	Surface Characteristics
Before Development	1,877	100% paved
After Development	1,877	100% paved

3.4.2 CUMULATIVE RUNOFF (SURROUNDING CATCHMENTS)

As the existing drainage system collects runoff from the Site and also the surrounding catchments, runoff from surrounding catchments shall been taken into account. Surrounding catchments and proposed Site catchment that contributed to the cumulative runoff have been identified as Catchments A1 to A12 and Catchment S respectively. The area of catchments is presented shown in ***Appendix F***.

With reference to the *Stormwater Drainage Manual*, the runoff coefficients of paved surface are 0.95. The paving conditions and runoff coefficients of related catchments are summarized in ***Table 3.2***.

Table 3.2: Surface Characteristics and Runoff Coefficients of Surrounding Catchments

Catchment	Area (m^2)	Surface Characteristics	Runoff Coefficient for paved area
Proposed Site (S)	1,877	100% paved	0.95
Catchment A1	4,113	100% paved	0.95
Catchment A2	3,091	100% paved	0.95
Catchment A3	1,820	100% paved	0.95
Catchment A4	4,563	100% paved	0.95
Catchment A4A	1,430	100% paved	0.95
Catchment A5	2,155	100% paved	0.95
Catchment A5A	1,166	100% paved	0.95
Catchment A6	1,701	100% paved	0.95
Catchment A7	2,864	100% paved	0.95
Catchment A8	2,629	100% paved	0.95
Catchment A9	1,264	100% paved	0.95
Catchment A10	1,782	100% paved	0.95
Catchment A11	3,074	100% paved	0.95
Catchment A12	2,068	100% paved	0.95

3.5 ESTIMATED EXISTING AND FUTURE RUNOFF

3.5.1 PEAK RUNOFF FROM THE SITE

Based on the assumptions described in ***Section 3.2***, the runoff from the Site before and after the development was estimated based on the return periods of 50 years.

As shown in ***Table 3.3*** the estimated peak runoff generated from the Site Catchment (S) is 0.127 m^3/s. There will be no difference of peak flows of runoff after the completion of the proposed Development under the assessed return periods of 50 years. Detailed calculations are provided in ***Appendix I***.

Table 3.3: Estimated Peak Runoff of the proposed Site

Return Period	Estimated Peak Runoff		
	Before Development	After Development	% Change
50 Years	0.127	0.127	± 0%

3.6 PROPOSED DRAINAGE LAYOUT AND RESULTS

The runoff of the Site catchment (S) will be collected by the proposed terminal manhole SMH01 and discharge to manhole SMH1010931 through the proposed 1 no. of twin 300mm diameter stormwater drain. In view of the clearance between the proposed twin 300mm dia. stormwater drain and the existing 375mm dia. sewer is less than the standard requirement of 300mm, the Applicant will be responsible to implement proposed protection works to the existing sewer, such as provision of concrete surround, to avoid damaging the sewer during the course of construction and backfill works. The Applicant is also responsible to conduct CCTV inspection of the existing 375mm dia. sewer before and after completion of the proposed drainage works and submit the reports to DSD office. Should any damage of the existing 375mm dia. sewer due to the Proposed Development, the Applicant would be responsible for the cost of all necessary repair works, compensation and any other consequences arising therefrom. The design of the proposed drainage is provided in **Appendix H**. The design of the internal drainage system within the Proposed Development will be carried out in the detailed design stage.

Flow capacities of the existing stormwater drains at the downstream of manholes have been assessed with the consideration of total peak flow of stormwater generated from the proposed Development and other surrounding catchments. Detailed calculation of the drainage assessment is provided in **Appendix J**.

Based on the calculation in **Appendix J**, the estimated peak runoff from the existing is less than 100% capacity of the stormwater drains, and it is anticipated that the proposed drainage system will have sufficient capacity to cater for the surface runoff at the proposed Development.

4 CONCLUSION

The potential sewerage impact due to the application site has been quantitatively addressed. Based on the estimated sewage flow for the Project Site presented in **Appendix D**, the total peak sewage flow projected for the proposed development is about 0.0073 m3/sec.

All sewage generated from the proposed development will be conveyed to the public sewerage

system via the proposed sewer terminal manhole. The sewage generation calculations on the proposed sewerage system have indicated that the proposed sewer terminal manhole (S1) in the proposed Site and other proposed upgraded pipe works will have sufficient capacity to cater for sewage discharged from the proposed Site and surrounding catchments.

The maximum estimated peak flow from the proposed Site and all cumulative catchment areas will account for less than 100% of the flow capacity of the upgraded sewerage system. Hence, it is concluded that no adverse sewerage impacts arising from the development is anticipated.

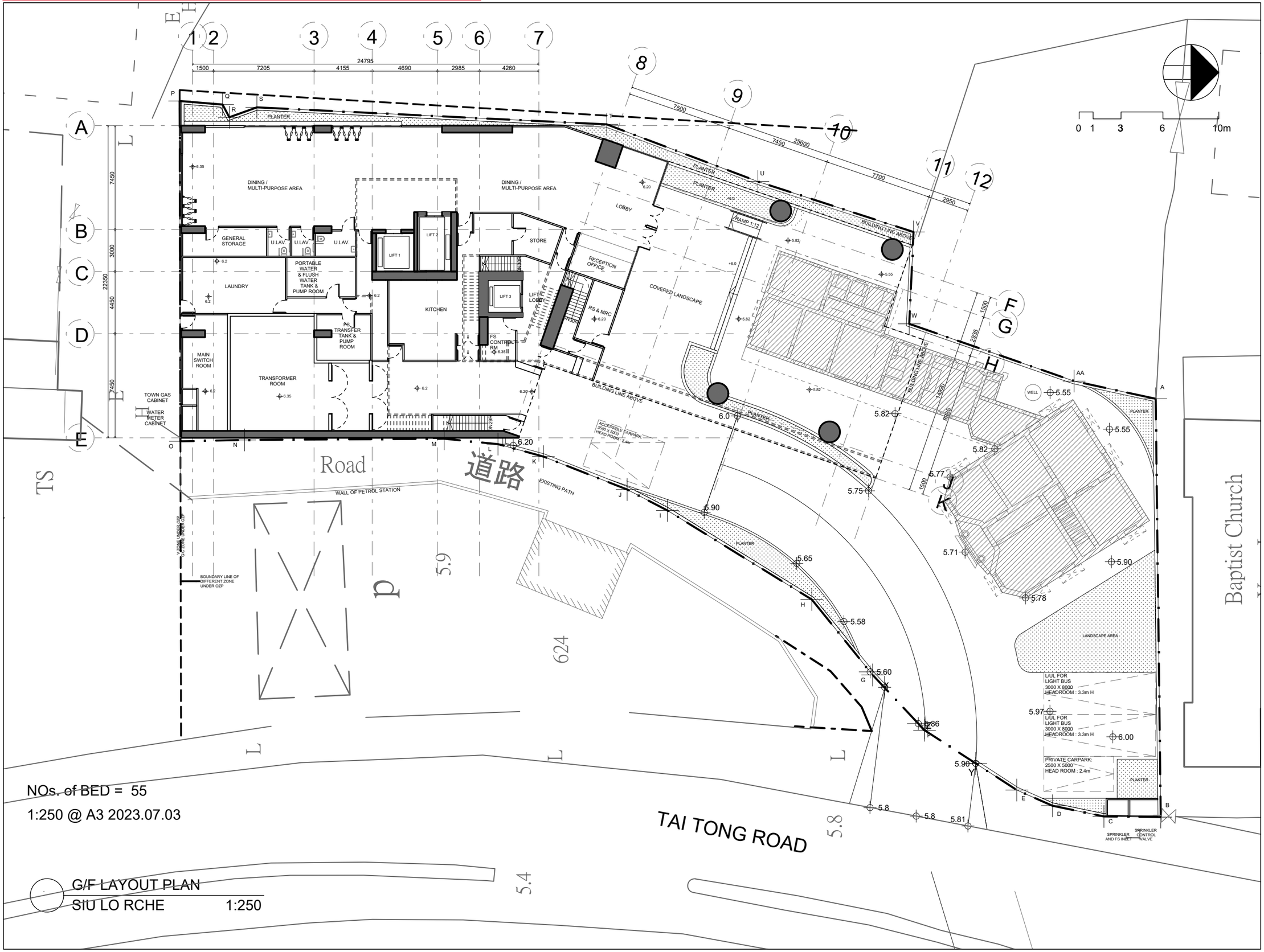
Potential drainage impacts that may arise from the Site after construction of the proposed Development have been assessed.

The peak runoff before and after the development of the proposed Site were estimated using the Rational Method, based on the catchment surface characteristics for the existing environment and the proposed Development. Under the future paving condition, a 100% paving condition of the proposed Site is assessed in this DIA for the worst case scenario and no change on the estimated peak runoff is anticipated after the development.

Flow capacity of the stormwater was calculated using Colebrook-White Equation, while flow capacity of the watercourse was calculated using Manning's Equation. The maximum estimated peak flow of 0.127m^3/s (including runoff calculated based on a return period of 50 years with climate change effect) from the Site. The runoff from the proposed Site (S) will be collected by the proposed terminal manhole SMH01 and discharge to manhole SMH1010931 through the proposed 1 no. of twin 300mm diameter stormwater drain. In addition, flow capacities of the existing stormwater drains at the downstream of manholes have been assessed with the consideration of total peak flow of stormwater generated from the proposed Site and other surrounding catchments. All cumulative catchment areas will account for less than 100% of the flow capacity. Thus, the existing stormwater system will have sufficient capacity to receive stormwater runoff from the proposed Site.

Thus, no adverse sewerage and drainage impact to the existing drainage system is anticipated after the development of the Site.

APPENDIX A MASTER LAYOUT PLAN



NOs. of BED = 55

1:250 @ A3 2023.07.03

G/F LAYOUT PLAN

SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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J	DESIGN	20230705
K	DESIGN	20230809

TOWN PLANNER & SURVEYOR 城市規劃師及測量師 :

DeSPACE (International) Limited

- E-mail 電郵 : despaceinternational@gmail.com
- Tel 電話 : 2493 3626

ARCHITECT 建築師 :

MINOR 細 CREATIVE 創意

- E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER 認可人士, 結構工程師 :

S.T. WONG & PARTNERS LIMITED

- E-mail 電郵 : irstwong@gmail.com
- Tel 電話 : 2625 1776
- Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :

WEC Engineering Consultants (International) Limited

- Fax 傳真 : 2399 0066
- Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :

CTA Consultants Limited 志達顧問有限公司

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DRAWING TITLE 圖紙名稱 : G/F LAYOUT PLAN

DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號 : P-101

SCALE 比例 : 1:250@A3

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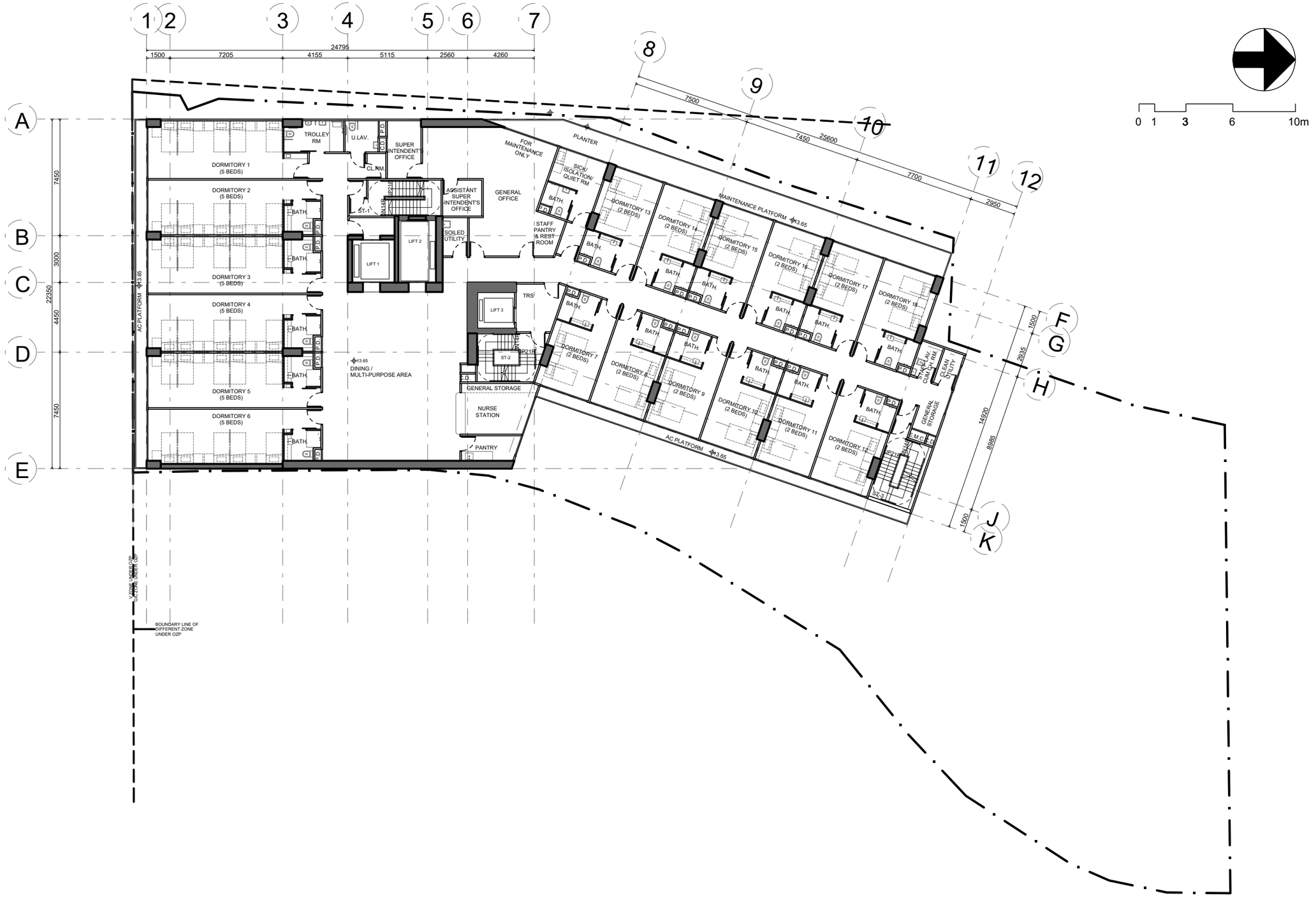
APPENDIX A MASTER LAYOUT PLAN



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1/F LAYOUT PLAN
SIU LO RCHE 1:250

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城市規劃師及測量師 :
DeSPACE (International) Limited
■ E-mail 電郵 : despaceinternational@gmail.com
■ Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 作室
■ E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師 :
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■ E-mail 電郵 : irstwong@gmail.com
■ Tel 電話 : 2625 1776
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■ Fax 傳真 : 2399 0066
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DWG NO.
圖紙編號 : P-102

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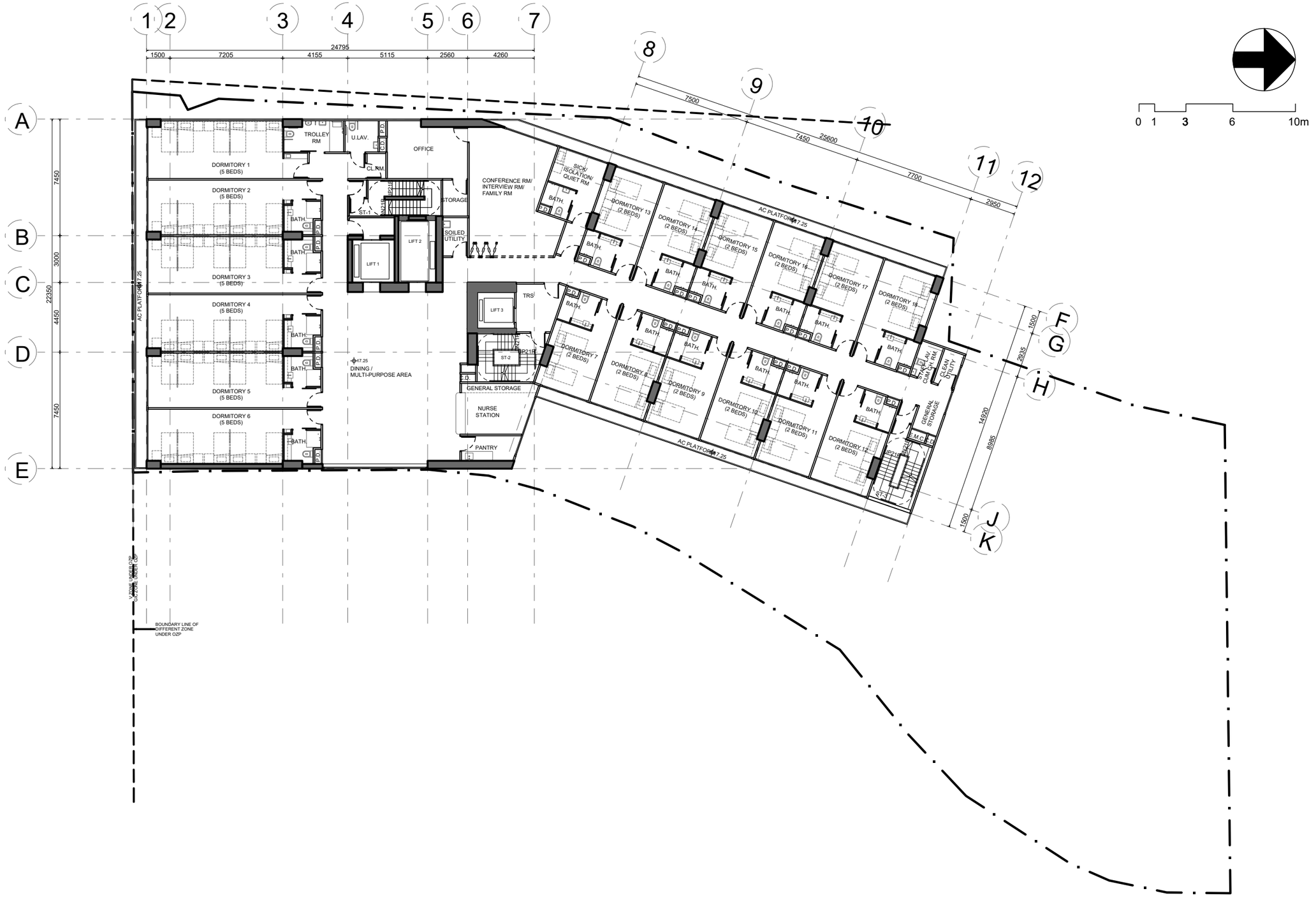

2/F LAYOUT PLAN
SIU LO RCHE 1:250

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城市規劃師及測量師 :
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- E-mail 電郵 : despaceinternational@gmail.com
- Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 作室
- E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師 :
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- Tel 電話 : 2625 1776
- Fax 傳真 : 2467 9618

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- Fax 傳真 : 2399 0066
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DWG NO.
圖紙編號 : P-103

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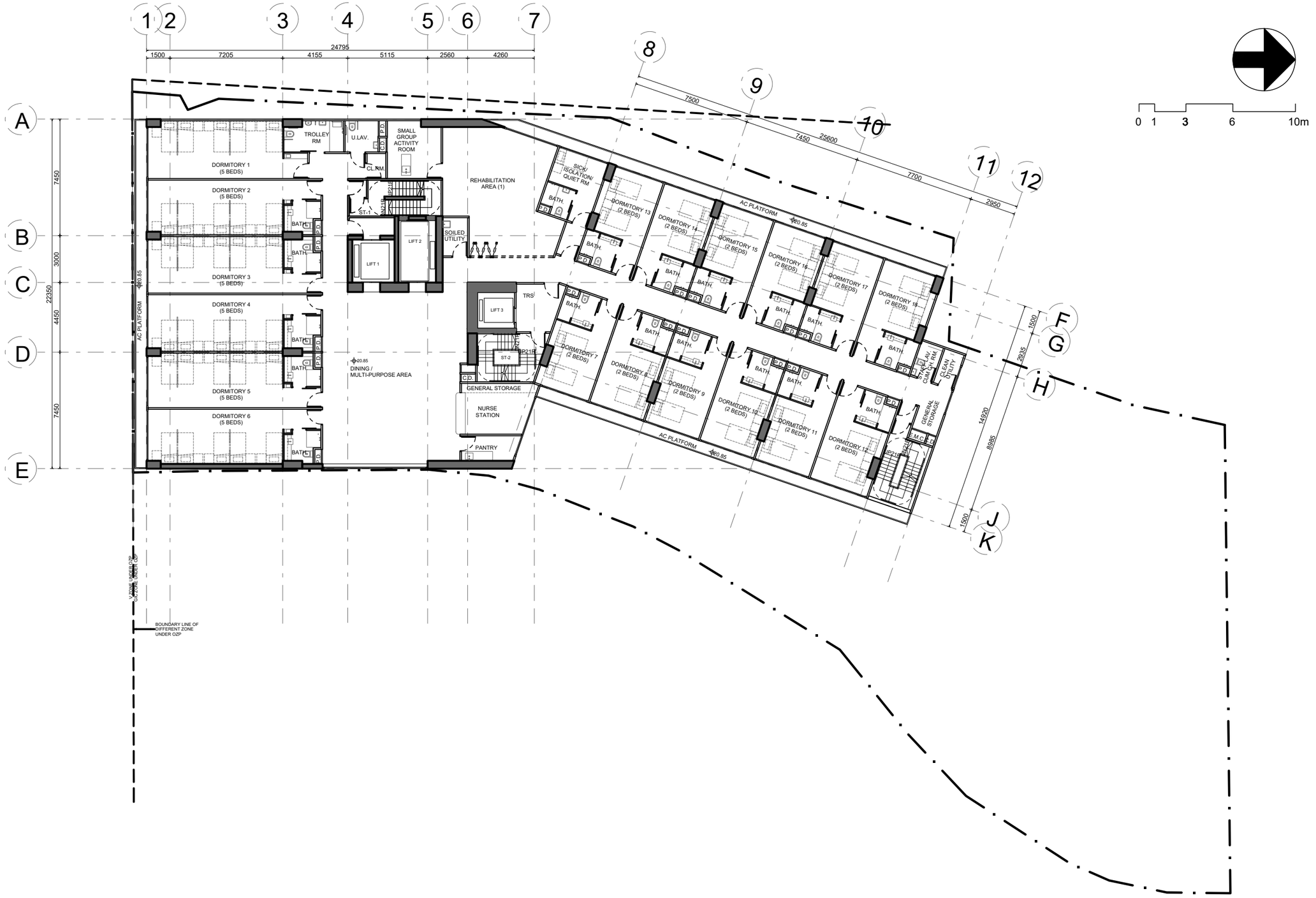

3/F LAYOUT PLAN
SIU LO RCHE 1:250

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- E-mail 電郵：despaceinternational@gmail.com
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DRAWING TITLE
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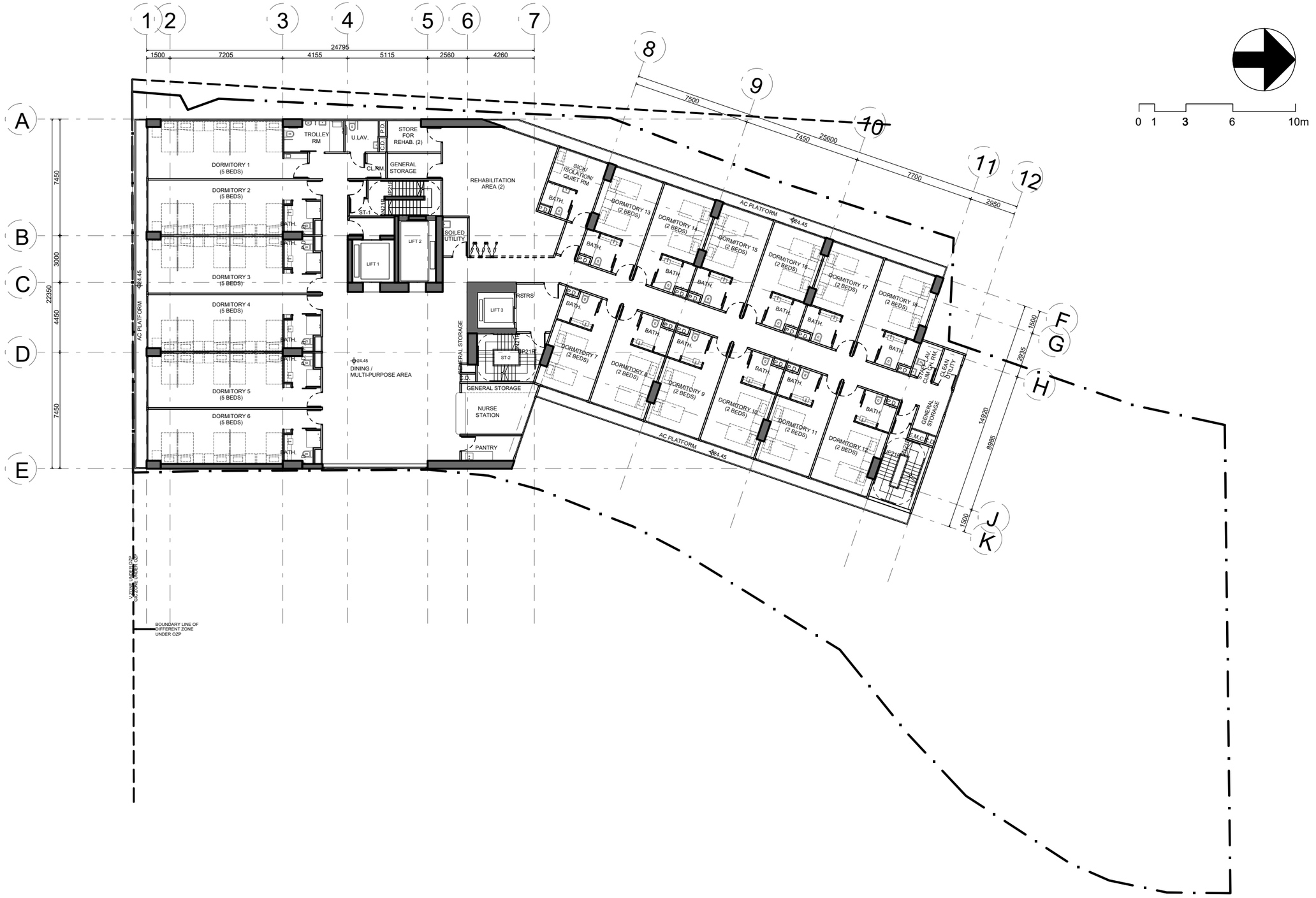

4/F LAYOUT PLAN
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- Fax 傳真 : 2399 0066
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DRAWING TITLE
圖紙名稱 : 4/F LAYOUT PLAN

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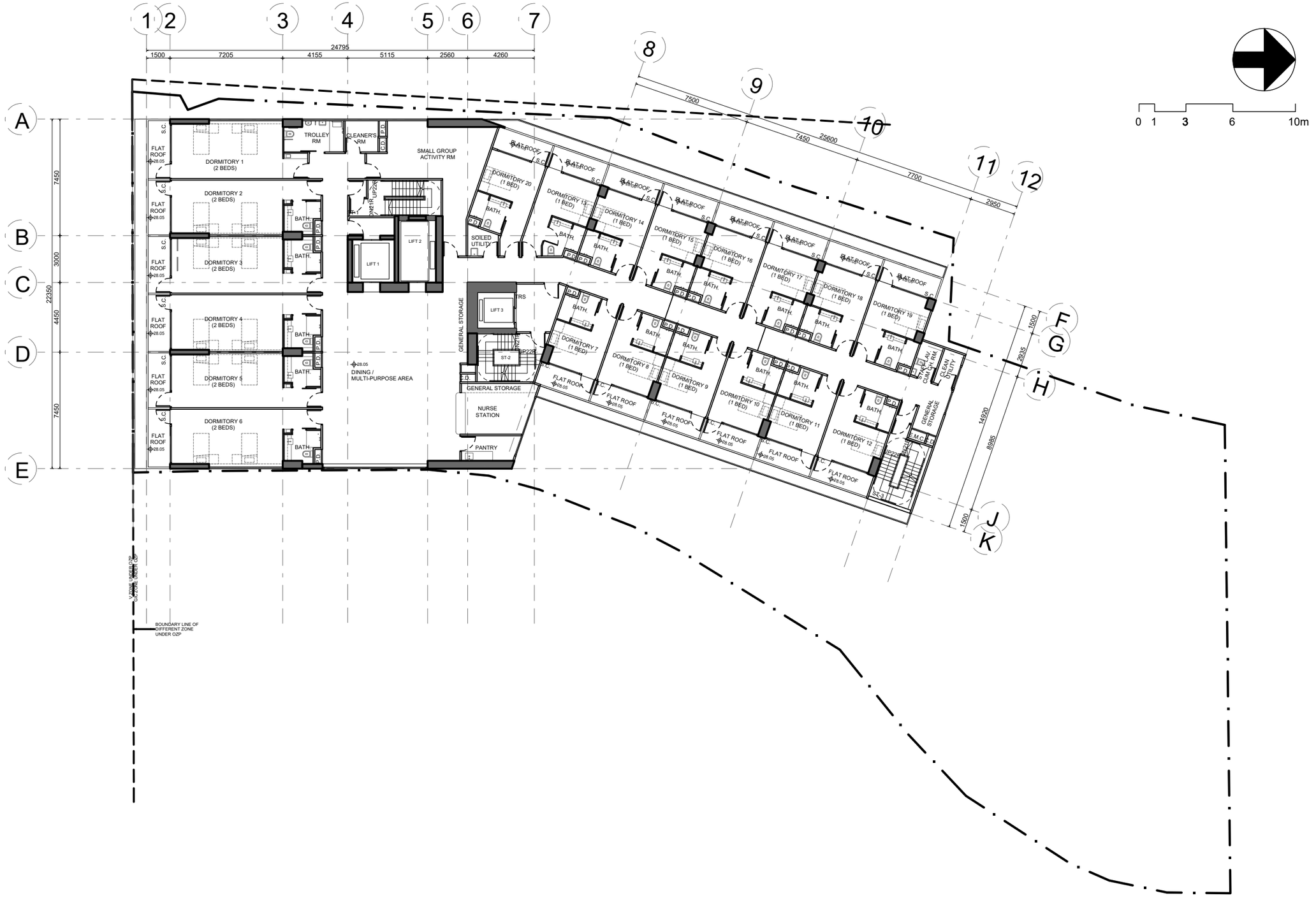

5/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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AMENDMENT PARTICULARS
更改細節 :

Revision 修正版	Description 內容	Date 日期
1	DESIGN	20221116
A	DESIGN	20221118
B	DESIGN	20221128
C	DESIGN	20221205
D	DESIGN	20221227
E	DESIGN	20221230
F	DESIGN	20230210
G	DESIGN	20230315
H	DESIGN	20230705

TOWN PLANNER & SURVEYOR
城市規劃師及測量師 :
DeSPACE (International) Limited
- E-mail 電郵 : despaceinternational@gmail.com
- Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細 CREATIVE 作室
- E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
- E-mail 電郵 : irstwong@gmail.com
- Tel 電話 : 2625 1776
- Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
- Fax 傳真 : 2399 0066
- Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME
項目名稱 :
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

DRAWING TITLE
圖紙名稱 : 5/F LAYOUT PLAN

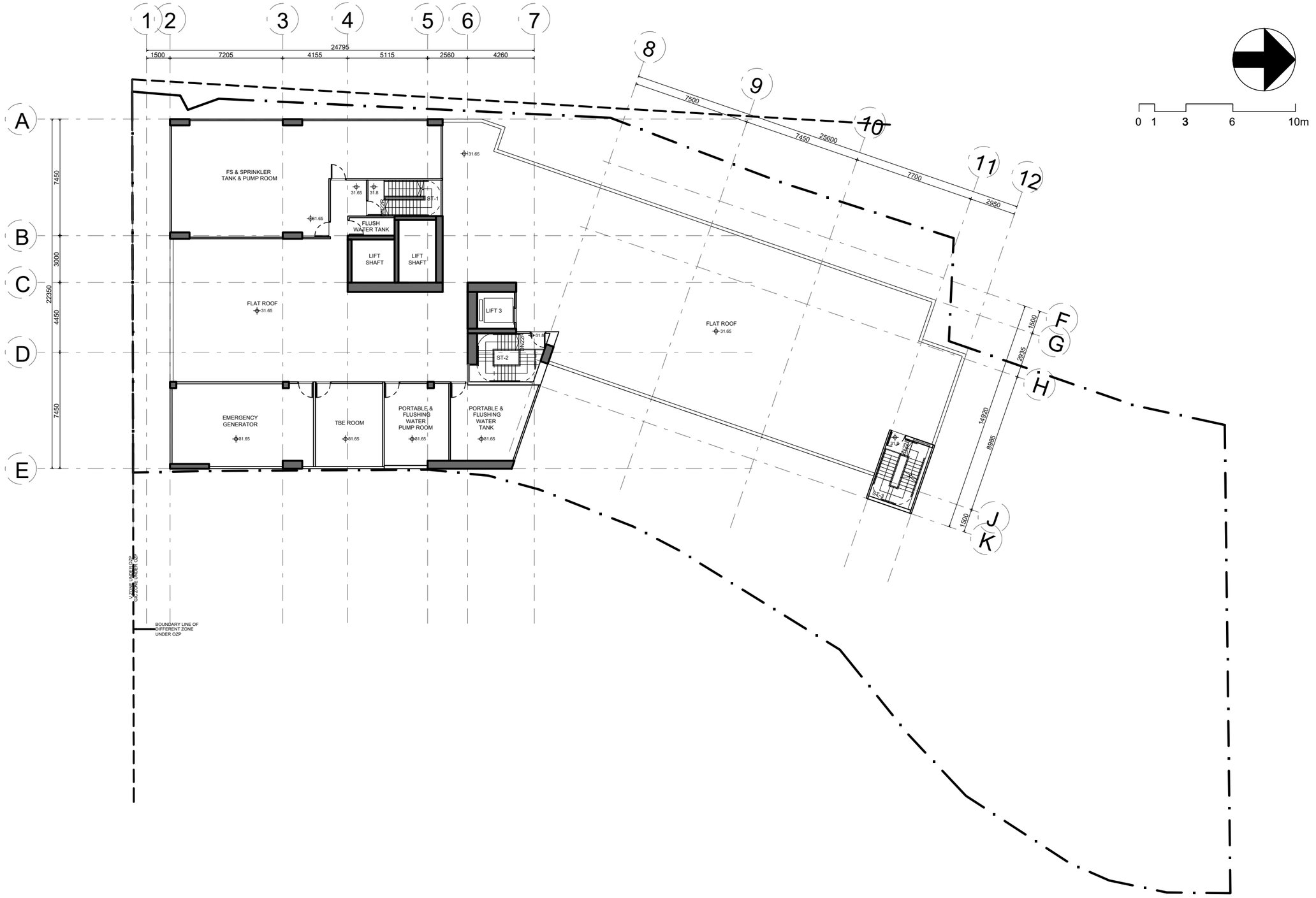
DESIGN IN CHARGE
設計負責人 KL

DWG NO.
圖紙編號 : P-106

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705

APPENDIX A MASTER LAYOUT PLAN



R/F LAYOUT PLAN
SIU LO RCHE 1:250

PROJECT NO. 項目編號 : HK-A22006

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項目名稱 :
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DRAWING TITLE
圖紙名稱 : R/F LAYOUT PLAN

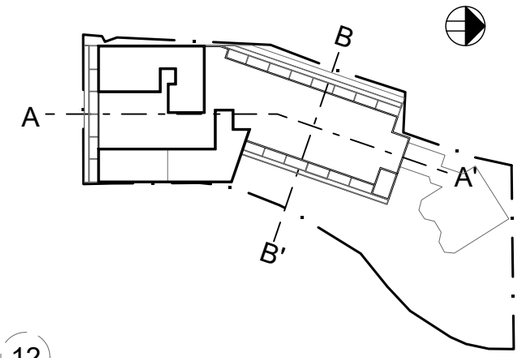
DESIGN IN CHARGE
設計負責人 KL

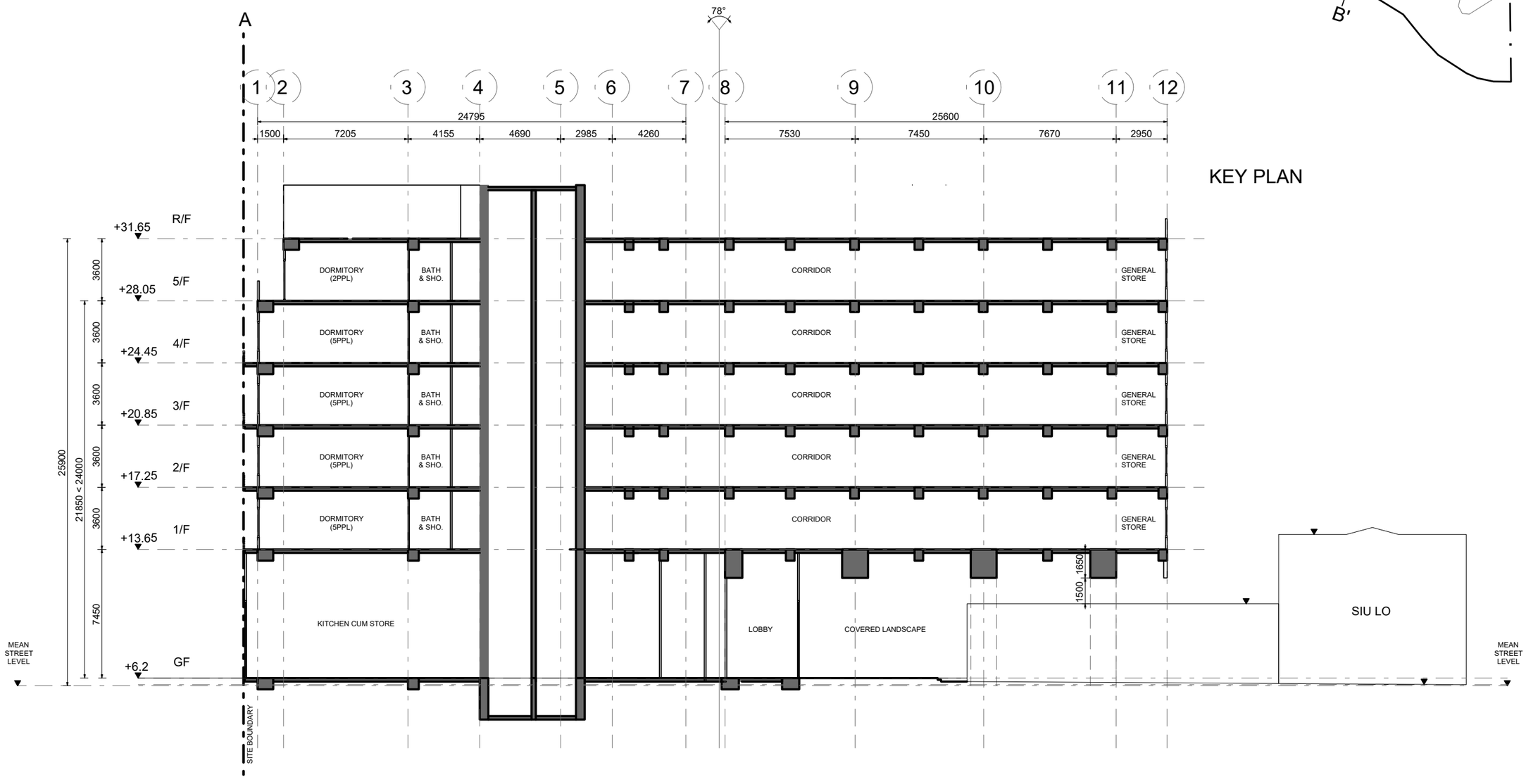
DWG NO.
圖紙編號 : P-107

SCALE
比例 : 1:250@A3

DATE
日期 : 20230705

APPENDIX A MASTER LAYOUT PLAN





PROJECT NO. 項目編號 : HK-A22006

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F	DESIGN	20230210
G	DESIGN	20230315
H	DESIGN	20230707

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DeSPACE (International) Limited
- E-mail 電郵 : despaceinternational@gmail.com
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DRAWING TITLE
圖紙名稱 : SCHEMATIC SECTION A

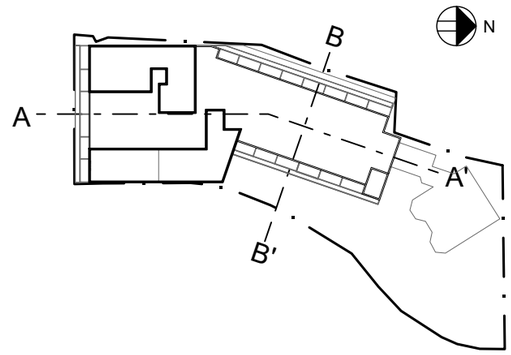
DESIGN IN CHARGE
設計負責人 KL

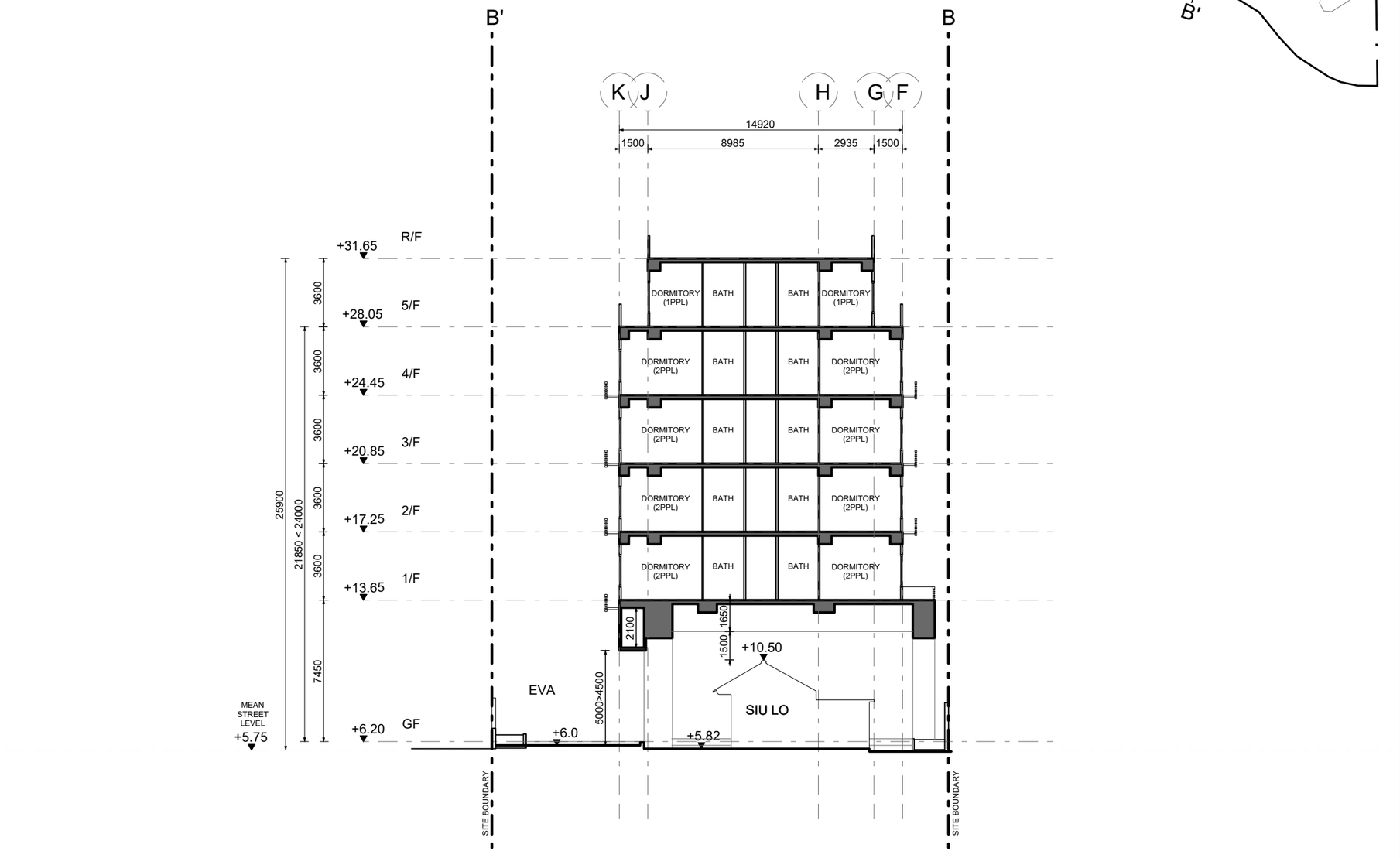
DWG NO.
圖紙編號 : S-101

SCALE
比例 : 1:250@A3

DATE
日期 : 20230707

APPENDIX A MASTER LAYOUT PLAN





- SCHEMATIC SECTION BB'

SIU LO RCHE 1:200

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PROJECT NO. 項目編號： HK-A22006

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DRAWING TITLE 圖紙名稱： SCHEMATIC SECTION B

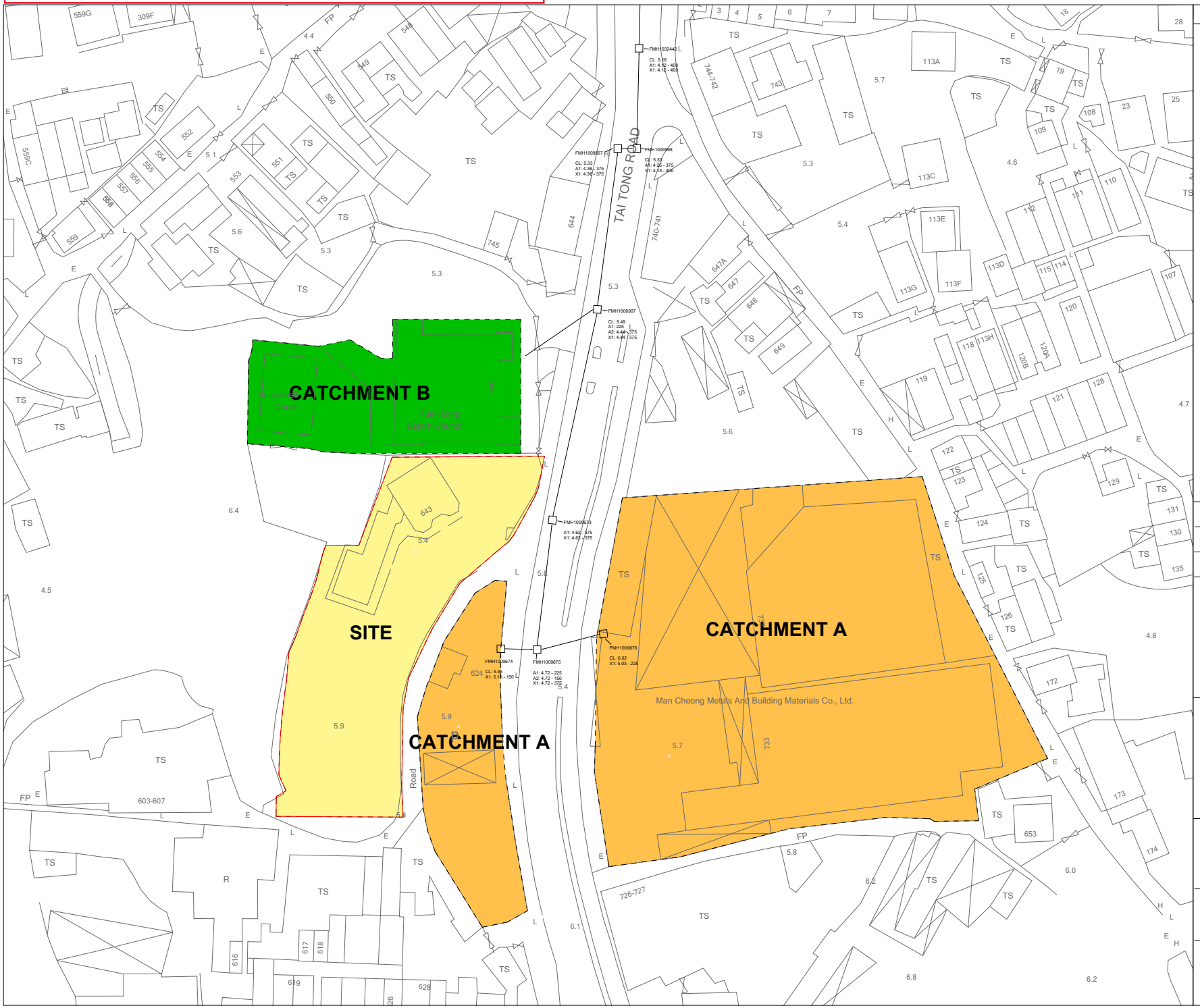
DESIGN IN CHARGE 設計負責人 KL

DWG NO. 圖紙編號： S-102

SCALE 比例： 1:250@A3

DATE 日期： 20230707

APPENDIX B EXISTING SEWERAGE PLAN



LEGEND:

- PROPOSED SITE
- CATCHMENT TAKEN INTO ACCOUNT
- EXISTING MANHOLE
- EXISTING SEWERAGE

	Prepared	Checked	Approved
Initial	BW	CC	YS
Date	11/2021	11/2021	11/2021

DrawingTitle

EXISTING SEWERAGE PLAN NO.1

Drawing No.	Rev.
SIA - 1001	0

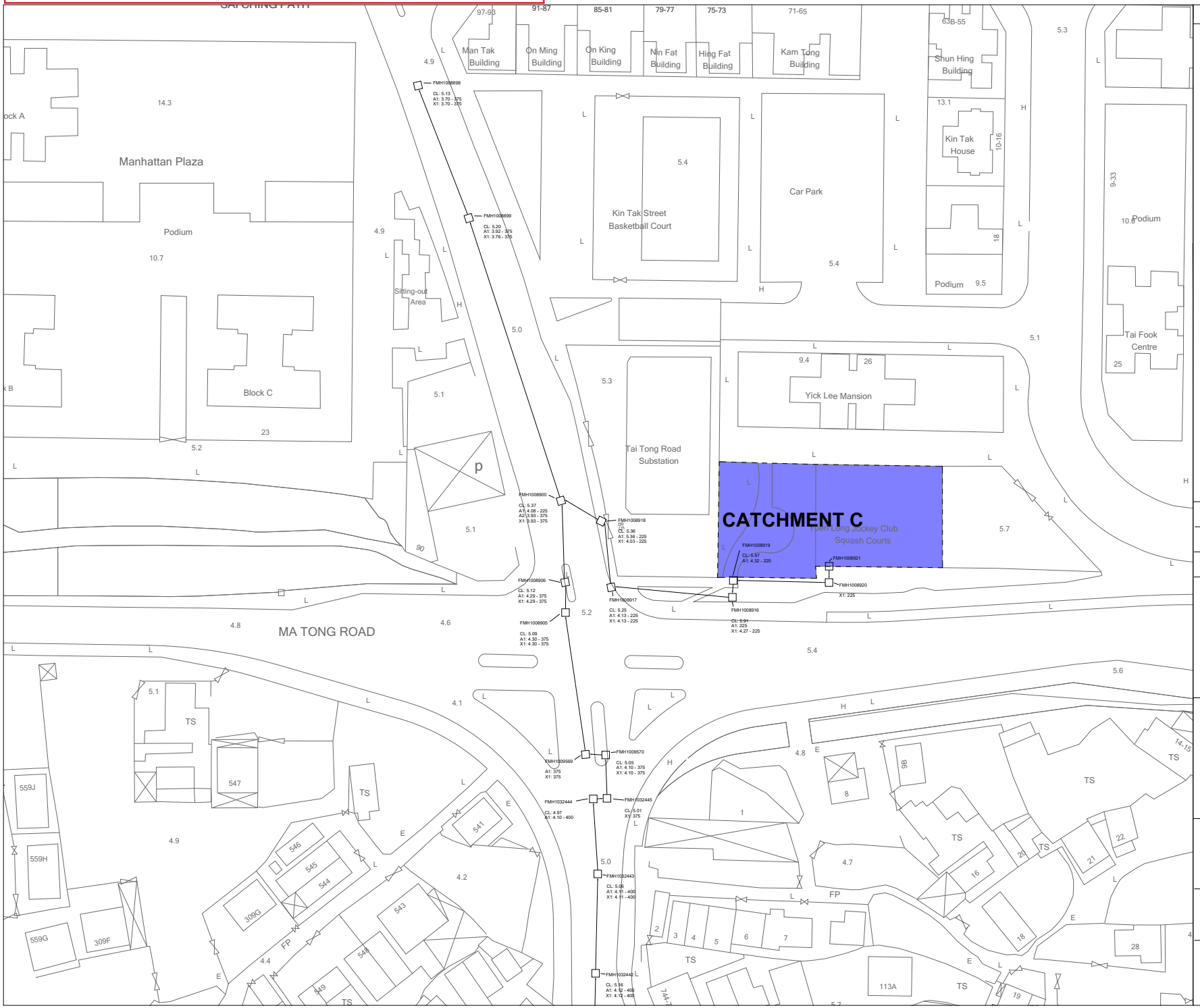
Scale:

A4 - 1:1000

BXG

BeeXergy Consulting Limited

APPENDIX B EXISTING SEWERAGE PLAN



LEGEND:

- PROPOSED SITE
- CATCHMENT TAKEN INTO ACCOUNT
- EXISTING MANHOLE
- EXISTING SEWERAGE

	Prepared	Checked	Approved
Initial	BW	CC	YS
Date	11/2021	11/2021	11/2021

DrawingTitle

EXISTING SEWERAGE PLAN NO.2

Drawing No.	Rev.
SIA - 1002	0

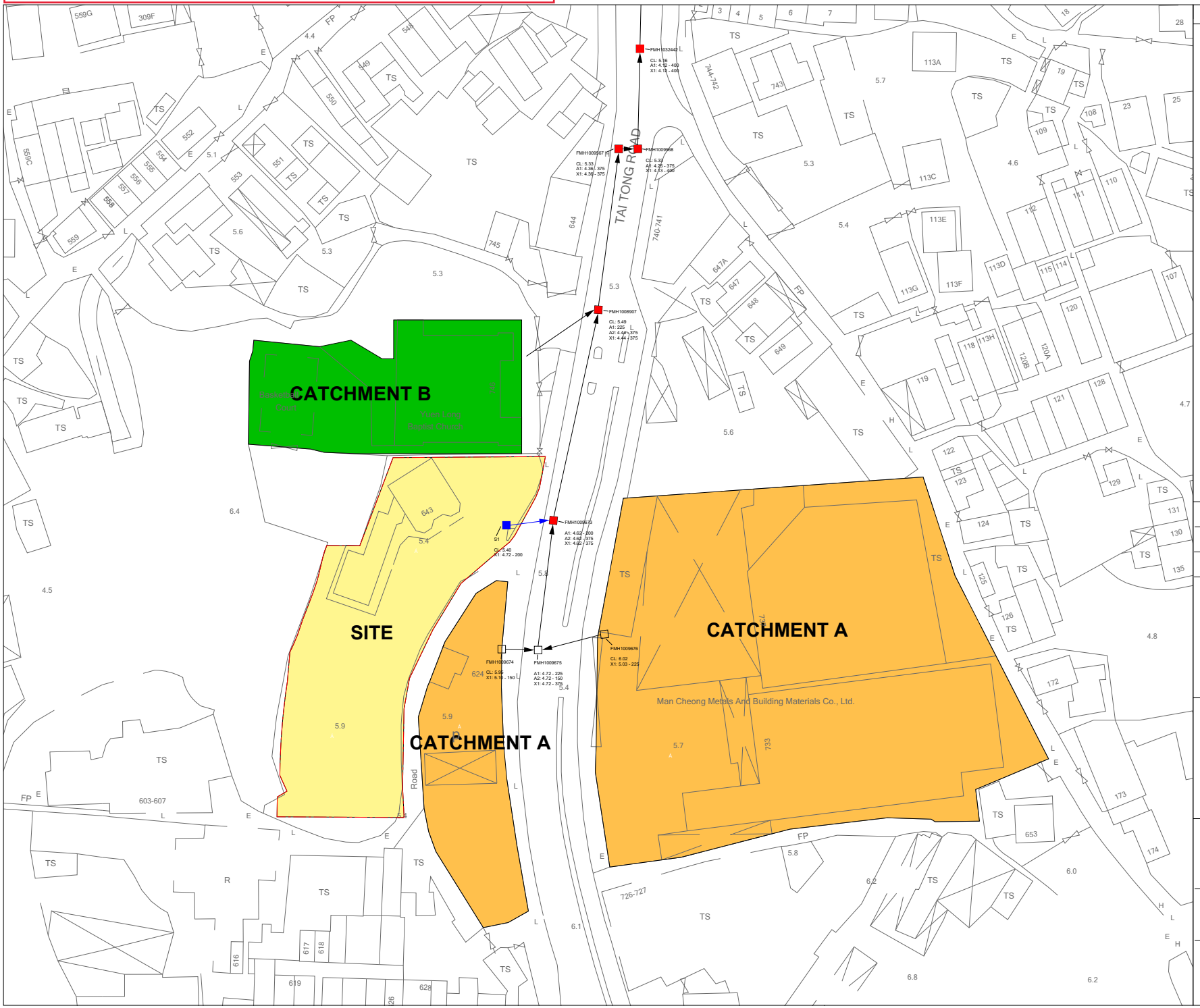
Scale:

A4 - 1:1000

BXG

BeeXergy Consulting Limited

APPENDIX C PROPOSED SEWERAGE PLAN



LEGEND:

- PROPOSED SITE
- CATCHMENT TAKEN INTO ACCOUNT
- EXISTING MANHOLE TAKEN INTO ACCOUNT
- EXISTING SEWERAGE
- PROPOSED TERMINAL MANHOLE
- PROPOSED SEWERAGE

	Prepared	Checked	Approved
Initial	BW	CC	YS
Date	11/2021	11/2021	11/2021

DrawingTitle

PROPOSED SEWERAGE PLAN NO.1

Drawing No.	Rev.
SIA - 1003	0

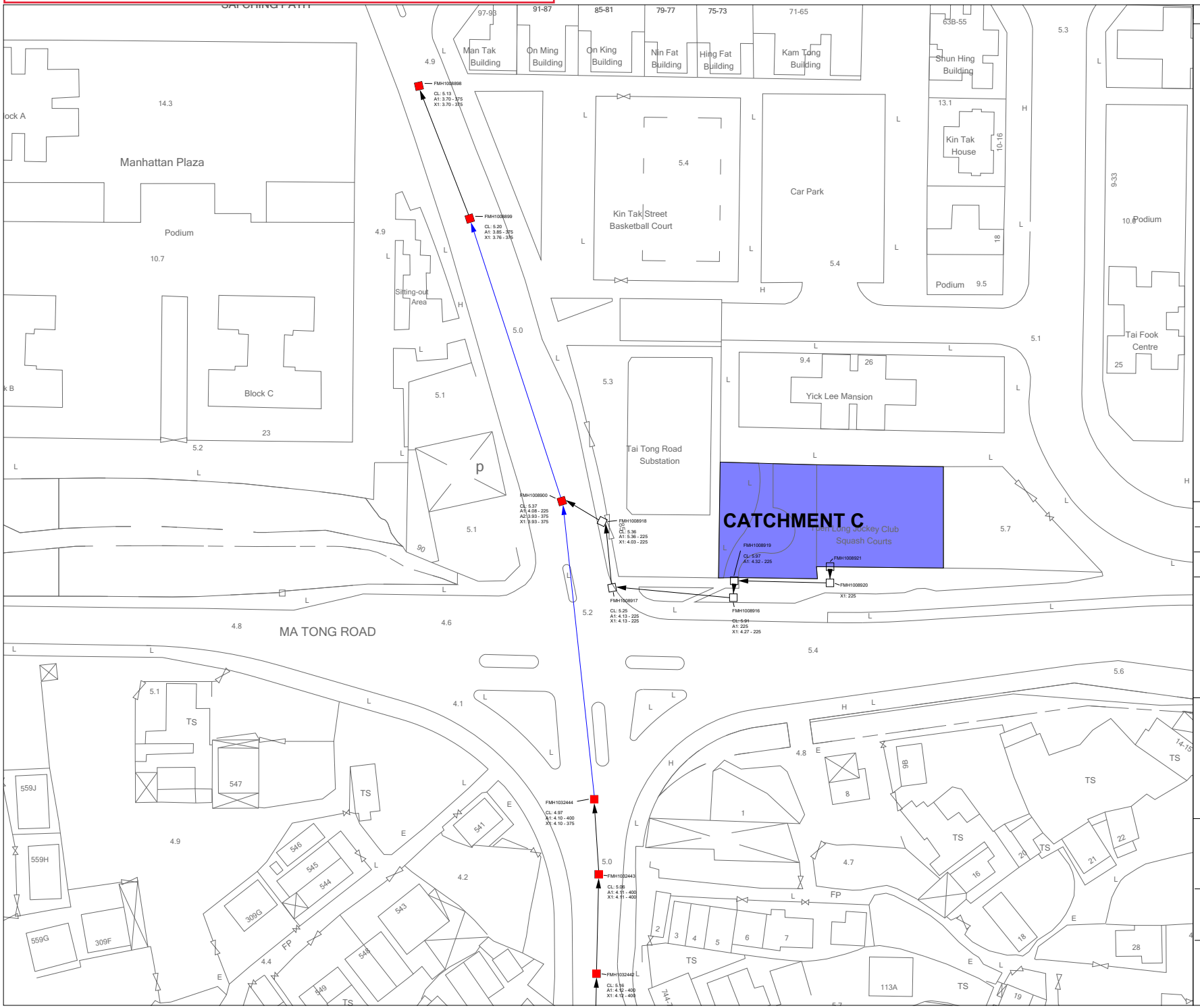
Scale:

A4 - 1:1000

BXG

BeeXergy Consulting Limited

APPENDIX C PROPOSED SEWERAGE PLAN



LEGEND:

- PROPOSED SITE
- CATCHMENT TAKEN INTO ACCOUNT
- EXISTING MANHOLE TAKEN INTO ACCOUNT
- EXISTING SEWERAGE
- PROPOSED SEWERAGE

	Prepared	Checked	Approved
Initial	BW	CC	YS
Date	11/2021	11/2021	11/2021

DrawingTitle

PROPOSED SEWERAGE PLAN NO.2

Drawing No.	Rev.
SIA - 1004	0

Scale:

A4 - 1:1000

BXG

BeeXergy Consulting Limited

APPENDIX D CALCULATION OF SEWAGE FLOW

Development	GFA (m2)	Occupancy Density (person/m2)	Estimated Population	Unit Flow Factor (m3/day)	Estimated Average Dry Weather Flow (m3/day)	Catement Inflow Factor	Contributing Population	Peaking Factor	Estimated Peak Flow (L/sec)	Estimated Peak Flow (m3/sec)	Remarks
A) Proposed Development											
Elderly Home Guest	5400	-	260	0.27	70.20	1	710	8	6.500	0.00650	UFF: 0.27 m3/day for 'Modern Village/R2 Private Development' based on EPD's GESF Table T-1 Population: No. of guests in accordance with the planning statement
Elderly Home Employee		-	30	0.28	8.40				0.778	0.00078	UFF: 0.28 m3/day for 'Commercial Employee' and 'Commercial activities of J11 Community, Social & Personal Services' based on EPD's GESF Table T-2 Population: Information from project applicant
B) Catchment A											
Man Cheong Metals and Building Materials Co. Ltd. (萬昌五金建材有限公司)	1130	2.3	26	2.08	54.08	1	419	8	5.007	0.00501	UFF: 2.08 m3/day for 'Industrial employee' and 'Industrial activities of J1 Manufacturing in Yuen Long' based on EPD's GESF Table T-3 Occupancy Density: 2.3 workers/100m2 GFA for 'Manufacturing' based on PlanD's CIFSUS Figure 9
Caltex Patrol Station	100	3.8	4	0.18	0.72				0.067	0.00007	UFF: 0.18 m3/day for 'Commercial Employee' and 'Commercial activities of J3 Trnasport, Storage & Communication' based on EPD's GESF Table T-2 Occupancy Density: 3.8 workers/100m2 GFA for 'Transport' based on PlanD's CIFSUS Figure 9
MCM Construction Materilas Spply Company Limited (萬斯美有限公司)	1230	2.3	28	2.08	58.24				5.393	0.00539	UFF: 2.08 m3/day for 'Industrial employee' and 'Industrial activities of J1 Manufacturing in Yuen Long' based on EPD's GESF Table T-3 Occupancy Density: 2.3 workers/100m2 GFA for 'Manufacturing' based on PlanD's CIFSUS Figure 9
C) Catchment B											
Religious Institution (Church)	2703	-	50	0.28	14.00	1	869	8	1.296	0.00130	UFF: 0.28 m3/day for 'Commercial Employee' and 'Commercial activities of J11 Community, Social & Personal Services' based on EPD's GESF Table T-2 Population: 50 staff based on RNTPC Paper No. A/YL/252A para. 1.4
Composite School Employee	5579	-	63	0.28	17.64				1.633	0.00163	UFF: 0.28 m3/day for 'Commercial Employee' and 'Commercial activities of J11 Community, Social & Personal Services' based on EPD's GESF Table T-2 Population: 32 teaching staff and 8 management/supporting staff for the kindergarten, 6 trainers and 12 trainees for the 4/F special education area, 3 teaching staff and 2 supporting staff for 5/F cooking class area based on RNTPC Paper No. A/YL/252A para. 1.4
Composite School Student		-	283	0.04	11.32				1.048	0.00105	UFF: 0.04 m3/day for 'School Student' based in EPD's GESF Table T-2 Population: Student-teacher ratio of 8.1:1 based on Education Bureau Statistics (https://www.edb.gov.hk/en/about-edb/publications-stat/figures/index.html) for 32 teaching staff in the kindergarden, 12 SEN students for the 4/Fspecial education area, 12 students for the 5/F cooking class area based on RNTPC Paper No. A/YL/252A para. 1.4
D) Catchment C											
Yuen Long Jocky Club Squash Courts	1500	3.3	50	0.28	14.00	1	923	8	1.296	0.00130	UFF: 0.28 m3/day for 'Commercial Employee' and 'Commercial activities of J11 Community, Social & Personal Services' based on EPD's GESF Table T-2 Occupancy Density: 3.3 workers/100m2 GFA for 'Community, Social & Personal Services' based on PlanD's CIFSUS Figure 9
ESSO Tai Tong Petrol Station	100	3.8	4	0.18	0.72				0.067	0.00007	UFF: 0.18 m3/day for 'Commercial Employee' and 'Commercial activities of J3 Trnasport, Storage & Communication' based on EPD's GESF Table T-2 Occupancy Density: 3.8 workers/100m2 GFA for 'Transport' based on PlanD's CIFSUS Figure 9
								Sub-Total of A)	**7.28**	**0.00728**	
								Sub-Total of A+B)	**17.74**	**0.01774**	
								Sub-Total of A+B+C)	**21.72**	**0.02172**	
								Sub-Total of A+B+C+D)	**23.09**	**0.02309**	

APPENDIX E CALCULATION OF SEWAGE FLOW CAPACITY

Manhole Reference	Manhole Reference	Pipe Dia.	Pipe Length	Invert Level 1	Invert Level 2	g	k_s	s	v	V	A	Q	Estimated Capacity	Peak Flow	Capacity	Compliance	Remarks
		mm	m	mPD	mPD	m/s^2	m		m^2/s	m/s	m^2	m^3/s	L/s	L/s	%		
S1	FMH1009673	200	8.5	4.72	4.62	9.81	0.0006	0.01176	0.000001306	1.311	0.031	0.0412	41.20	7.28	17.7%	Yes	Proposed Site; Proposed new terminal manhole and 200mm sewer
FMH1009673	FMH1008907	375	42.0	4.62	4.44	9.81	0.0060	0.00429	0.000001306	0.838	0.110	0.0925	92.52	17.74	19.2%	Yes	Proposed Site + Catchment A
FMH1008907	FMH1009567	375	32.5	4.44	4.36	9.81	0.0060	0.00246	0.000001306	0.634	0.110	0.0701	70.07	21.72	31.0%	Yes	Proposed Site + Catchment A + Catchment B
FMH1009567	FMH1009568	375	3.0	4.36	4.25	9.81	0.0060	0.03667	0.000001306	2.454	0.110	0.2710	271.00	21.72	8.0%	Yes	
FMH1009568	FMH1032442	400	20.0	4.13	4.12	9.81	0.0060	0.00050	0.000001306	0.298	0.126	0.0374	37.44	21.72	58.0%	Yes	
FMH1032442	FMH1032443	400	19.0	4.12	4.11	9.81	0.0060	0.00053	0.000001306	0.306	0.126	0.0384	38.42	21.72	56.5%	Yes	
FMH1032443	FMH1032444	400	15.0	4.11	4.10	9.81	0.0060	0.00067	0.000001306	0.344	0.126	0.0433	43.26	21.72	50.2%	Yes	
FMH1032444	FMH1008900	375	57.0	4.10	3.93	9.81	0.0006	0.00298	0.000001306	0.980	0.110	0.1082	108.24	21.72	20.1%	Yes	Proposed 375mm new sewer
FMH1008900	FMH1008899	375	58.8	3.93	3.85	9.81	0.0006	0.00136	0.000001306	0.657	0.110	0.0726	72.57	23.09	31.8%	Yes	Proposed Site + Catchment A + Catchment B + Catchment C; Proposed 375mm new sewer
FMH1008899	FMH1008898	375	27.5	3.76	3.70	9.81	0.0060	0.00218	0.000001306	0.597	0.110	0.0660	65.96	23.09	35.0%	Yes	

Remarks:

(1) g=gravitational acceleration; k_s=equivalent sand roughness; s=gradient; v=kinematic viscosity of water; V=mean velocity

(2) The mean velocity (V) is claculated by the Colebrook-White Equation for circular pipes:

$$V = -\sqrt{(8gDs)}\,\log\left(\frac{ks}{3.7D} + \frac{2.51v}{D\sqrt{(2gDs)}}\right)$$

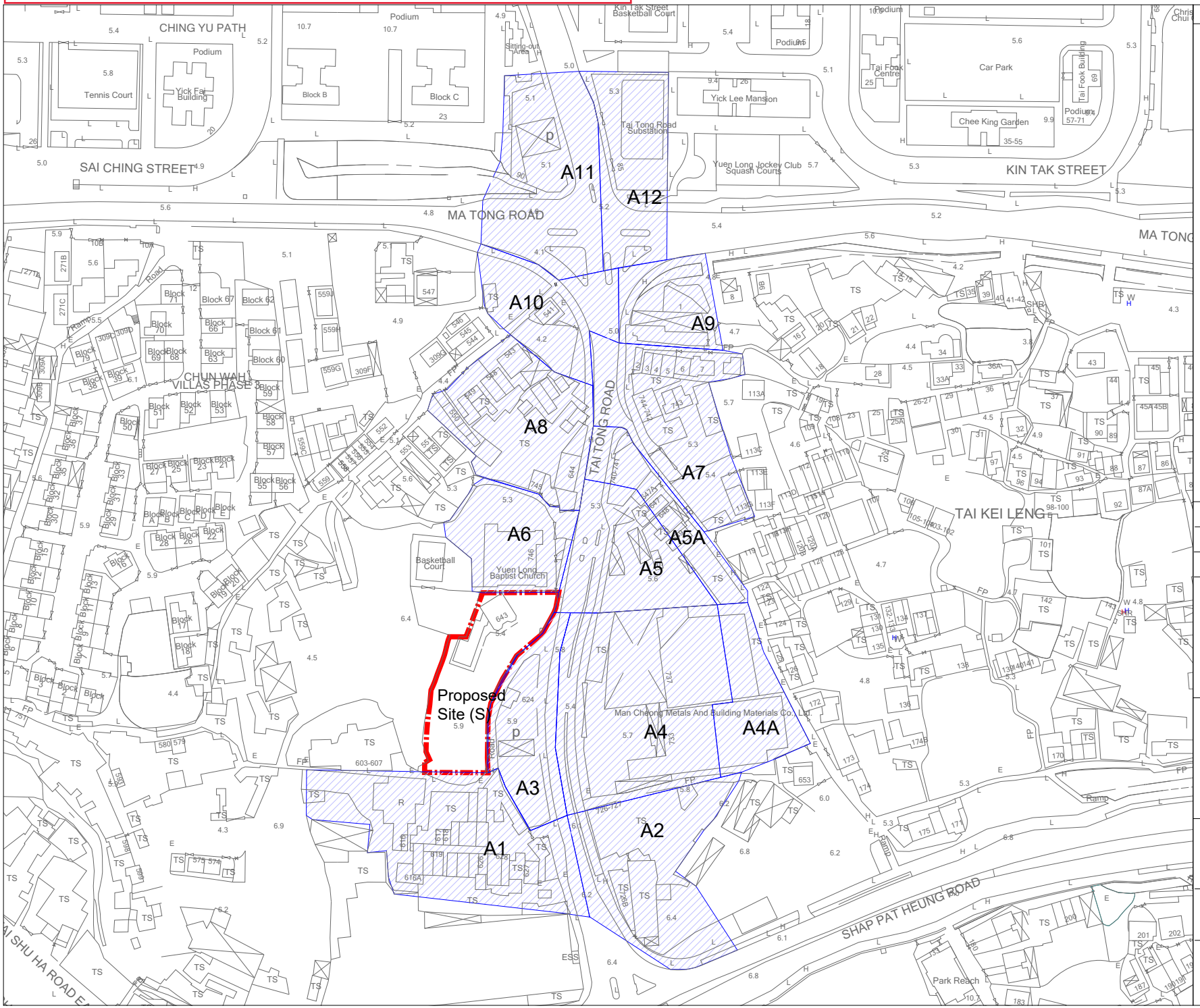
where

V = mean velocity (m/s)
g = gravitational acceration (m/s2)
D = internal pipe diameter (m)
s = slope
ks = roughness coefficient(m)
v = kinematic viscosity of fluid (m2/s)

(3) The value of k_s = 6mm is used for the calculation of existing pipe for conservative approach and 0.6mm for proposed new metal pipe in normal condition based on DSD's "Sewerage Manual" Table 5: Recommended roughness values

(4) Peak flow (Q) is calculated by Q = V x A

APPENDIX F SURROUNDING CATCHMENTS PLAN



LEGEND:

- PROPOSED SITE
- CATCHMENT TAKEN INTO ACCOUNT

	Prepared	Checked	Approved
Initial	LY	CC	YS
Date	05/ 2023	05/ 2023	05/ 2023

DrawingTitle

LOCATION OF CATCHMENT

Drawing No.	Rev.
DIA - 1001	0

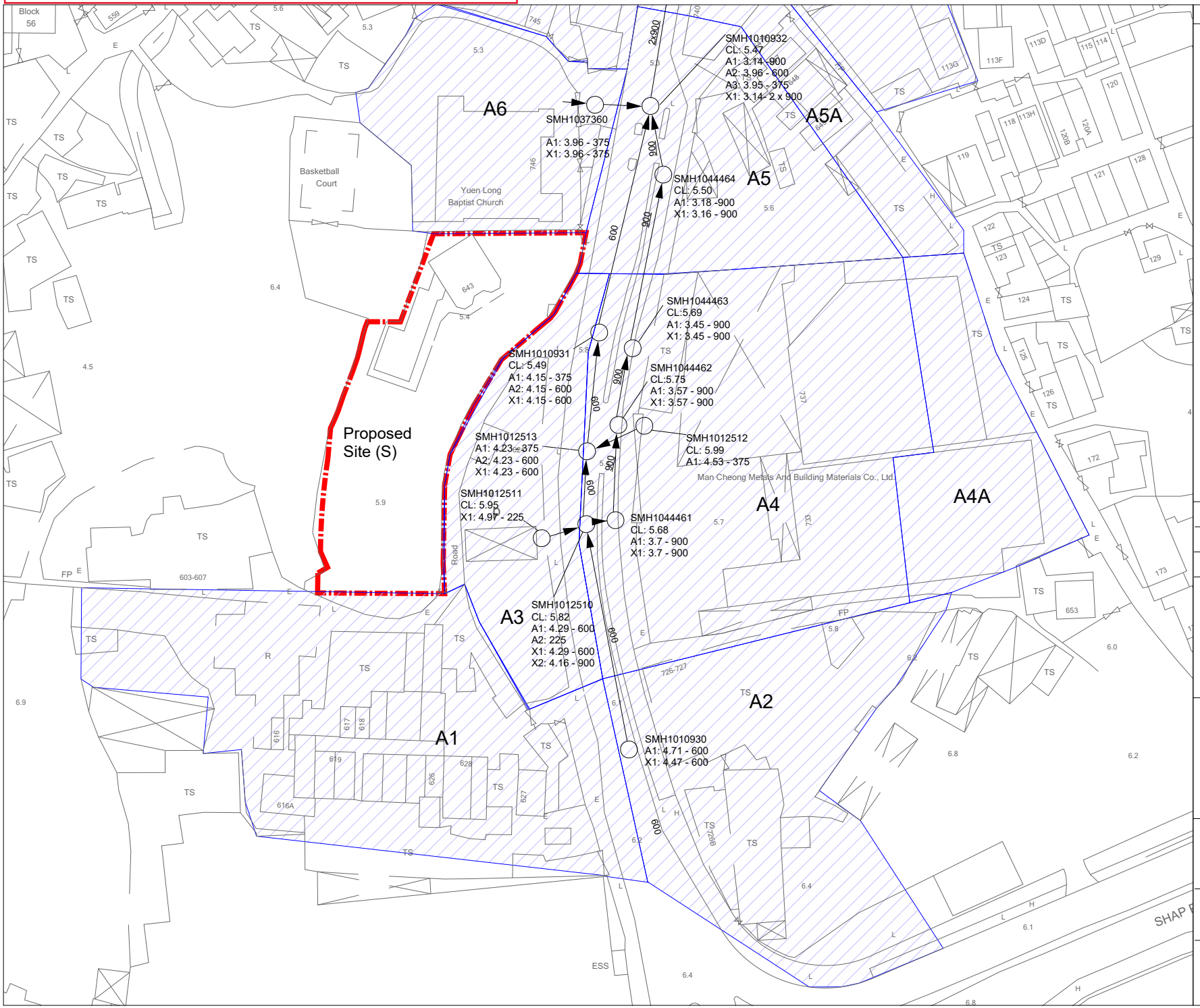
Scale:

A4 - 1:2000

BXG

BeeXergy Consulting Limited

APPENDIX G EXISTING DRAINAGE PLAN



LEGEND:

- PROPOSED SITE
- CATCHMENT TAKEN INTO ACCOUNT
- EXISTING DRAINAGE
- EXISTING CATCHPIT (SCH)
- EXISTING MANHOLE (SMH)
- UC — EXISTING U CHANNEL
- 300 — EXISTING PIPE DIAMTER

	Prepared	Checked	Approved
Initial	LY	CC	YS
Date	05/2023	05/2023	05/2023

DrawingTitle

DRAINAGE PLAN No. 1

Drawing No.	Rev.
DIA - 1002	0

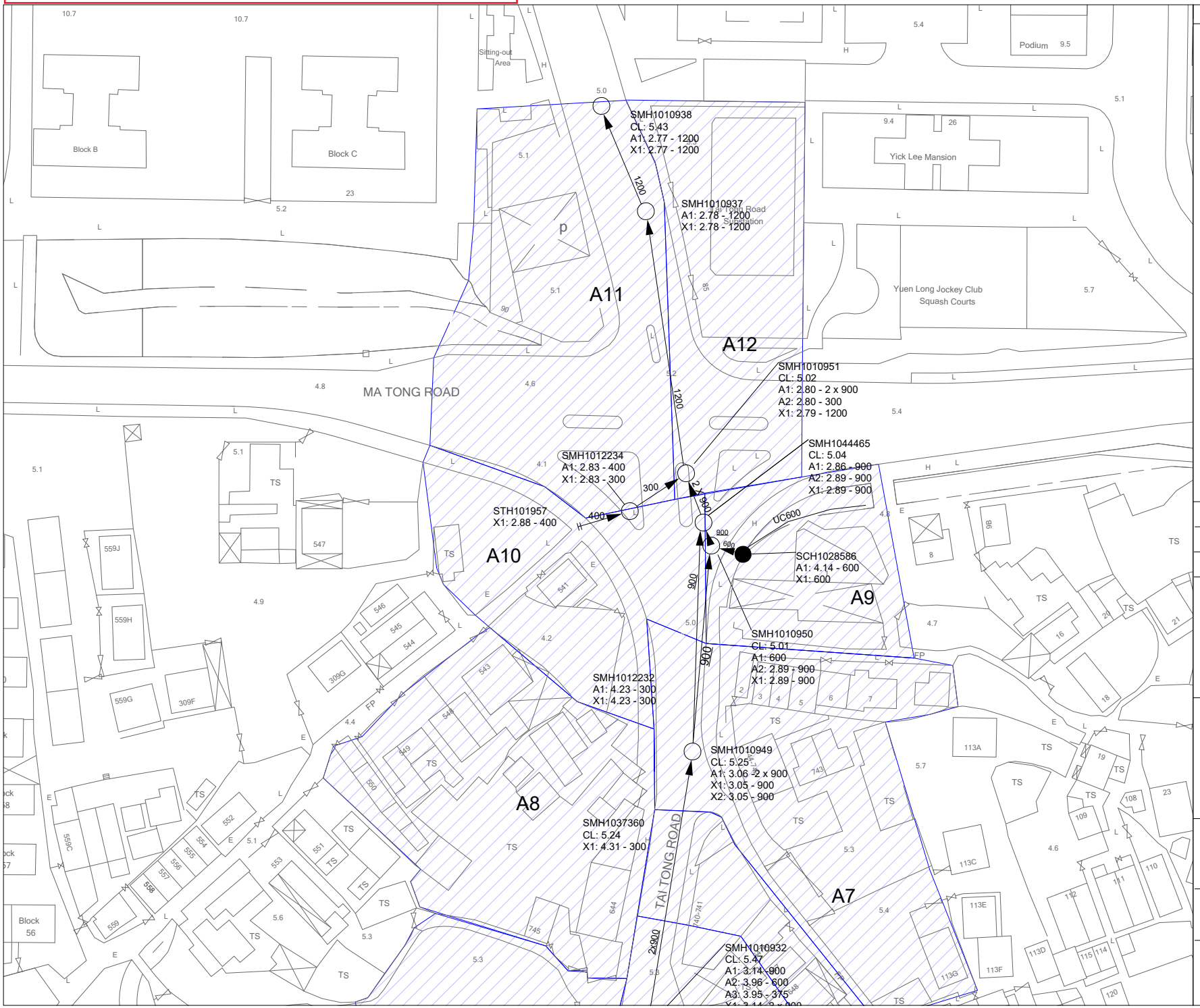
Scale:

A4 - 1:1000

BXG

BeeXergy Consulting Limited

APPENDIX G EXISTING DRAINAGE PLAN



LEGEND:

- PROPOSED SITE
- CATCHMENT TAKEN INTO ACCOUNT
- EXISTING DRAINAGE
- EXISTING CATCHPIT (SCH)
- EXISTING MANHOLE (SMH)
- UC — EXISTING U CHANNEL
- 300 — EXISTING PIPE DIAMTER

	Prepared	Checked	Approved
Initial	LY	CC	YS
Date	05/ 2023	05/ 2023	05/ 2023

DrawingTitle

DRAINAGE PLAN No. 2

Drawing No.	Rev.
DIA - 1003	0

Scale: A4 - 1:1000

BXG

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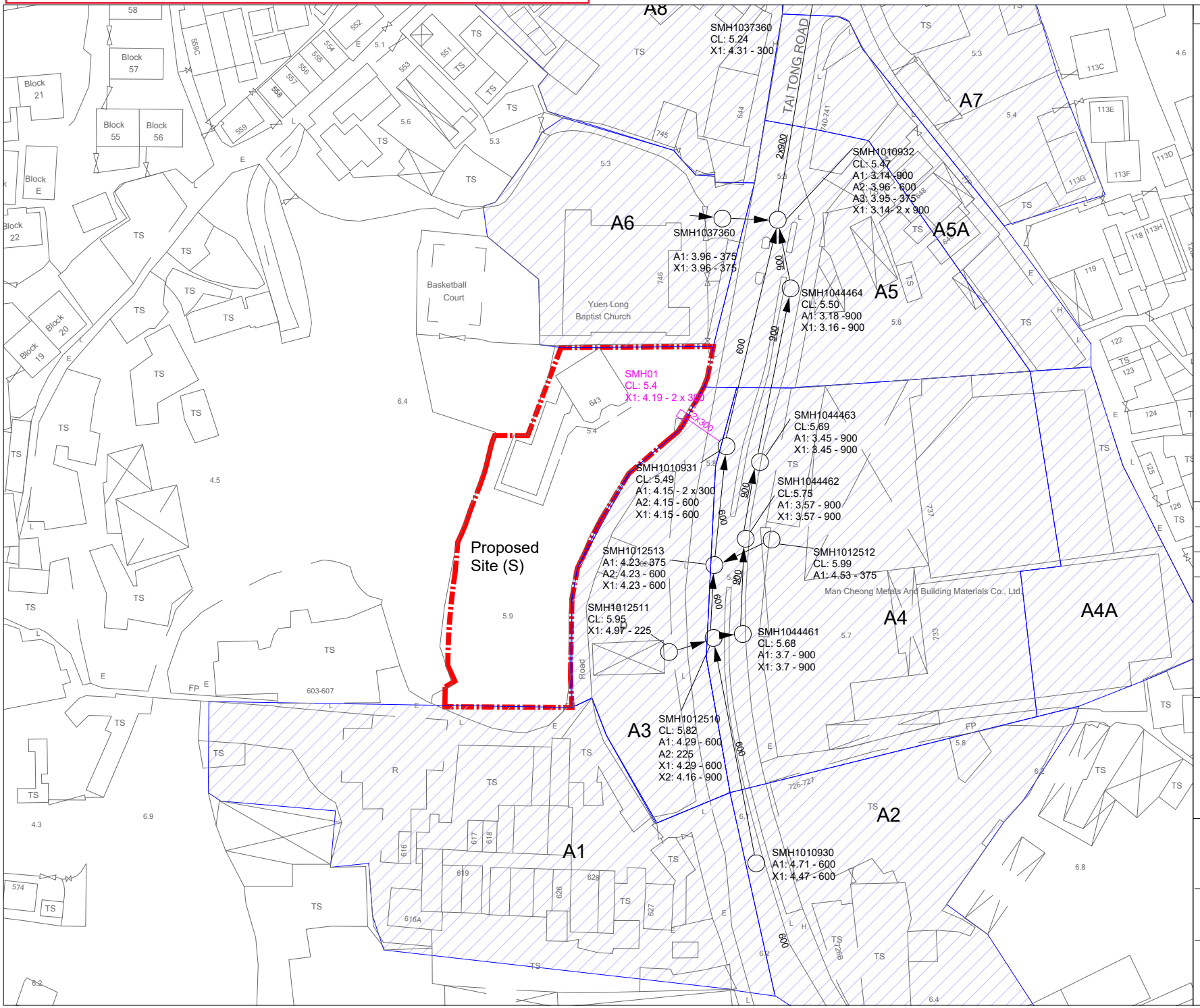
APPENDIX H PORPOSED DEAINAGE SYSTEM



LEGEND:

- PROPOSED SITE
- CATCHMENT TAKEN INTO ACCOUNT
- PROPOSED TERMINAL MANHOLE
- EXISTING DRAINAGE
- EXISTING CATCHPIT (SCH)
- EXISTING MANHOLE (SMH)
- UC EXISTING U CHANNEL
- 300 EXISTING PIPE DIAMTER
- 2x300 PROPOSED TWIN PIPE DIAMTER

	Prepared	Checked	Approved
Initial	LY	CC	YS
Date	05/ 2023	05/ 2023	05/ 2023

DrawingTitle

DRAINAGE RECORD PLAN

Drawing No.	Rev.
DIA - 1004	0

Scale:

A4 - 1:500

BXG

BeeXergy Consulting Limited

APPENDIX I RUNOFF CALCULATION

Calculation of Runoff for Return Period of 50 Years

Catchment ID	Paved Catchment Area (km^2)	Average slope (H), m/100m	Flow path length (L), m	Inlet time (t_o), min	Duration (t_d), min	Storm Constants			Runoff intensity (i), mm/hr	Runoff coefficient for paved area (C_p)	C x A	Peak runoff (Q_p) m^3/s
						a	b	c				
Before the Proposed Development												
Catchment S	0.001877	0.63	79.0	5.89	5.89	451.3	2.46	0.337	256.01	0.95	0.00178	0.127
Catchment A1	0.004113	0.53	131.0	9.35	9.35	451.3	2.46	0.337	227.84	0.95	0.00391	0.247
Catchment A2	0.003091	0.14	74.0	7.15	7.15	451.3	2.46	0.337	244.19	0.95	0.00294	0.199
Catchment A3	0.001820	1.85	27.0	1.63	1.63	451.3	2.46	0.337	325.67	0.95	0.00173	0.157
Catchment A4	0.004563	0.20	102.0	8.80	8.80	451.3	2.46	0.337	231.50	0.95	0.00433	0.279
Catchment A4A	0.001430	0.45	66.7	5.47	5.47	451.3	2.46	0.337	260.49	0.95	0.00136	0.098
Catchment A5	0.002155	0.44	68.6	5.43	5.43	451.3	2.46	0.337	260.93	0.95	0.00205	0.149
Catchment A5A	0.001166	0.12	84.5	9.24	9.24	451.3	2.46	0.337	228.50	0.95	0.00111	0.070
Catchment A6	0.001701	0.19	51.4	4.90	4.90	451.3	2.46	0.337	267.14	0.95	0.00162	0.120
Catchment A7	0.002864	0.41	97.5	7.60	7.60	451.3	2.46	0.337	240.43	0.95	0.00272	0.182
Catchment A8	0.002629	0.51	19.8	1.49	1.49	451.3	2.46	0.337	329.40	0.95	0.00250	0.229
Catchment A9	0.001264	0.26	38.0	3.51	3.51	451.3	2.46	0.337	286.62	0.95	0.00120	0.096
Catchment A10	0.001782	0.45	66.5	5.34	5.34	451.3	2.46	0.337	262.04	0.95	0.00169	0.123
Catchment A11	0.003074	0.43	23.4	1.80	1.80	451.3	2.46	0.337	321.30	0.95	0.00292	0.261
Catchment A12	0.002068	0.35	28.2	2.34	2.34	451.3	2.46	0.337	308.52	0.95	0.00196	0.168

Remark:

(i) Rainfall Increase due to climate Change at the End of 21st Century = 16.0% (1.16)

APPENDIX J CALCULATION OF DRAINAGE CAPACITY

Calculation of Drainage Capacity for Return Period of 50 Years

SECTION		Pipe	Catchment	Length	Level (Out)	Level (In)	d	r	A_w	P_w	R	s	k_s	V	Q_c	Total Runoff in 50 Years	% of capacity	Remark
From	To			m	mPD	mPD	m	m	m^2	m	m	-	mm	m/s	m^3/s	m^3/s	%	
SMH01	SMH1010931	2 x 300mm circular twin pipe	S	7.80	4.19	4.15	0.3	0.15	0.071	0.942	0.08	0.0051282	0.6	1.1224	0.143	0.127	89%	OK
SMH1010931	SMH1010932	1 x 600mm circular pipe	(A1+A2+A3)/2+A4+S	42.70	4.15	3.96	0.6	0.3	0.707	1.885	0.38	0.0044496	0.6	2.8574	1.818	0.708	39%	OK
SMH1010932	SMH1010949	2 x 900mm circular twin pipe	A1+A2+A3+A4+S+A5+A6	49.50	3.14	3.06	0.9	0.45	0.636	2.827	0.23	0.0016162	0.6	1.2523	1.434	1.278	89%	OK
SMH1010949	SMH1010950	1 x 900mm circular pipe	(A1+A2+A3+A4+A4A+S+A5+A5A+A6+A7+A8)/2	37.19	3.05	2.89	0.9	0.45	0.636	2.827	0.23	0.0043022	0.6	2.0510	1.174	0.929	79%	OK
SMH1010949	SMH1044465	1 x 900mm circular pipe	(A1+A2+A3+A4+A4A+S+A5+A5A+A6+A7+A8)/2	41.70	3.05	2.86	0.9	0.45	0.636	2.827	0.23	0.0045564	0.6	2.1111	1.209	0.929	77%	OK
SMH1010950	SMH1044465	1 x 900mm circular pipe	(A1+A2+A3+A4+A4A+S+A5+A5A+A6+A7)/2+A8+A9	1.46	2.89	2.86	0.9	0.45	0.636	2.827	0.23	0.0205479	0.6	4.4976	2.575	1.139	44%	OK
SMH1044465	SMJ1010951	1 x 900mm circular pipe	A1+A2+A3+A4+A4A+S+A5+A5A+A6+A7+A8+A9+A10	6.93	2.89	2.8	0.9	0.45	1.590	2.827	0.56	0.0129870	0.6	6.2595	8.960	2.076	23%	OK
SMJ1010951	SMH1010937	1 x 120mm circular pipe	A1+A2+A3+A4+A4A+S+A5+A5A+A6+A7+A8+A9+A10	48.60	2.79	2.78	1.2	0.6	2.827	3.770	0.75	0.0002058	0.6	0.9267	2.358	2.076	88%	OK
SMH1010937	SMH1010938	1 x 120mm circular pipe	A1+A2+A3+A4+A4A+S+A5+A5A+A6+A7+A8+A9+A10+A11+A12	19.10	2.78	2.77	1.20	0.6	2.827	3.770	0.75	0.0005236	0.6	1.4853	3.780	2.505	66%	OK

Legend

d = pipe diameter, m

r = pipe radius (m) = 0.5d

A_w = wetted area (m^2) = p r^2 (circular) ; $pr^2/2+2r^2$ (U-channel)

P_w = wetted perimeter (m) = 2pr (circular) ; 2pr/2 (U-channel)

R = Hydraulic radius (m) = A_w / P_w

s = Slope of the total energy line

k_s = equivalent sand roughness, mm

V = Velocity of flow calculated based on Colebrook White Equation, m/s

Q_c = Flow Capacity (10% sedimentation incorporated), m^3/s

Q_p = Estimated total peak flow from the Site during peak season, m^3/s

APPENDIX 8

TRAFFIC IMPACT ASSESSMENT

REVIOUSLY SUBMITTED FOR THE SECOND PLANNING APPLICATION (A/YL/289)

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1. INTRODUCTION

1.1 Background

1.1.1 The application site is located at Lots nos. 1695 S.E SS. 1 RP, 1695 S.F SS.1, 1695 S.H RP and adjoining Government Land in D.D. 120, Tai Kei Leng, Yuen Long, New Territories. The site location is shown in **Figure 1.1**.

1.1.2 The applicant intends to develop a proposed Residential Care Home for the Elderly (RCHE) and convert an existing Grade 3 historic building, called “Siu Lo” for "House" use. A planning application proposed minor relaxation of building height restriction from 3 to 5 storeys [Planning application no. A/YL/256] had been submitted and approved in year 2020. The applicant intends to apply a new minor relaxation of building height restriction from 3 to 6 storeys.

1.1.3 In support of the aforesaid application, a traffic impact assessment is required to review and appraise any possible traffic impact induced by the proposed development on the adjacent road network.

1.1.4 CTA Consultants Limited (CTA) was therefore commissioned as the traffic consultant to prepare the Traffic Impact Assessment (TIA) and provide technical justifications in supporting the application from traffic engineering point of view.

1.2 Study Objectives

1.2.1 Main objectives of this study are listed below:

- To assess the existing and proposed traffic arrangement & provision of internal transport facilities at the subject site;
- To assess the existing traffic condition in the vicinity of the proposed development;
- To estimate traffic trips related to the proposed development;
- To carry out forecasts about traffic demand of the adjacent road network in design year 2028;
- To appraise any possible traffic impact induced by the proposed development

on the adjacent road network;

- To recommend traffic improvement measures to alleviate any foreseeable traffic problem to the surrounding road network, if any.

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2. THE PROPOSED DEVELOPMENT

2.1 Site Location

2.1.1 The application site is located at Lots nos. 1695 S.E SS. 1 RP, 1695 S.F SS.1, 1695 S.H RP and adjoining Government Land in D.D. 120, Tai Kei Leng, Yuen Long, New Territories. The site location is shown in **Figure 1.1**.

2.2 Development Proposal

2.2.1 Parameters of the proposed development are listed in **Table 2.1**.

Table 2.1 Parameters of the Proposed Development

	Proposed Scheme	Approved scheme (A/YL/256)
Proposed Use	Residential Care Home for the Elderly (RCHE)	Residential Care Home for the Elderly (RCHE)
Site Area	About 1,953 m^2	About 1,714.229 m^2
Total Accountable GFA	About 5,768 m^2 (excluding car park GFA)	About 4,267 m^2
No. of Storeys	6	5 (include 1 basement)
No. of Beds	281 (or within a range of 260 – 300)	170

2.2.2 It is anticipated that the proposed development will be commissioned in year 2025. Therefore, design year 2028 (i.e. 3 years after the planned commencement year of the proposed development) is adopted for the Traffic Impact Assessment.

2.2.3 The proposed RCHE will operate 24 hours a day with 3 shifts of workers, the working hour hours are:

(i) 7am to 3pm,
(ii) 3pm to 10pm, and
(iii) 10pm to 7am.

Thus, trips by the staffs actually would not occur at the morning peak hour

2.2.4 It is understood that Hong Kong workers mainly go to works by public transport. Bus stops are provided near the proposed development which is convenience for the staff to travel by public transport. Moreover, staffs will not be allowed to use the parking spaces unless authorization is obtained from the management. Thus, most of the staff would be controlled to use public transport for their mode of transport.

2.3 Provision of Internal Transport Facilities

2.3.1 It is revealed that there is no parking standard for "Residential Home for Elderly" in HKPSG, therefore, the parking provision of other existing RCHEs has been referenced and are summarized in **Table 2.2** below:

Table 2.2 Examples of Existing RCHE

Name of RCHE	Location	No. of beds	No. of Staff	Observed no. of Parking Provision	Parking Facilities[(1)(2)(3)] (Category 1/2/3)
Assemblies of God Holy Light Church Aged Home	91 Sung Ching Sun Tsuen, Tai Tong Road, Yuen Long	60	19	Nil	Category 1
Chinese Christian Worker's Fellowship Wah Hei Elderly Home (Comet Mansion	G/F & M/F, Shop 27, Comet Mansion, 45-67 Fung Cheung Road, Yuen Long	105	29	Nil	Category 1
Pok Oil Hospital Jockey Club Care and Attention Home	Lot 1392 & 837 R.P. in D.D. 115, Au Tau, Yuen Long	213	124	Nil	Category 2
Po Leung Kuk Tin Yan Home for the Elderly cum Green Joy Day Care Centre for the Elderly	3/F and 4/F, Ancillary Facilities Block, Tin Yan Estate, Tin Shui Wai	106	74	Nil	Category 2
Yan Oi Tong Tin Ka Ping Care and Attention Home	G/F & 1/F, Wah Ping House, Long Ping Estate, Yuen Long	85	51	Nil	Category 2
T.W.G.Hs. Y. C. Liang Memorial Home for the Elderly	G/F & 1/F, Yiu Yat House, Tin Yiu Estate, Tin Shui Wai	88	47	Nil	Category 1
Caritas Ying Shui Home	3/F, Ying Shui House, Shui Pin Wai Estate, Yuen Long	75	47	Nil	Category 2
Salvation Army Kam Tin Residence for Senior Citizens (The)	103 Kam Tin Road, Yuen Long	150	81	1 car parking space + 1 light bus parking spaces	Category 3
Pok Oi Hospital Yeung Chun Pui Care and Attention Home	58 Sha Chau Lei Tsuen, Ha Tsuen, Yuen Long	143	92	2 car parking spaces + 1 light bus parking spaces	Category 3
Pok Oi Hospital Tai	G/F-3/F & KW307,	109	75	Nil	Category 2

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Name of RCHE	Location	No. of beds	No. of Staff	Observed no. of Parking Provision	Parking Facilities[(1)(2)(3)] (Category 1/2/3)
Kwan Care & Attention Home	Shui Kwok House, Tin Shui Estate, Tin Shui Wai, Yuen Long				
Ching Chung Taoist Association of Hong Kong Limited Ching Chung Care and Attention Home for the Aged	57 Sha Chau Lei Chuen, Ping Ha Road, Yuen Long	120	61	1 car parking space + 1 light bus parking spaces	Category 3

Note: (1) Category 1 refers to homes with nil provision of car parking spaces within the Site and no public car parking spaces can be found in the close proximity.

(2) Category 2 refers to homes with nil provision of car parking spaces within the Site but may use the public car parking spaces of nearby car park.

(3) Category 3 refers to homes with provision of car parking spaces within the Site.

Proposed Internal Transport Facilities Provision

2.3.2 With reference to **Table 2.2** above, only one to two private parking spaces are provided by other RCHE. Taking reference to Salvation Army Kam Tin Residence for Senior Citizens (The), it has 1 car parking space and 1 light bus parking spaces for 150 beds are sufficient for their daily operation needs. Taking into consideration that 260 to 300 beds will be provided in our proposed development, double the parking provision should be sufficient for the daily operation needs of the proposed development. The internal transport facilities provisions are proposed and summarized as **Table 2.3** below:

Table 2.3 Proposed Provisions of Internal Transport Facilities

Type	Proposed Dimensions	Proposed Number of Spaces
Private Cars	5m(L) x 2.5m(W) x min.2.4m(H)	1
Private Cars for Disabilities	5m(L) x 3.5m(W) x min.2.4m(H)	1
Light bus	8m(L) x 3m(W) x min.3.3m(H)	2

Note: The provision of PV parking space for disabilities is determined by referring to "Parking for persons with disabilities" stipulated in the latest HKPSG that 1 accessible parking space should be provided for 1-50 parking spaces

2.3.3 The ground floor layout plans of the proposed development showing the proposed internal transport provision is shown in **Figures 2.1**.

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3. EXISTING TRAFFIC CONDITION

3.1 Existing Road Network

3.1.1 Shap Pat Heung Road is a duel two-lane two-way primary distributor. It is the major road connecting Shap Pat Heung Interchange and Yuen Long Highway.

3.1.2 Tai Tong Road is a two-lane two-way district distributor connecting Man Tong Road and Shap Pat Heung Road. It is the only access road connecting the proposed development. It serves for the traffic travelling North and South in vicinity.

3.1.3 Yuen Long Highway is expressway connecting which form as a section of New Territories Circular Road. It is the major road connects Yuen Long with other area in New Territories.

3.2 Critical Junctions

3.2.1 Five junctions are identified to be critical for the Traffic Impact Assessment due to the proposed development. Relevant details are listed in **Table 3.1** and shown in **Figure 3.1**. Existing junction layouts are tabulated in **Figures 3.2** to **Figure 3.6** respectively.

Table 3.1 Identified Critical Junctions

Ref.	Junction	Type	Figure No.
A	Ma Tong Road / Tai Tong Road	Signalized	3.2
B	Tai Tong Road / Shap Pat Heung Road	Signalized	3.3
C	Shap Pat Heung Road / Fung Ki Road	Signalized	3.4
D	Shap Pat Heung Road / Tai Kei Leung Road	Signalized	3.5
E	Shap Pat Heung Interchange	Roundabout	3.6

3.2.2 It is revealed that people would visit RCHE mainly during off-peak from 10 am to 5 pm rather than at peak hours. The assessment of the impact due to the proposed development will therefore base on the traffic flow determine from off-peak.

3.2.3 In order to study the existing traffic condition of the above critical junctions, traffic survey in the form of manual-classified count was conducted for the critical junctions during the off-peak periods on a typical weekday on 16 December 2021 from 10:00 AM to 12:00 noon and 15:00 PM to 17:00 PM respectively. The survey provides most up-to-date details of the traffic condition within the study area under normal operation. Based on the observed traffic flows, it reveals that peak of Off-peak hour occurred from 11:00 AM to 12:00 noon, 16:00 PM to 17:00 PM respectively.

3.2.4 The 2021 traffic flows are presented in **Figure 3.7**. The operational performances of the critical junctions are listed in **Table 3.2** below.

Table 3.2 Operational Performances of Critical Junctions in 2021

Ref.	Junction	Method of Control	Year 2021 RC/DFC (1)	
			AM Off-Peak	PM Off-Peak
A	Ma Tong Road / Tai Tong Road	Signalized	+40%	+39%
B	Tai Tong Road / Shap Pat Heung Road	Signalized	+55%	+44%
C	Shap Pat Heung Road / Fung Ki Road	Signalized	>+100%	+98%
D	Shap Pat Heung Road / Tai Kei Leung Road	Signalized	+98%	>+100%
E	Shap Pat Heung Interchange	Roundabout	0.62	0.69

Notes: (1) RC = Reserve Capacity for Signal Junction;
DFC = Design Ratio of Flow to Capacity for Priority Junction/Roundabout

3.2.5 The assessment results in **Table 3.2** indicate that all critical junctions are at present operating with ample capacities during the off-peak hours.

3.2.6 Queue length assessment has been carried out shown in **Figures 3.8** and **3.9** and summarized in **Table 3.3** below.

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Table 3.3 Queue Length Analysis of Identified Junctions in 2021

Ref.	Junction	Method of Control	Direction	Length of Road Segment (m)	Observed Queue Length (m)	
					Existing Scenario	
					AM Off-Peak	PM Off-Peak
A	Shap Pat Heung Road / Tai Shu Ha Road East	Priority	Ma Tong Road (WB)	260	30	24
			Tai Tong Road (NB)	290	42	42
			Ma Tong Road (EB)	350	18	18
			Tai Tong Road (SB)	240	36	36
B	Tai Tong Road / Shap Pat Heung Road	Signalized	Shap Pat Heung Road (WB)	150	30	36
			Tai Tong Road (NB)	160	24	18
			Shap Pat Heung Road (EB)	230	18	24
			Tai Tong Road (SB)	290	36	36
C	Shap Pat Heung Road / Fung Ki Road	Signalized	Shap Pat Heung Road (WB)	230	30	36
			The Access Road of The Reach (NB)	40	0	0
			Shap Pat Heung Road (EB)	250	18	24
			Fung Ki Road (SB)	180	30	48
D	Shap Pat Heung Road / Tai Kei Leung Road	Signalized	Shap Pat Heung Road (SB)	280	36	24
			Shap Pat Heung Road (NB)	90	30	24
			Tai Kei Leng Road (EB) (RT)	400	48	18
E	Shap Pat Heung Interchange	Roundabout	Yuen Long Highway (WB)	770	12	12
			Yuen Long Highway (EB)	590	30	30
			Shap Pat Heung Road (SB)	90	30	30

3.2.7 The assessment results in **Table 3.3** indicate that all queues are queuing within the allowable road segments during the peak hours.

3.3 Public Transport Services in the Vicinity

3.3.1 Numerous road-based public transport services, for instance, franchised buses and GMB are also provided in vicinity of the proposed development. Details of the current services of franchised buses and GMB routes within the catchment area of 500 meters are listed in **Table 3.5** and shown in **Figure 3.8**.

Table 3.5 Public Transport Services in the Vicinity of the Proposed Development

Service	Route	Origin - Destination	Frequency (mins)
Franchised Bus	68E	Yuen Long Park – Tsing Yi Railway Station Bus Terminus	15 - 30
	68F	Yuen Long Park – Park Yoho (Circular)	30
	K66	Tai Tong – Long Ping	4 - 15
GMB	39	Kung Um - Yuen Long (Fung Cheung Road)	5 - 8
	73(1)	Long Ping Station (Ma Wang Road) – Sung Shan San Tsuen	10 - 15

Note: (1) Morning peak hour service

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4. FUTURE TRAFFIC CONDITION & TRAFFIC IMPACT ASSESSMENT

4.1 Design Year

4.1.1 It is anticipated that the proposed development would be completed in 2025 tentatively with full intended operation. In order to assess the possible traffic impacts to the local road network due to the proposed development, year 2028 (i.e. 3 years after completion) has been adopted as the design year for this study.

4.2 Traffic Forecast

4.2.1 To estimate the reference traffic flow in year 2028 (without the proposed development) in the local road network, an appropriate growth factor has to be identified for the area in the first instance. The following approaches have been adopted to derive the growth factor for the Area of Influence.

Historical Trend

4.2.2 Numerous traffic-count stations are located in the vicinity of the proposed development. The traffic counts reported in the Annual Traffic Census (ATC), which is published by Transport Department, over a period of five years, i.e. 2015 to 2019 are summarized in **Table 4.1**.

Table 4.1 Historical Traffic Data from Annual Traffic Census (ATC)

ATC Stn	Road Name	Annual Average Daily Traffic (AADT)					Avg. Annual Growth Rate
		2015	2016	2017	2018	2019	
5711	Shap Pat Heung Rd (From Shap Pat Heung INT to Tai Tong Rd)	23,020	21,960	21,810*	22,500*	23,400*	0.41%
Total		**23,020**	**21,960**	**21,810**	**22,500**	**23,400**	**+0.41%**

*Note: *AADT estimated by Growth factor*

Planning Data

4.2.3 Reference has also been made to the latest 2016-Based Territorial Population Employment Data Matrices (TPEDM) planning data published by the Planning Department in December 2019 for projection of population and employment within the study district. The average annual growth rates in terms of population and employment from 2021 to 2026 are tabulated in **Table 4.2**.

Table 4.2 2016-Based Planning Data from 2021 to 2026

Yuen Long District			
Data	Year		Average Annual Growth Rate
	2021	2026	
Population	175,200	180,000	+0.54%
Employment	68,000	69,100	+0.32%
Total	**243,200**	**249,100**	**+0.48%**

Adopted Growth Rate

4.2.4 A.A.D.T. of ATC indicates that the traffic flow of the local road network has an average annual growth rate of +0.41% from year 2015 to year 2019.

4.2.5 Whilst, the planning data indicates that the population and employment of the study area are expected to grow with an average annual growth rate of +0.48%.

4.2.6 As a conservative approach, annual growth rate **+1% p.a.** which is used in previous TIA is adopted. It is deemed sufficient to allow for any unexpected future growth as a result of some changes in land use or development in the study area.

4.3 Reference Traffic Flow in Year 2028

4.3.1 The year 2028 reference traffic flow is estimated by applying the adopted growth rate to the year 2021 adopted traffic flow.

Adjacent New Developments

4.3.2 Additional traffic generation and attraction of major committed/planned developments in the vicinity have been estimated and superimposed onto the road network to derive the year 2028 reference traffic flow. The committed/planned developments in the vicinity are summarized and illustrated in **Table 4.3** and **Figure 4.1**.

Table 4.3 Major Planned/ Committed Development in the Vicinity

Application No.	Proposed Use	Development Parameters
A/YL/252 (Yuen Long Baptist Church Redevelopment)	Kindergarten and Church	16 classrooms for Kindergarten 1 for Special Education 680 seats for Church
Youth Hostel Development at Ma Tin Pok	Youth Hostel	1,248 Units
Lot 4041 in DD120 (A/YL/185)	Residential	16 Units
Atrium (Lot 4056 in DD120)	Residential	313 Units
A/YL/263	RCHE	380 beds
A/YL/276	RCHE	197 beds

4.3.3 Based on the TIA reports of the vicinity developments, the trip generated and attracted by the proposed development in vicinity are summarized in the **Table 4.4**.

Table 4.4 – Estimated Traffic Trips of the Proposed Development

Application No.		Traffic Trips			
		AM Peak		PM Peak	
		Gen.	Att.	Gen.	Att.
A/YL/252 (Yuen Long Baptist Church Redevelopment) (1)		42	53	45	13
Youth Hostel at Ma Tin Pok(2)		31	29	23	26
Lot 4041 in DD120 (A/YL/185) (2)		5	3	3	4
Atrium (Lot 4056 in DD120)(3)	Trip Rate (60 m^2)	0.08633	0.06835	0.04317	0.05755
	Traffic Trips	22	13	9	12
A/YL/263(1)		33	26	16	22
A/YL/276(1)		17	13	9	11

1) According its TIA

2) According to TIA of A/YL/261

3) Trip rate of 60m^2 flat size in TPDM is used as conservative approach

4.3.4 Besides, Yuen Long South (YLS) Development has also been considered. The population intake year of YLS Development will be in stages. The design year of our development is Year 2028, therefore only Stage 1 of YLS Development would be consider in our assessment as other stages are beyond our design year.

Table 4.5 Planned Population under the Yuen Long South Development

Development Stage	Population Intake year	Population		Employment Places
		Public	Private	
Stage 1	**2028**	**13,222**	**35(VRT)**	**780**
Existing population		-	2,400	-

Note: (1) VRT – Village Removal Terms

(2) Source: Yuen Long District Council Committees Meetings Discussion Papers 14/2020 and "Planning and Engineering Study for Housing Sites in Yuen Long South – Investigation Final Traffic and Transport Impact Assessment Report (June 2020)"

4.3.5 Based on the DC paper and TIA reports of the YLS developments, the trip generated and attracted by the YLS developments (Stage 1) are estimated and summarized in the **Table 4.6**.

Table 4.6 – Estimated Traffic Trips of the YLS Development (Stage 1)

Land Use	Units		Traffic Trip Rate				Trip Rate Unit	Traffic Trips			
			AM Peak		PM Peak			AM Peak		PM Peak	
			Gen.	Att.	Gen.	Att.		Gen.	Att.	Gen.	Att.
Residential – Public (50sqm)	4,320	flats	0.048	0.028	0.024	0.035	pcu/hr/flat	207	121	104	151
Commercial	16,620	GFA (m^2)	0.129	0.153	0.236	0.262	pcu/hr/ 100m^2 GFA	21	25	39	44
Kindergarten	12	classroom	2.2	2.4	2.3	2.1	pcu/hr/ classroom	27	29	28	26
GIC	14,210	GFA (m^2)	0.235	0.235	0.115	0.115	pcu/hr/ 100m^2 GFA	34	34	17	17
Total								**289**	**209**	**188**	**238**

Note: (1) Reference to Yuen Long District Council Committees Meetings Discussion Papers 14/2020 and "Planning and Engineering Study for Housing Sites in Yuen Long South – Investigation Final Traffic and Transport Impact Assessment Report (June 2020)"

4.3.6 The 2028 reference traffic flows are presented in **Figure 4.2**.

2028 Reference Flows (without proposed development) = **2021 Adopted Flows** x **Adopted Growth Factor i.e. +1 % p.a. for 7 years** + **Adjacent Developments**

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4.4 Traffic Trips of the Proposed Development

4.4.1 It is noted that traffic rates of both generation and attraction for proposed development uses are not specified in the latest Transport Planning & Design Manual (TPDM).

4.4.2 The estimation of traffic trips related to the proposed development is based on in-house surveys carried out at Tung Wah Group of Hospitals - Wong Cho Tong Social Service Building and summarized in the **Table 4.7**.

Table 4.7 In-house Traffic Trip Rates of Proposed Development

Use	Units / Parameters	AM Peak		PM Peak	
		Gen.	Att.	Gen.	Att.
Traffic Trip Rate					
TWGHs Wong Cho Tong Social Service Building – IN/OUT of Building	(pcu/hr)	14	11	14	11
TWGHs Wong Cho Tong Social Service Building – Loading/Unloading activities of Building	(pcu/hr)	10	8	10	8
Total Trip	(pcu/hr)	24	19	24	19
Adopted Traffic Trip Rates (278beds)	**(pcu/hr/bed)**	**0.08633**	**0.06835**	**0.04317**	**0.05755**
Traffic Trips					
Estimated Traffic Trips (300 beds)(1)	**(pcu/hr)**	**26**	**21**	**13**	**17**

1) Upper range of no. of beds is adopted as conservative approach.

4.5 Traffic Forecast for Design Year 2028

4.5.1 The net traffic trips of the proposed development , which is shown in **Figure 4.3**, is then superimposed onto the year 2028 reference traffic flow (without the proposed development) as shown in **Figure 4.2** to derive the year 2028 design traffic flow (with the proposed development).

Year 2028 Design Flow (with the Proposed Development) = **Year 2028 Reference Flow (without the Proposed Development)** + **Traffic Trips of the Proposed Development**

4.5.2 The traffic flow during AM and PM peak periods in the design year 2028 (with the proposed development) are shown in **Figure 4.4**.

4.6 Operational Assessment

4.6.1 To assess traffic impacts due to the proposed development, operational assessment of the critical junctions identified in Chapter 3 are carried out for both reference (without the proposed development) and design (with the proposed development) scenarios in year 2028. The results are summarized in **Table 4.8**.

Table 4.8 Operational Performance of Critical Junctions in Year 2028

Ref.	Junction	Method of Control	Year 2028 RC/DFC (1)			
			Reference Scenario (Without the Proposed Development)		Design Scenario (With the Proposed Development)	
			AM Off-Peak	PM Off-Peak	AM Off-Peak	PM Off-Peak
A	Ma Tong Road / Tai Tong Road	Signalized	+29%	+29%	+29%	+28%
B	Tai Tong Road / Shap Pat Heung Road	Signalized	+20%	+16%	+18%	+15%
C	Shap Pat Heung Road / Fung Ki Road	Signalized	+90%	+74%	+85%	+73%
D	Shap Pat Heung Road / Tai Kei Leung Road	Signalized	+67%	+75%	+66%	+74%
E	Shap Pat Heung Interchange	Roundabout	0.73	0.79	0.73	0.79

Notes: (1) RC = Reserve Capacity for Signal Junction;
DFC = Design Ratio of Flow to Capacity for Priority Junction/Roundabout
(2) Junction Improvement scheme would be carried out on Junction E under Yuen Long South Development project (PWP Item Nos. 7817CL and 7827CL (part)). Please refer to ***Figure 4.9***

4.6.2 The assessment result in **Table 4.6** reveals that all Junctions operate with ample capacities in both reference and design scenarios in year 2028.

4.6.3 Queue length assessment has been carried out shown in **Figures 4.5** to **4.8** and summarized in **Table 4.9** below.

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Table 4.9 Queue Length Analysis of Identified Junctions in 2028

Ref.	Junction	Method of Control	Direction	Length of Road Segment (m)	Calculated Queue Length (m)			
					Reference Scenario (Without the Proposed Development)		Design Scenario (With the Proposed Development)	
					AM Off-Peak	PM Off-Peak	AM Off-Peak	PM Off-Peak
A	Shap Pat Heung Road / Tai Shu Ha Road East	Priority	Ma Tong Road (WB)	260	36	30	36	30
			Tai Tong Road (NB) (STR & LT)	290	42	48	48	48
			Tai Tong Road (NB) (RT)	290	6	6	6	6
			Ma Tong Road (EB) (LT)	350	18	12	18	18
			Ma Tong Road (EB) (STR & RT)	350	18	24	18	24
			Tai Tong Road (SB) (STR & LT)	240	42	42	42	42
			Tai Tong Road (SB) (RT)	240	12	18	12	18
B	Tai Tong Road / Shap Pat Heung Road	Signalized	Shap Pat Heung Road (WB) (STR & RT)	150	48	54	48	54
			Shap Pat Heung Road (WB) (LT)	150	18	18	18	18
			Tai Tong Road (NB) (STR & LT & RT)	160	36	36	36	36
			Shap Pat Heung Road (EB) (STR)	230	36	36	36	36
			Shap Pat Heung Road (EB) (LT)	230	12	18	12	18
			Tai Tong Road (SB) (STR & LT & RT)	290	42	42	42	42
C	Shap Pat Heung Road / Fung Ki Road	Signalized	Shap Pat Heung Road (WB) (RT)	230	36	48	36	48
			Shap Pat Heung Road (WB) (STR & LT)	230	42	42	42	42
			The Access Road of The Reach (NB) (LT)	40	0	0	0	0
			The Access Road of The Reach (NB) (STR & RT)	40	0	6	0	6
			Shap Pat Heung Road (EB) (LT)	250	18	24	18	24
			Shap Pat Heung Road (EB) (STR)	250	36	36	36	36
			Fung Ki Road (SB) (LT)	180	36	42	36	42
			Fung Ki Road (SB) (STR & RT)	180	6	12	6	12
D	Shap Pat Heung Road / Tai Kei Leung Road	Signalized	Shap Pat Heung Road (SB)	280	30	30	30	30
			Shap Pat Heung Road (NB)	90	24	24	24	24
			Tai Kei Leng Road (EB) (RT)	400	24	24	24	24
E	Shap Pat Heung Interchange	Roundabout	Yuen Long Highway (WB)	770	18	24	18	18
			Yuen Long Highway (EB)	590	6	12	6	12
			Shap Pat Heung Road (SB)	90	0	0	0	0

4.6.4 The assessment results in **Table 4.7** indicate that all queues are queuing within the allowable road segments during the peak hours. The traffic generated by the proposed development would induce insignificant impact on the surrounding road network. Therefore, the application is supported from the traffic points of view.

5. SUMMARY AND CONCLUSION

5.1 Summary

5.1.1 The application site intends to develop to Residential Care Home for the Elderly (RCHE).

5.1.2 CTA Consultants Limited (CTA), are therefore commissioned as the traffic consultant to prepare the Traffic Impact Assessment (TIA) and provide technical justifications in supporting the application from traffic engineering point of view.

5.1.3 To appraise the existing traffic condition, a vehicular survey in the form of manual-classified count was conducted at the surrounding road network of the proposed development. Current operational performance of the critical junctions has been assessed with the observed traffic flow. The results reveal that all critical junctions are at present operating within its capacities.

5.1.4 Assessment of operational performance of the critical junctions indicates that all critical junctions will still operate within their capacities in both reference and design scenarios in year 2028.

5.1.5 The traffic generated by the proposed development would induce insignificant impact on the surrounding road network. Therefore, the application is supported from the traffic points of view.

5.2 Conclusion

5.2.1 In conclusion, this Traffic Impact Assessment (TIA) study demonstrated that the related traffic trips related to the proposed development can be absorbed by the nearby road network and no significant traffic impact will be induced.

5.2.2 Therefore, the proposed development of RCHE is reckoned feasible from traffic engineering point of view.

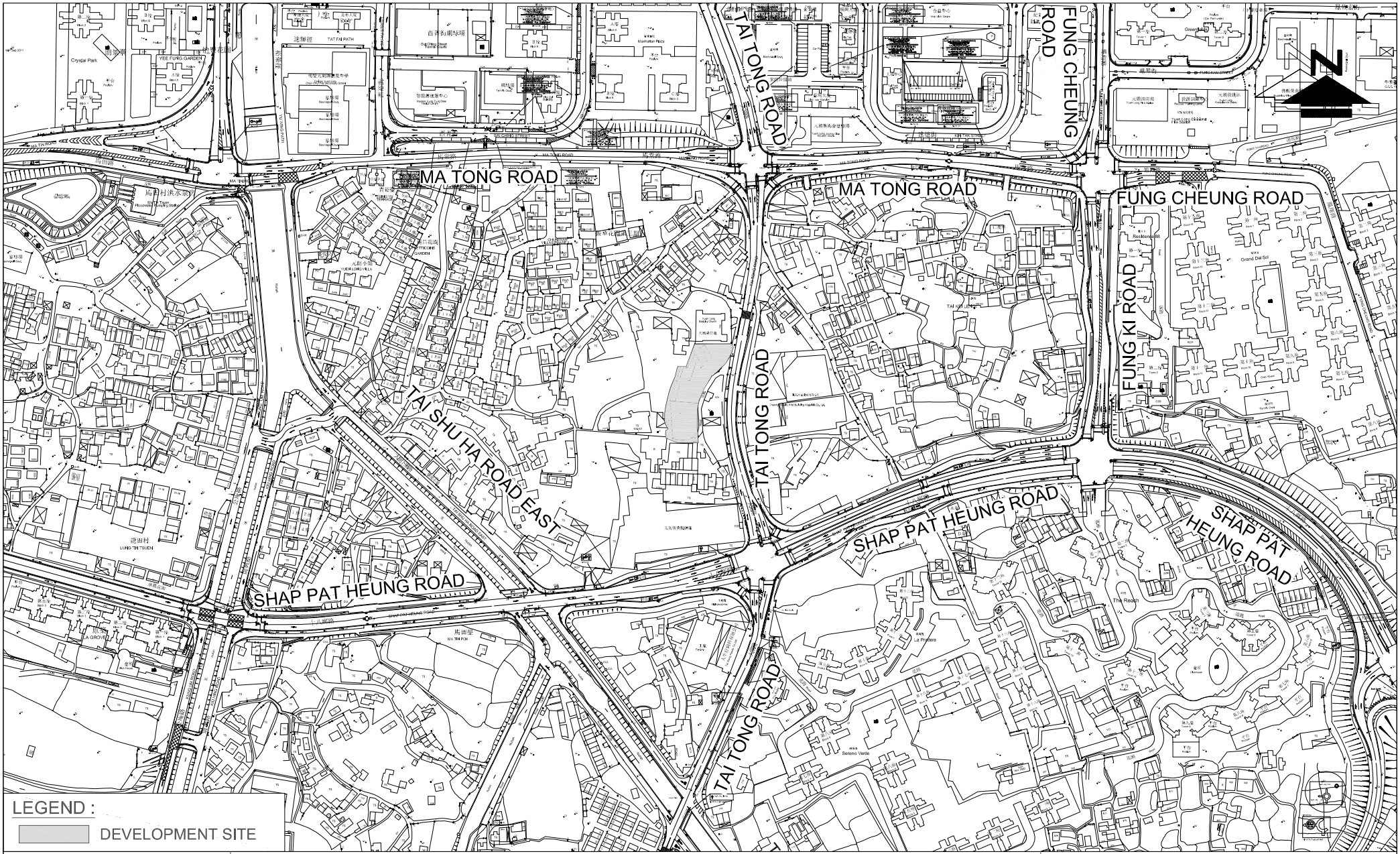

FIGURE NO.: 1.1	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: SITE LOCATION
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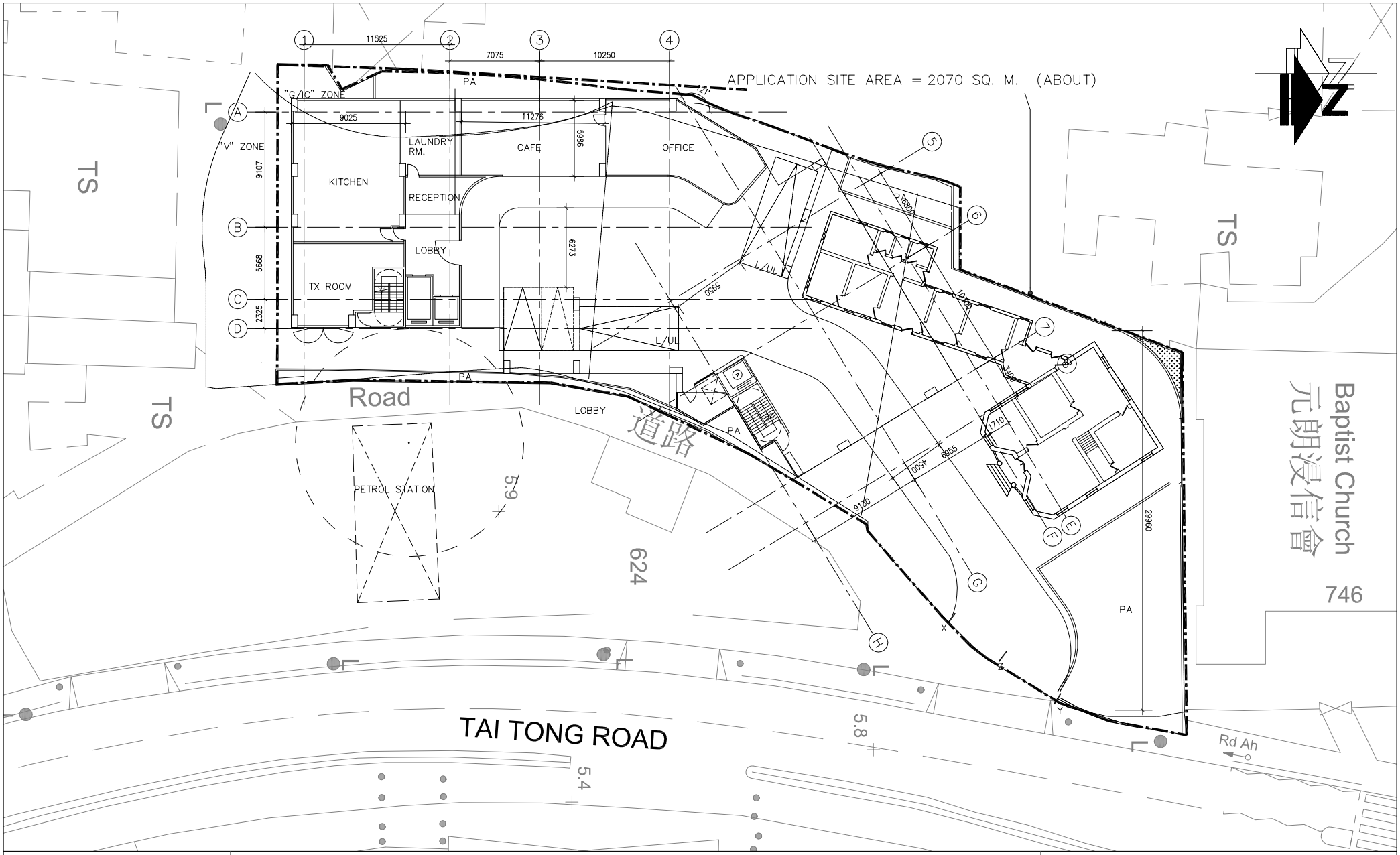

FIGURE NO.: 2.1	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: G/F PLAN
SCALE: 1 : 400 @A4	DATE: 01 DEC 2021

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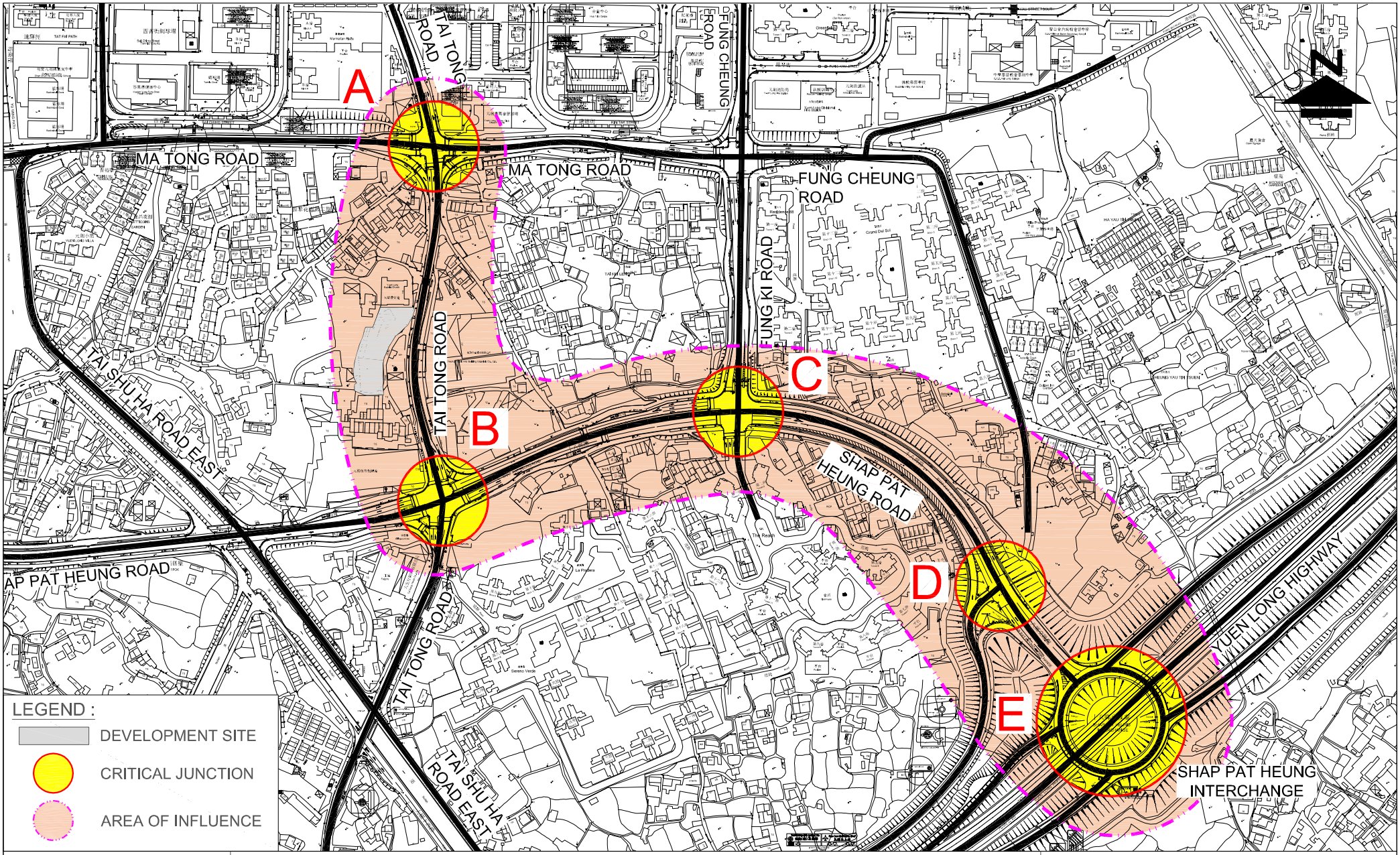

FIGURE NO.: 3.1	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: KEY JUNCTION & EXISTING ROAD NETWORK
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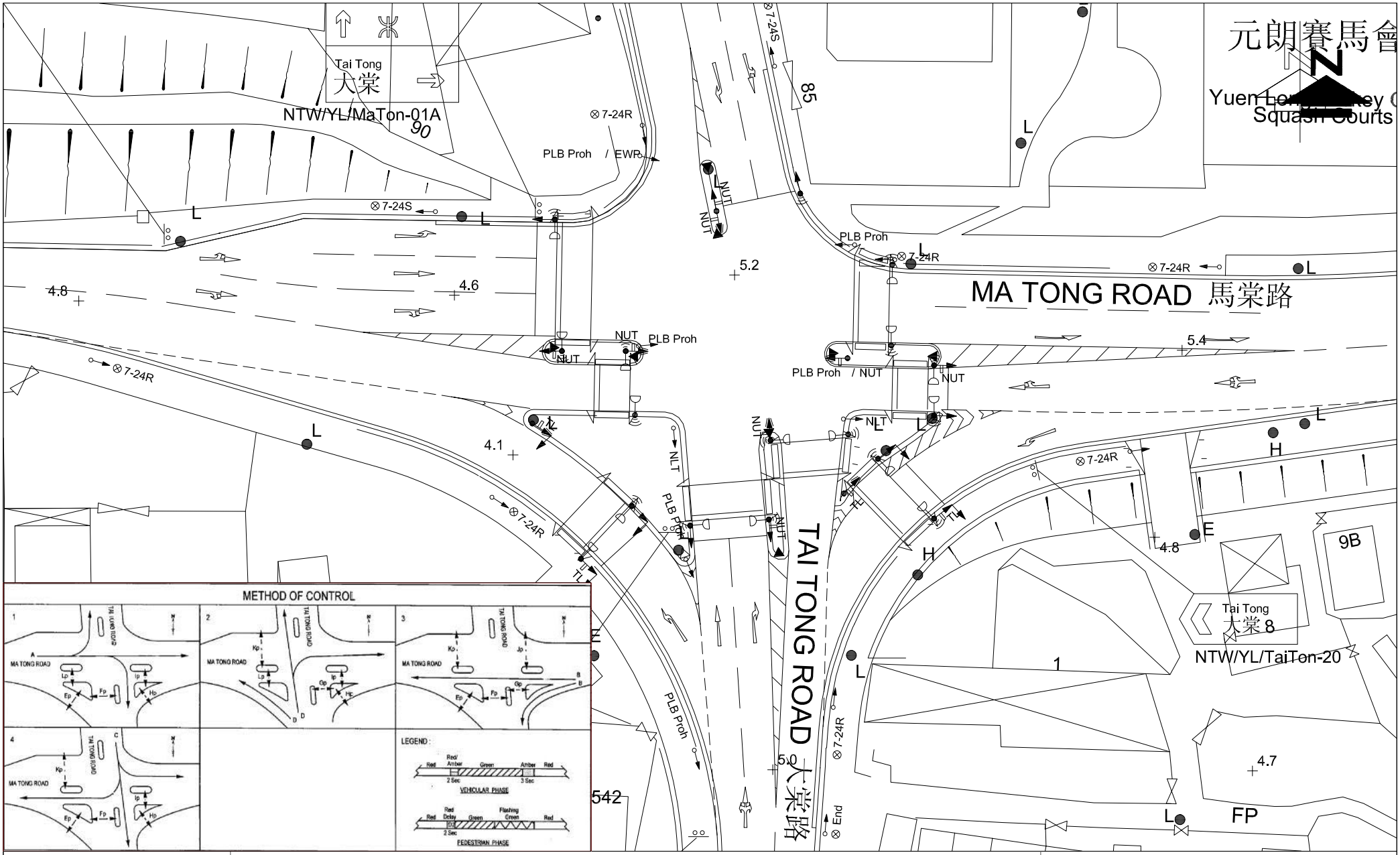

FIGURE NO.: 3.2	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF MA TONG ROAD / TAI TONG ROAD (A)
SCALE: 1 : 500@A4	DATE: 01 DEC 2021

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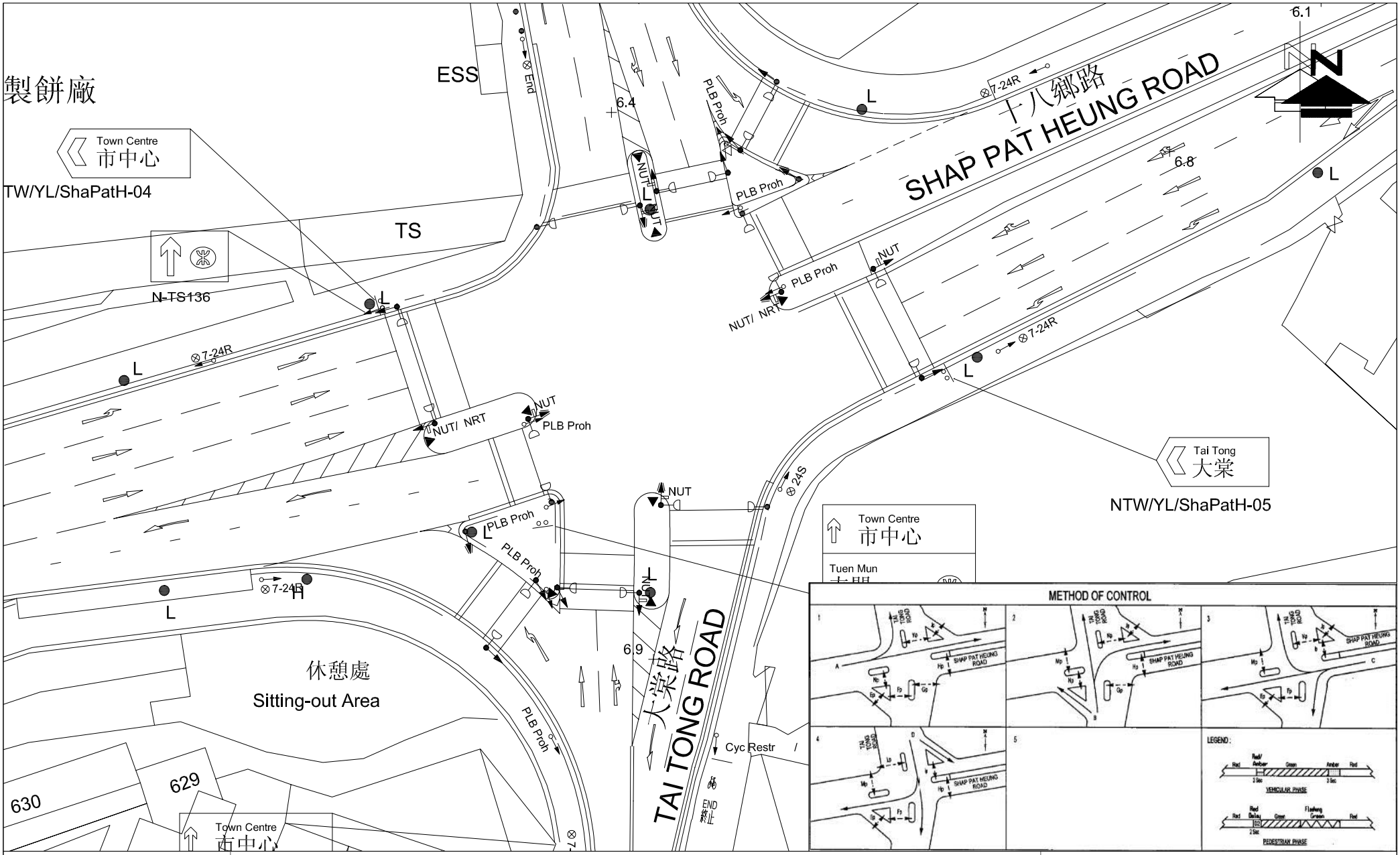

FIGURE NO.: 3.3	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF TAI TONG ROAD / SHAP PAT HEUNG ROAD (B)
SCALE: 1 : 500@A4	DATE: 01 DEC 2021

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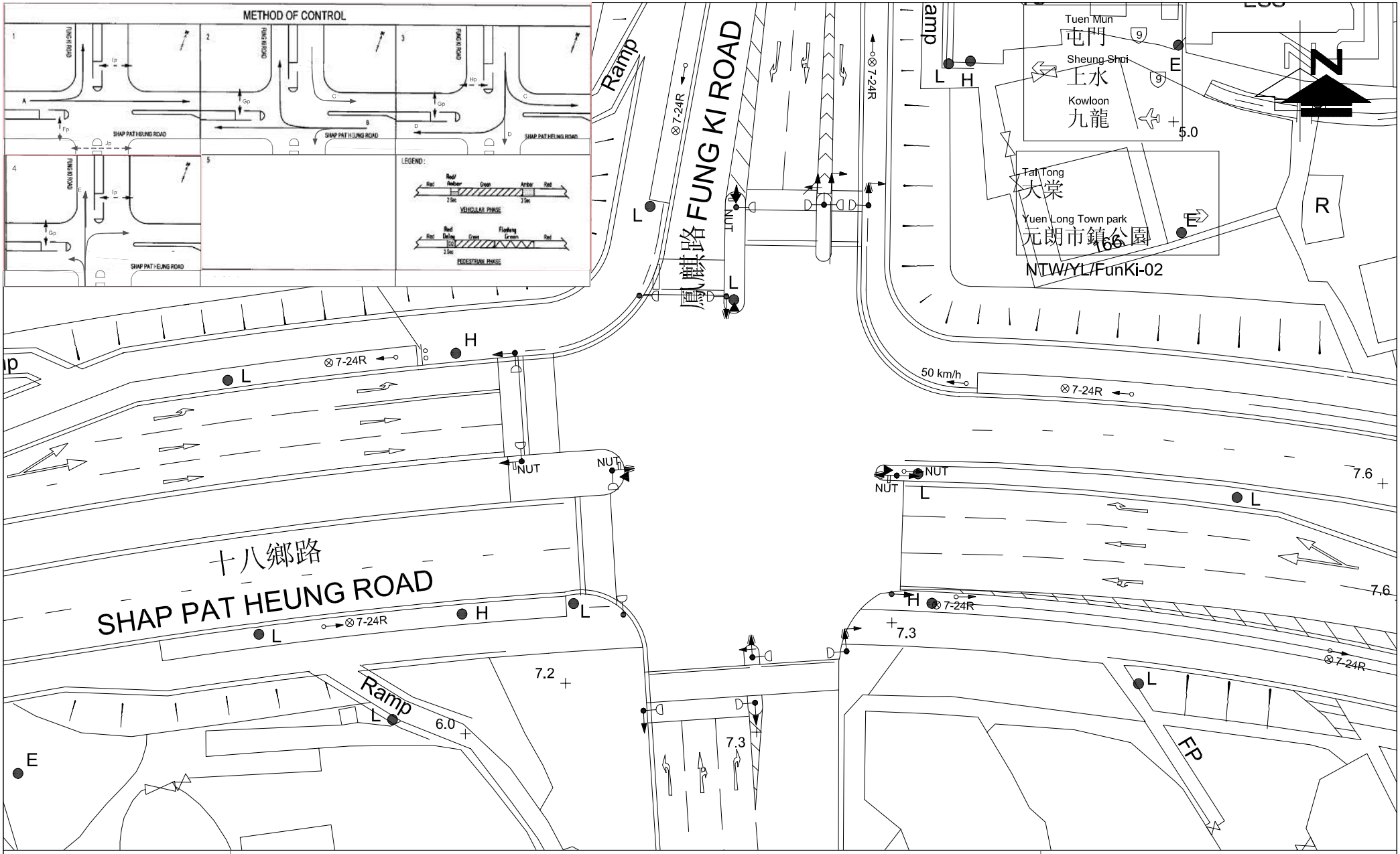

FIGURE NO.: 3.4	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo		
PROJECT NO.: 21120HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF SHAP PAT HEUNG ROAD / FUNG KI ROAD (C)		
SCALE: 1 : 500@A4	DATE: 01 DEC 2021		

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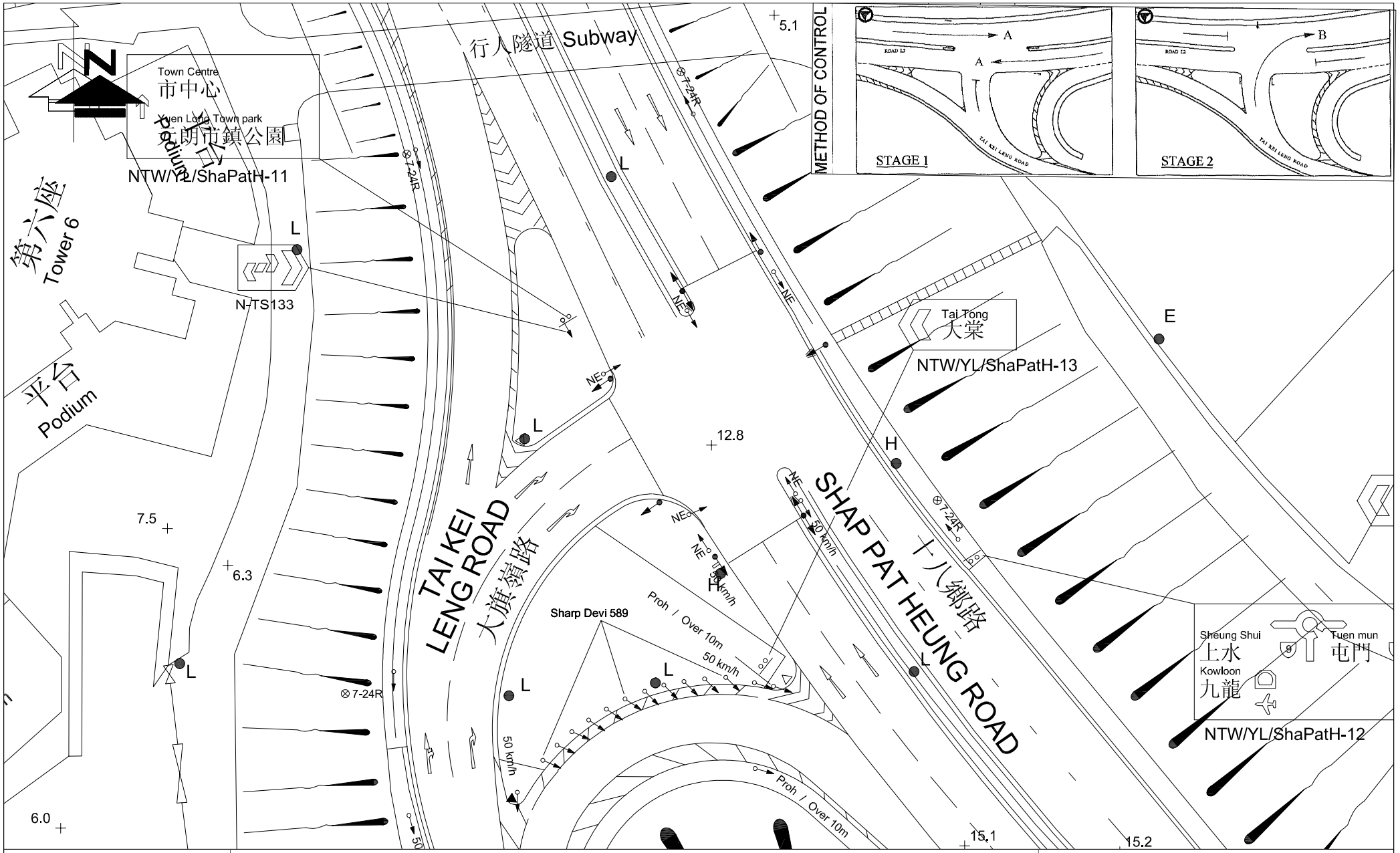

FIGURE NO.: 3.5	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo		
PROJECT NO.: 21120HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF SHAP PAT HEUNG ROAD / TAI KEI LEUNG ROAD (D)		
SCALE: 1 : 500@A4	DATE: 01 DEC 2021		

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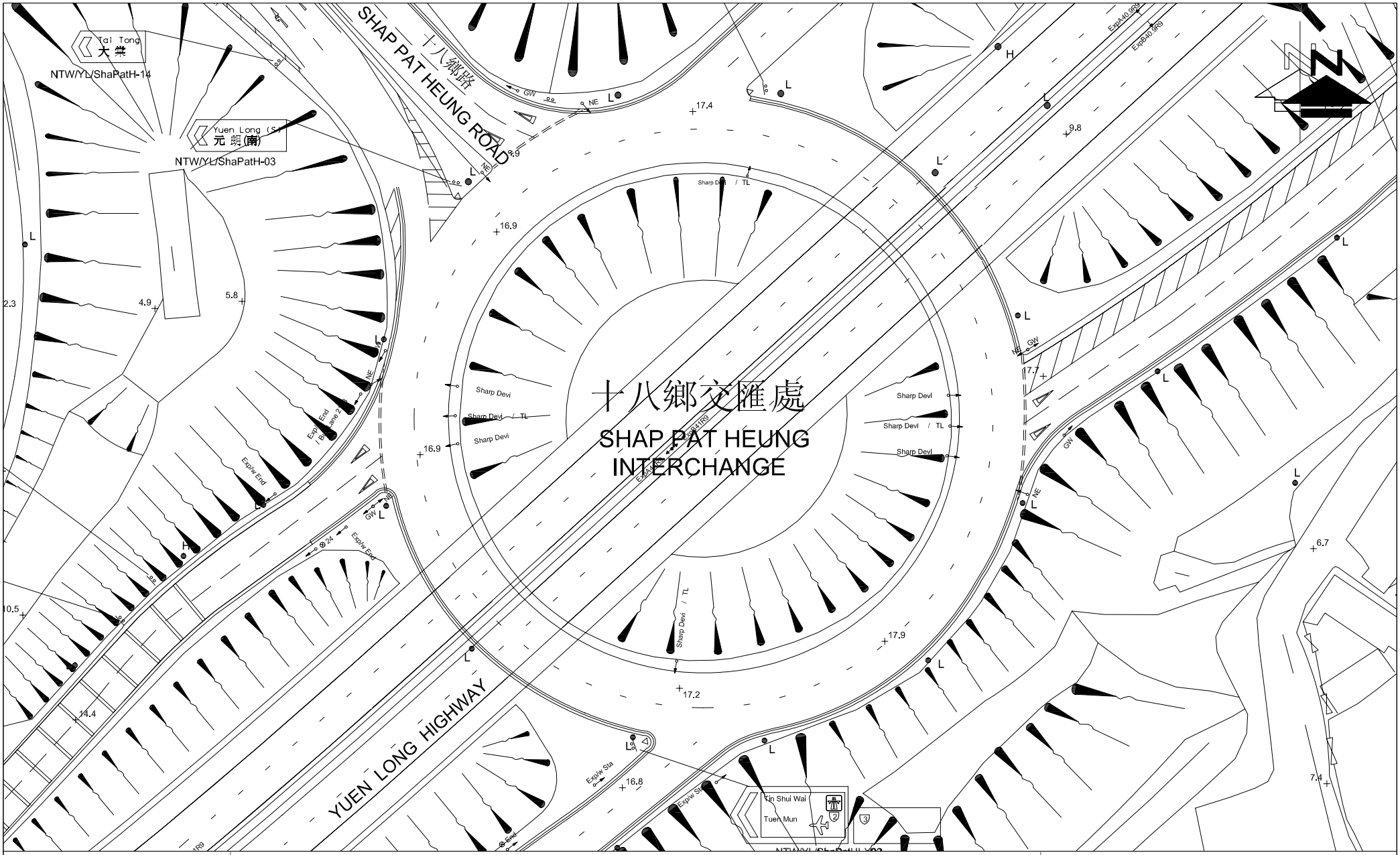

FIGURE NO.: 3.6	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: EXISTING JUNCTION LAYOUT OF SHAP PAT HEUNG INTERCHANGE (E)
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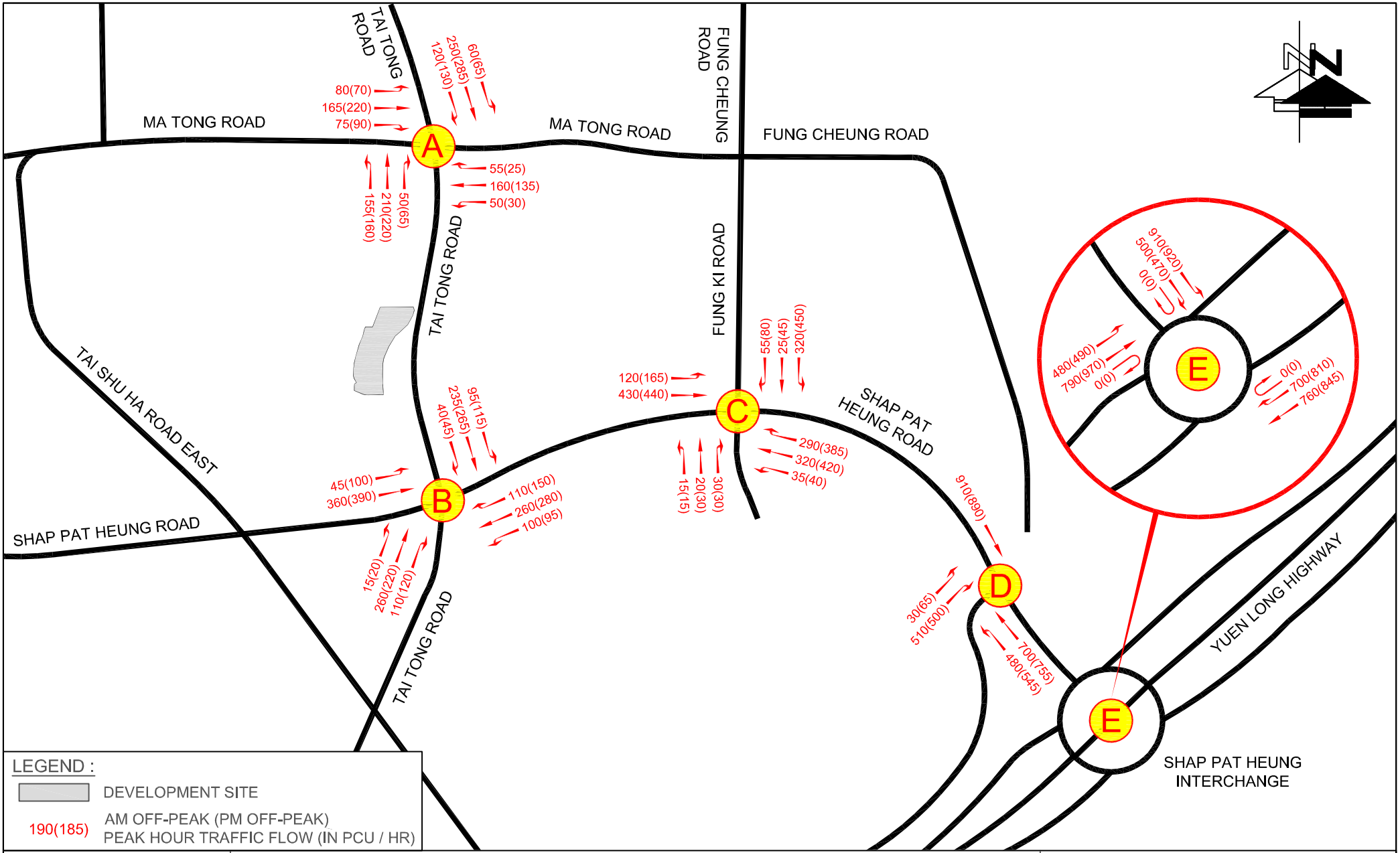

FIGURE NO.: 3.7	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: 2021 OFF-PEAK TRAFFIC FLOWS
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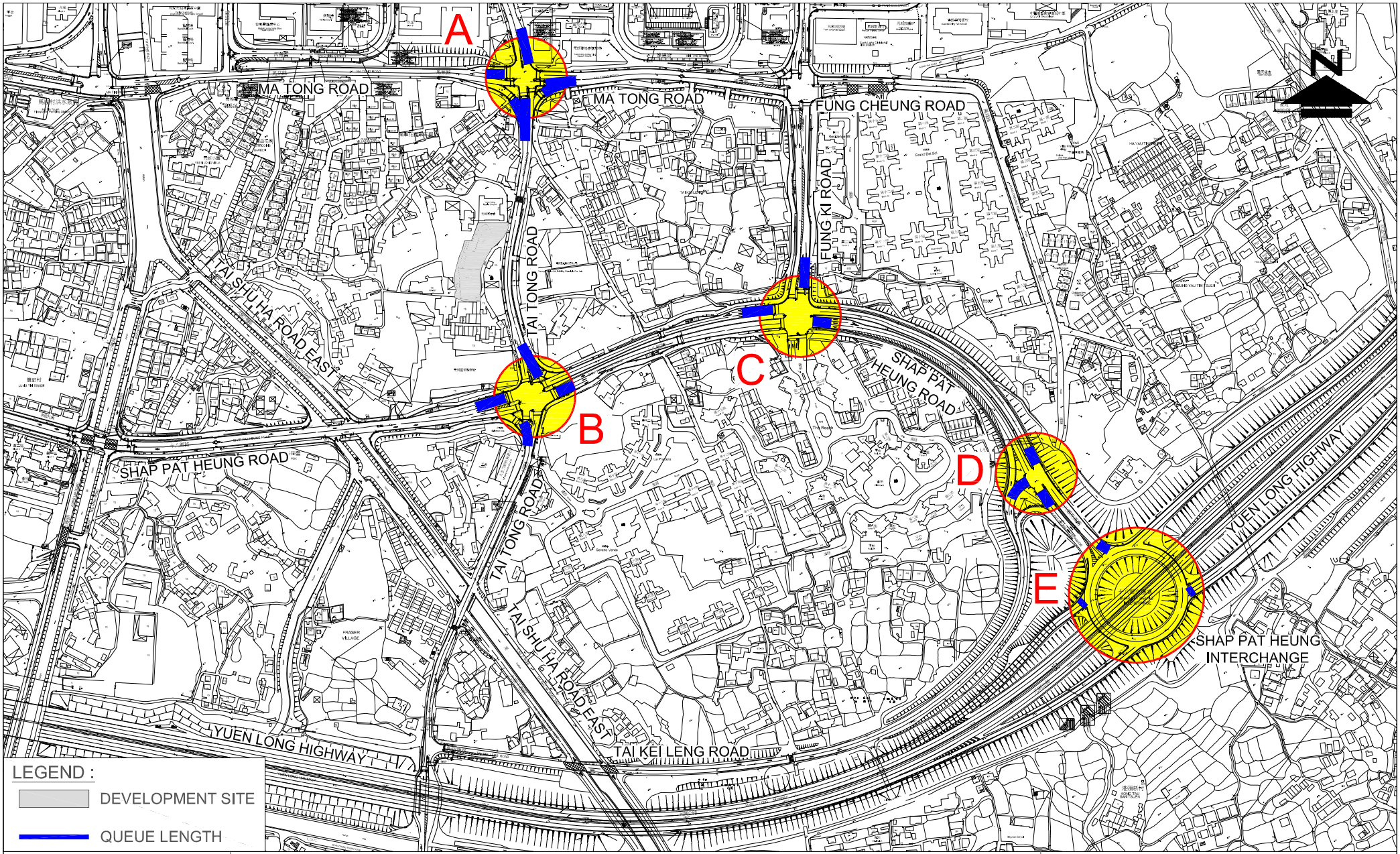

FIGURE NO.: 3.8	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: 2021 QUEUE LENGTH (AM OFF-PEAK)
SCALE: 1 : 5000 @A4	DATE: 14 APR 2022

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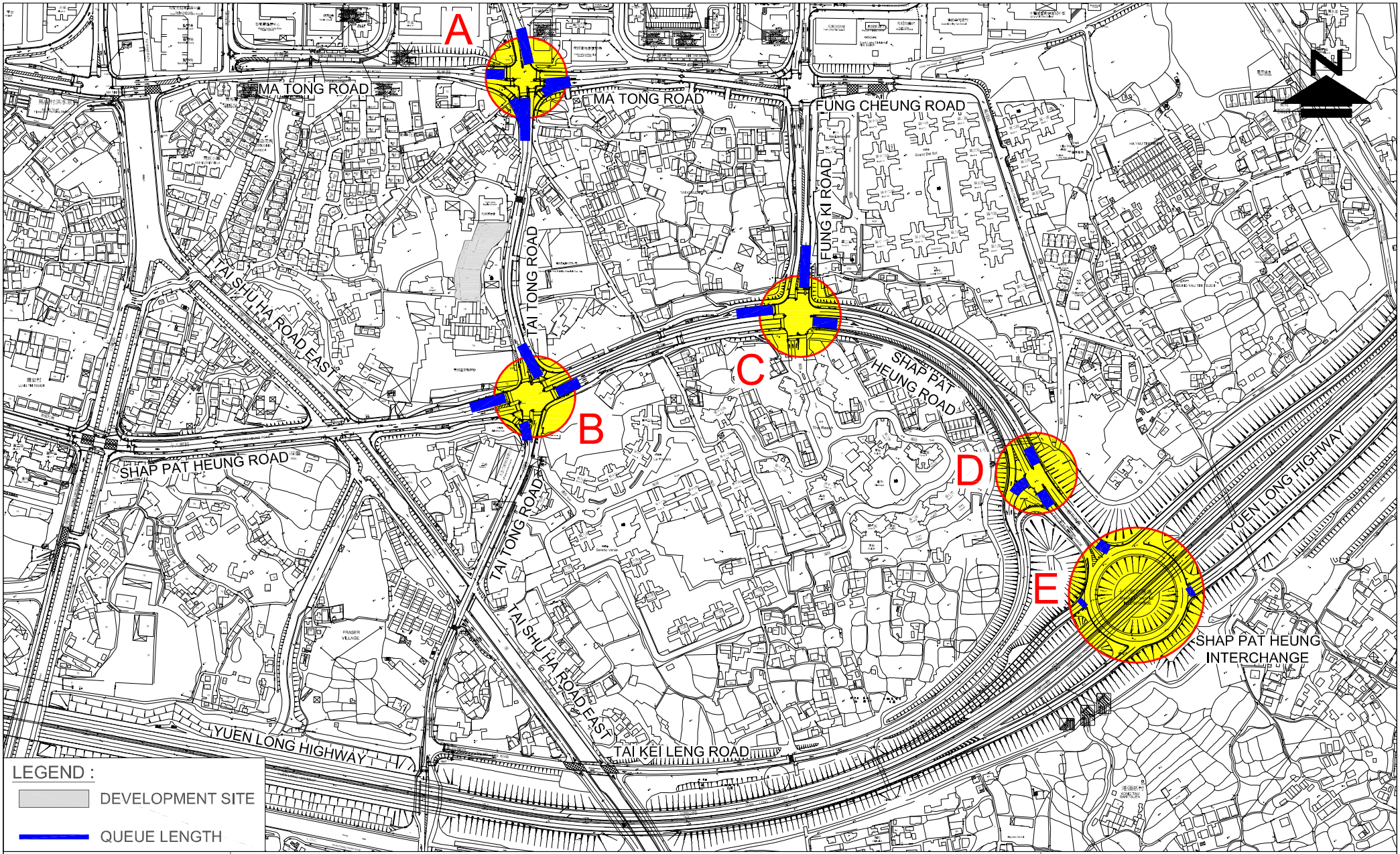

FIGURE NO.: 3.9	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: 2021 QUEUE LENGTH (PM OFF-PEAK)
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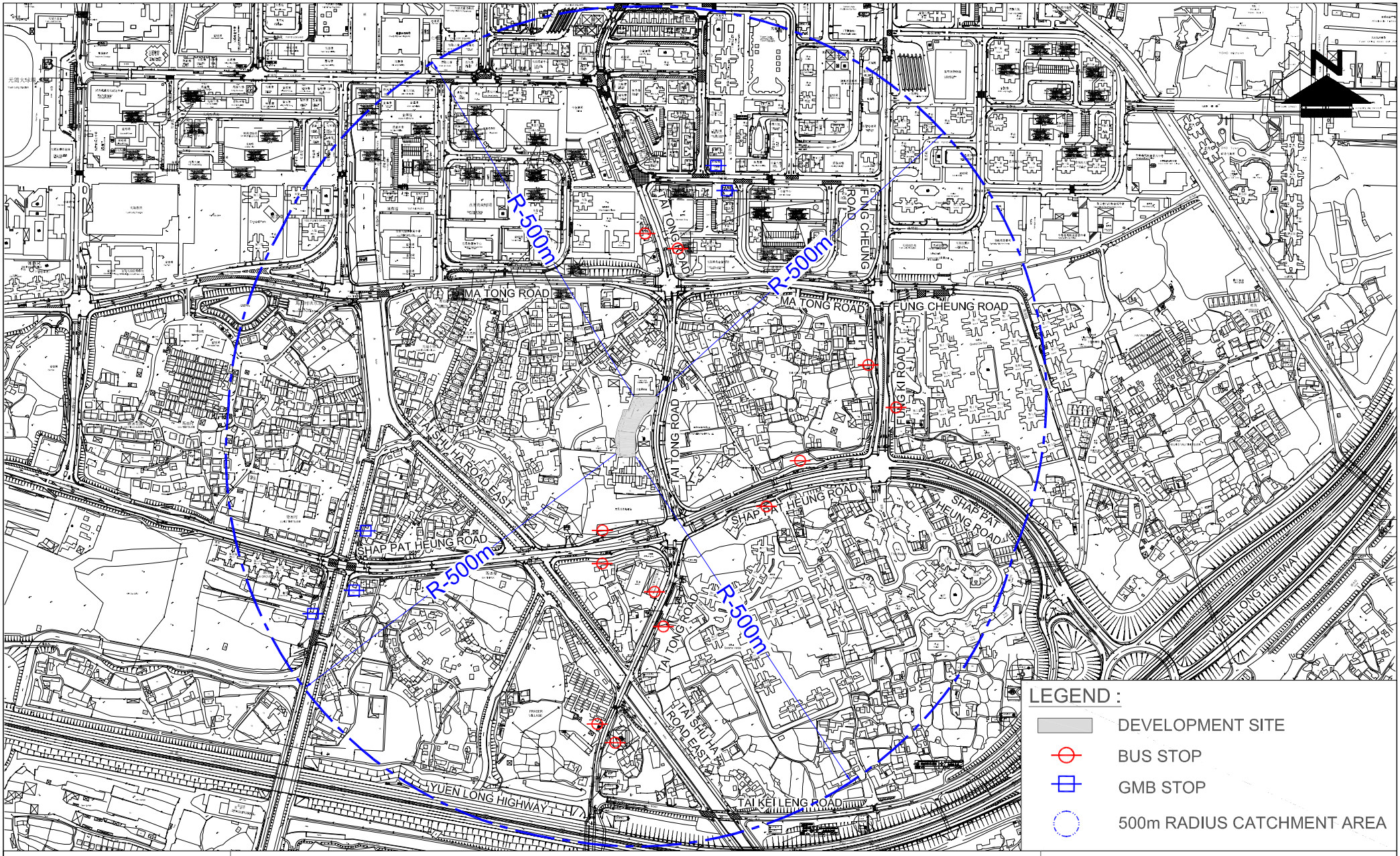

FIGURE NO.: 3.10	PROJECT TITLE:
PROJECT NO.: 21120HK	DRAWING TITLE: EXISTING PUBLIC TRANSPORT IN THE VICINITY
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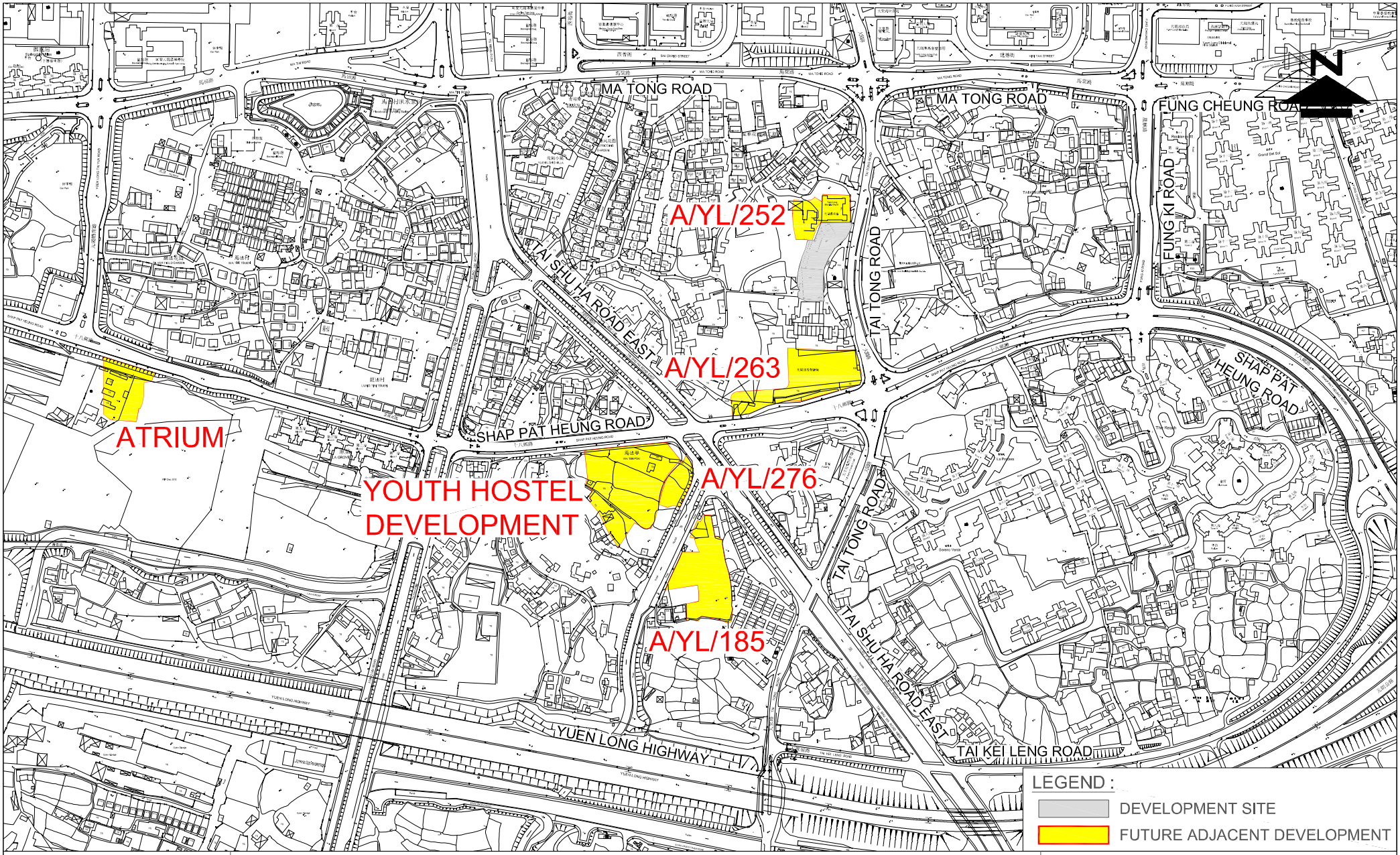

FIGURE NO.: 4.1	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: FUTURE ADJACENT DEVELOPMENTS
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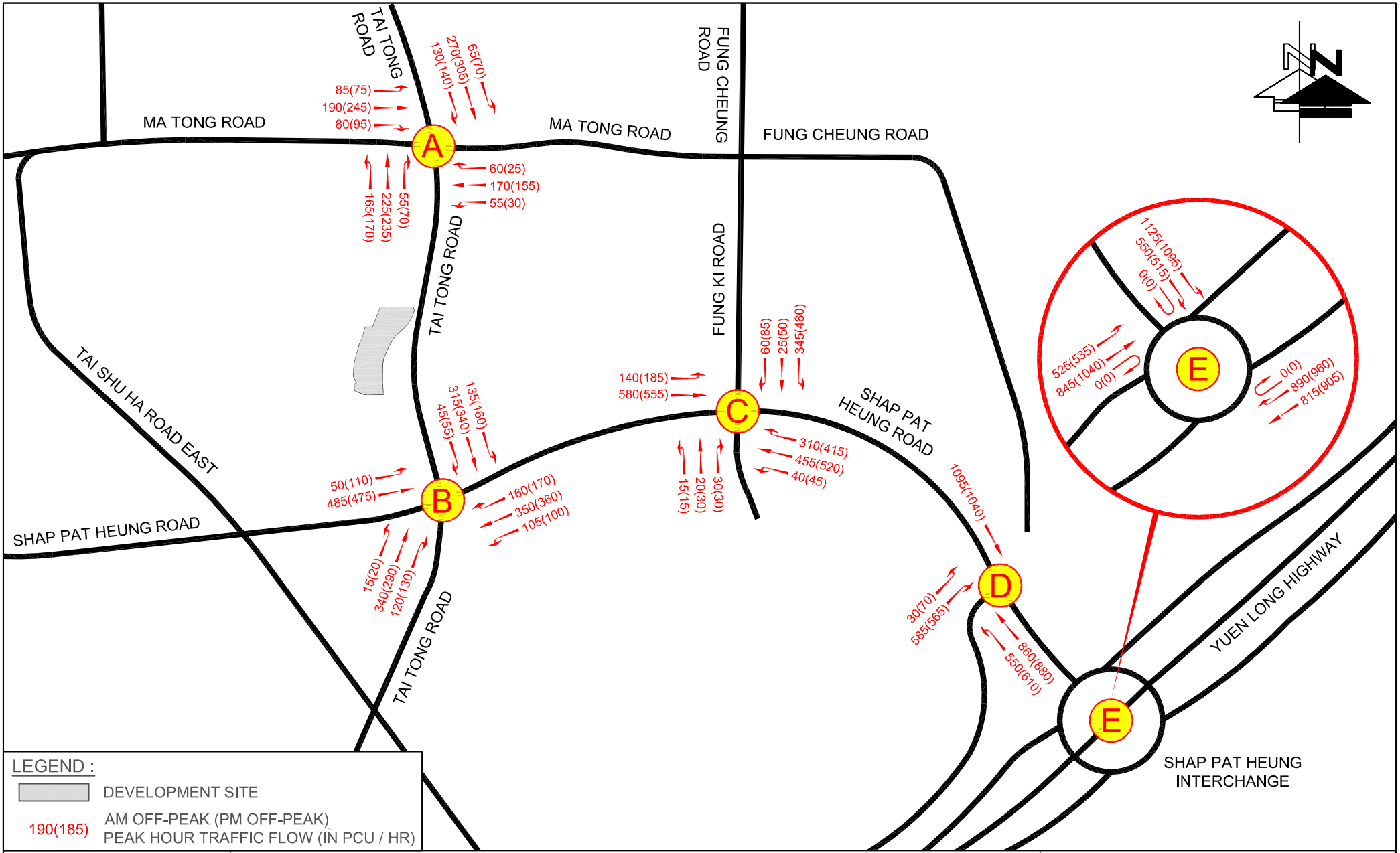

FIGURE NO.: 4.2	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: 2028 REFERENCE OFF-PEAK TRAFFIC FLOWS
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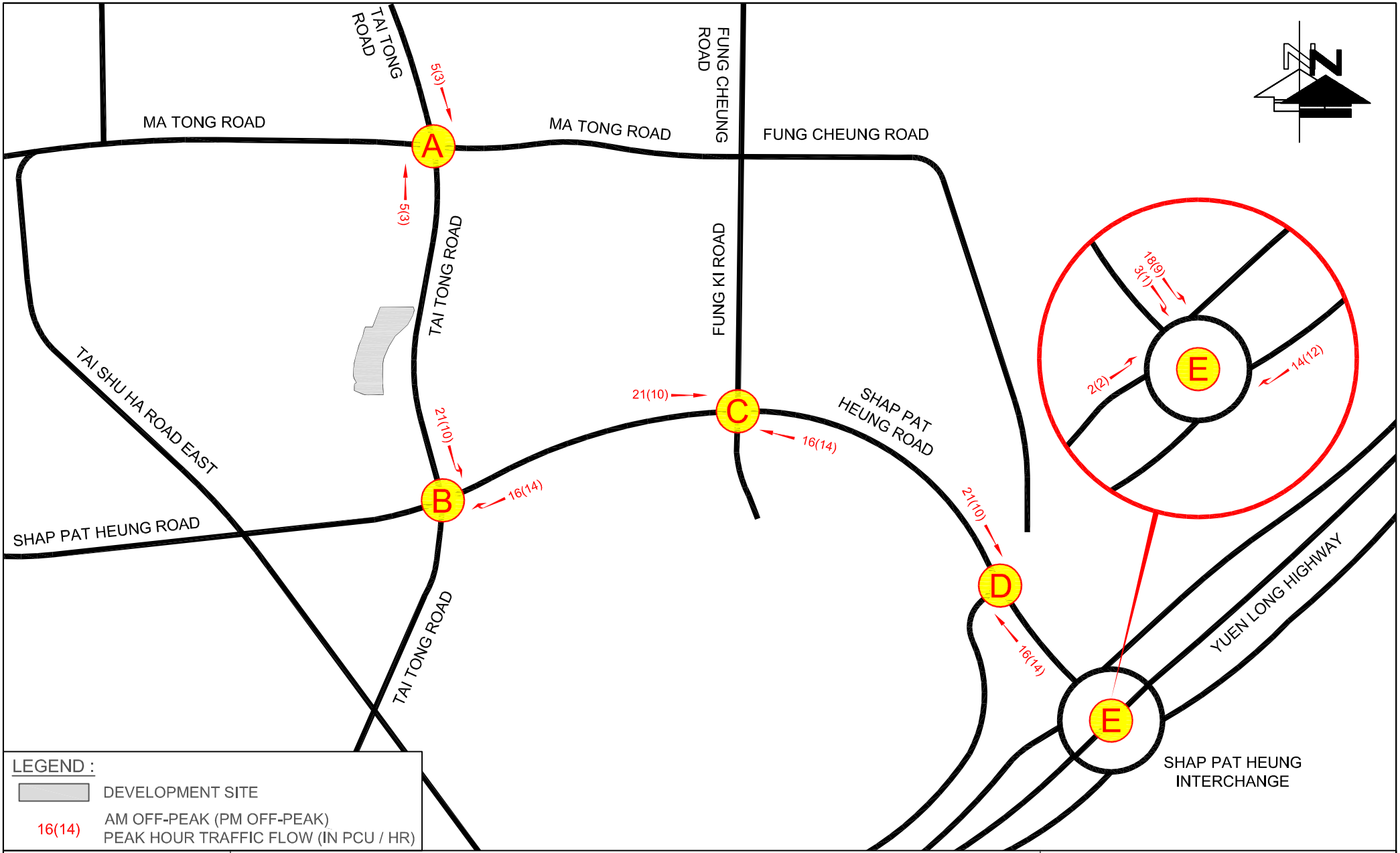

FIGURE NO.: 4.3	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: 2028 DEVELOPMENT TRAFFIC FLOWS
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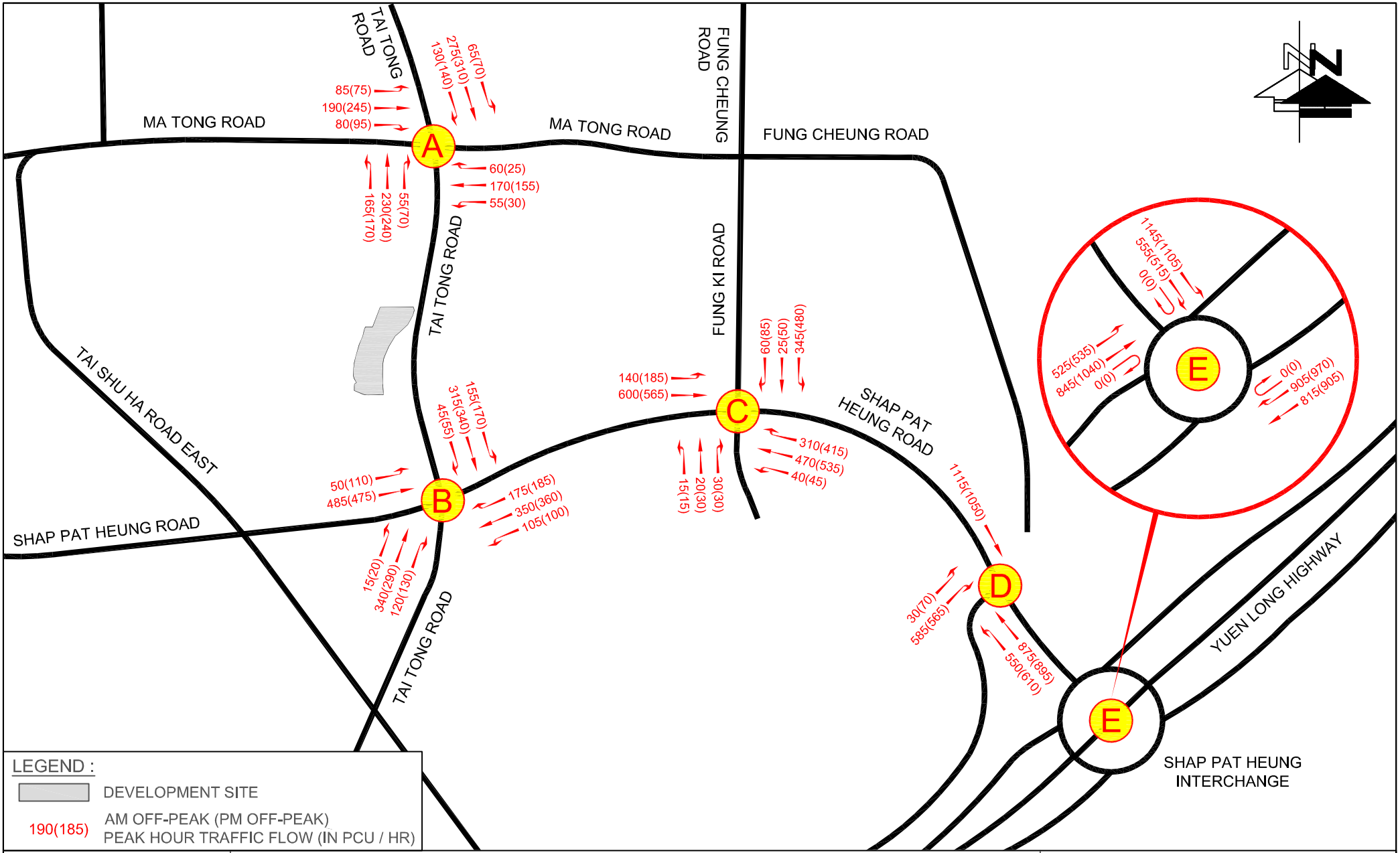

FIGURE NO.: 4.4	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: 2028 DESIGN OFF-PEAK TRAFFIC FLOWS
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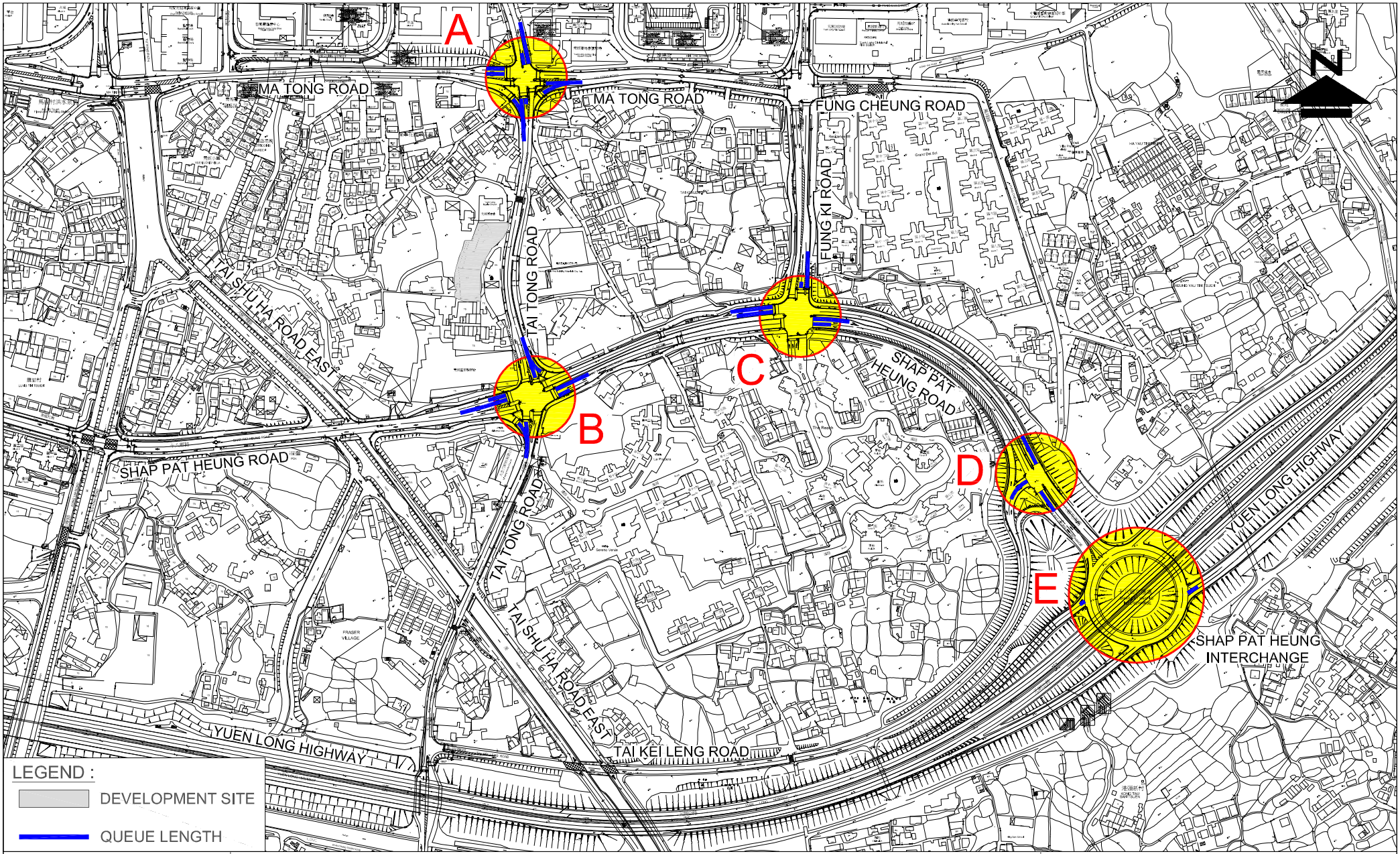

FIGURE NO.: 4.5	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: 2028 REFERENCE QUEUE LENGTH (AM OFF-PEAK)
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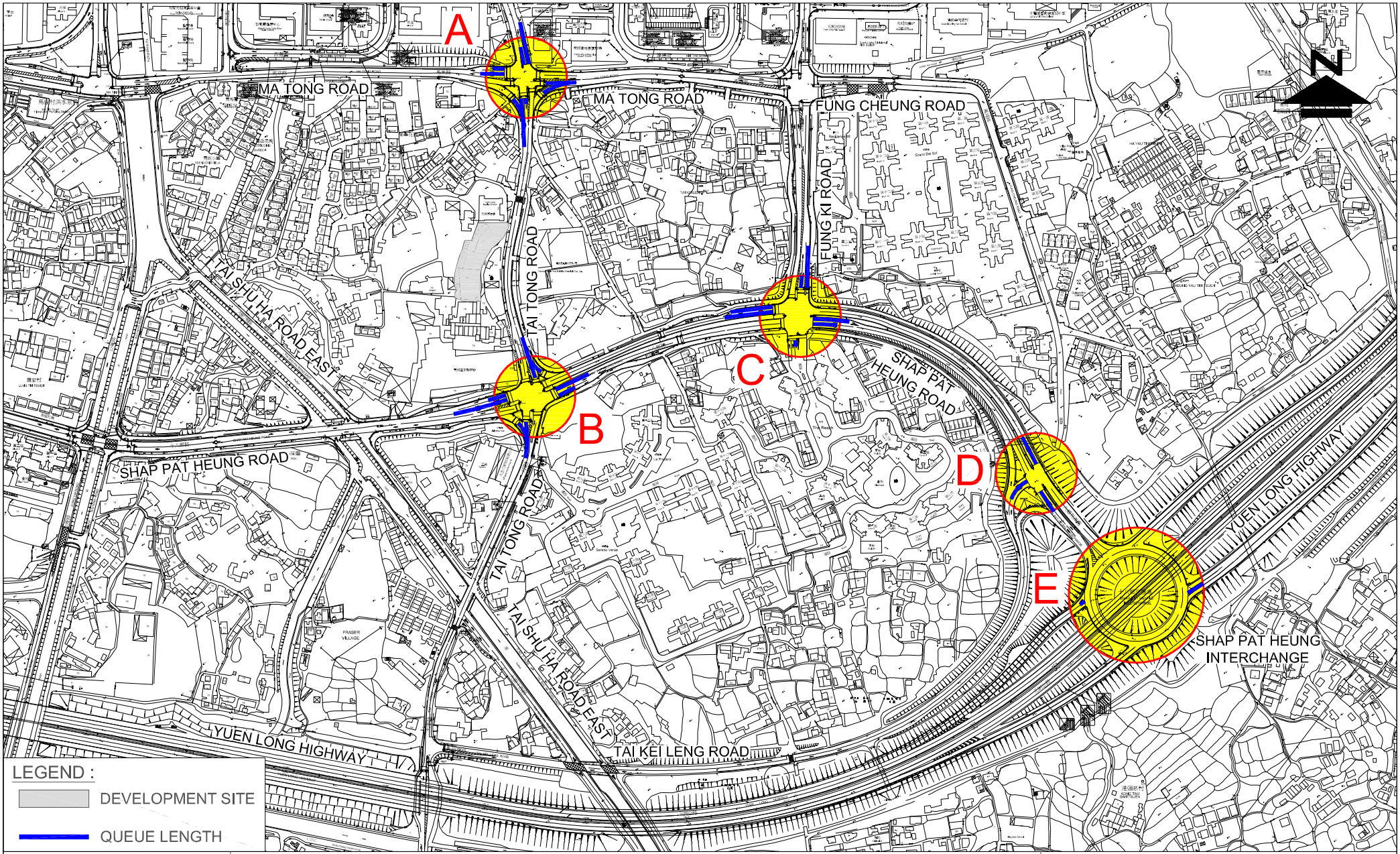

FIGURE NO.: 4.6	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: 2028 REFERENCE QUEUE LENGTH (PM OFF-PEAK)
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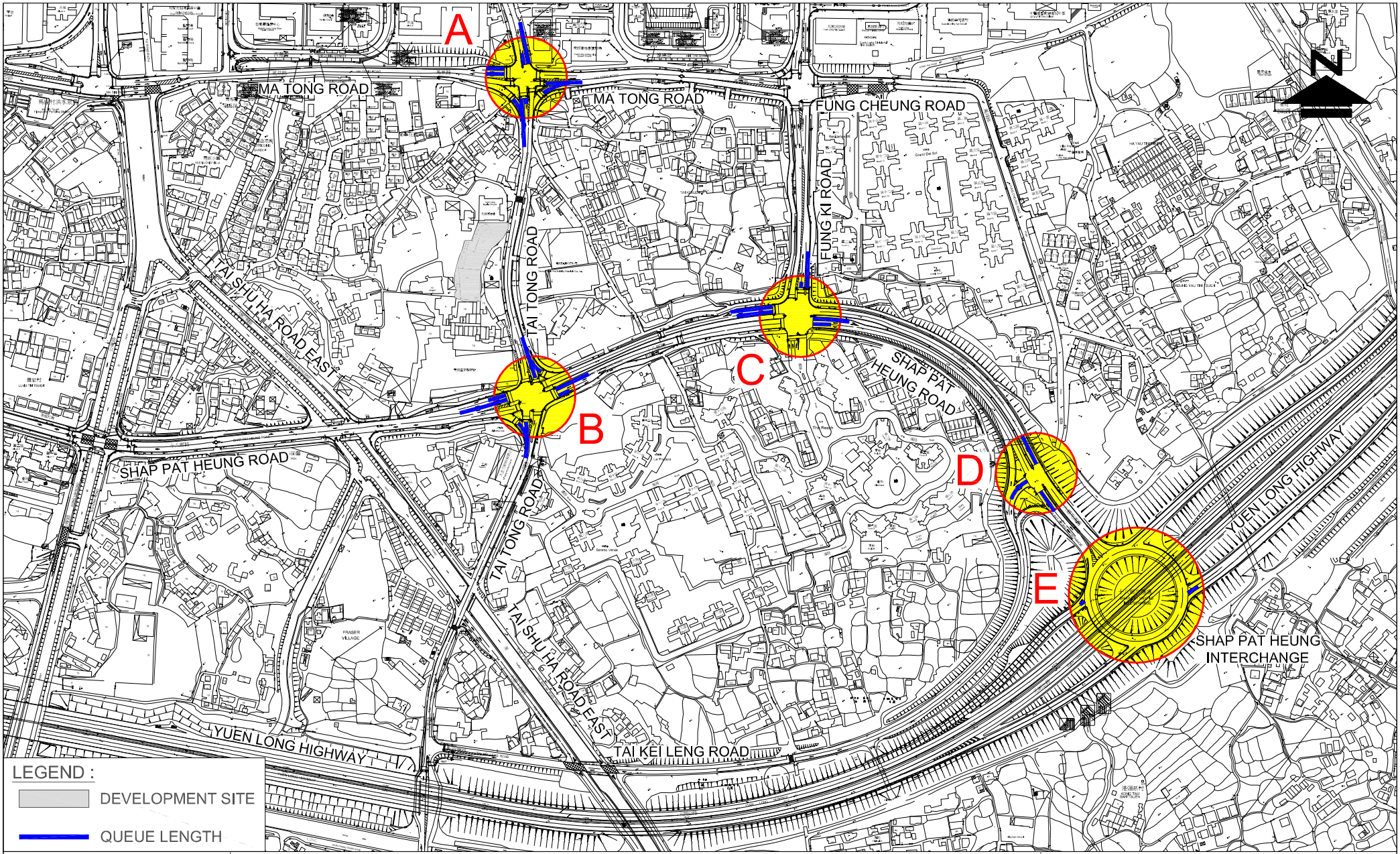

FIGURE NO.: 4.7	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: 2028 DESIGN QUEUE LENGTH (AM OFF-PEAK)
SCALE: 1 : 5000 @A4	DATE: 14 APR 2022

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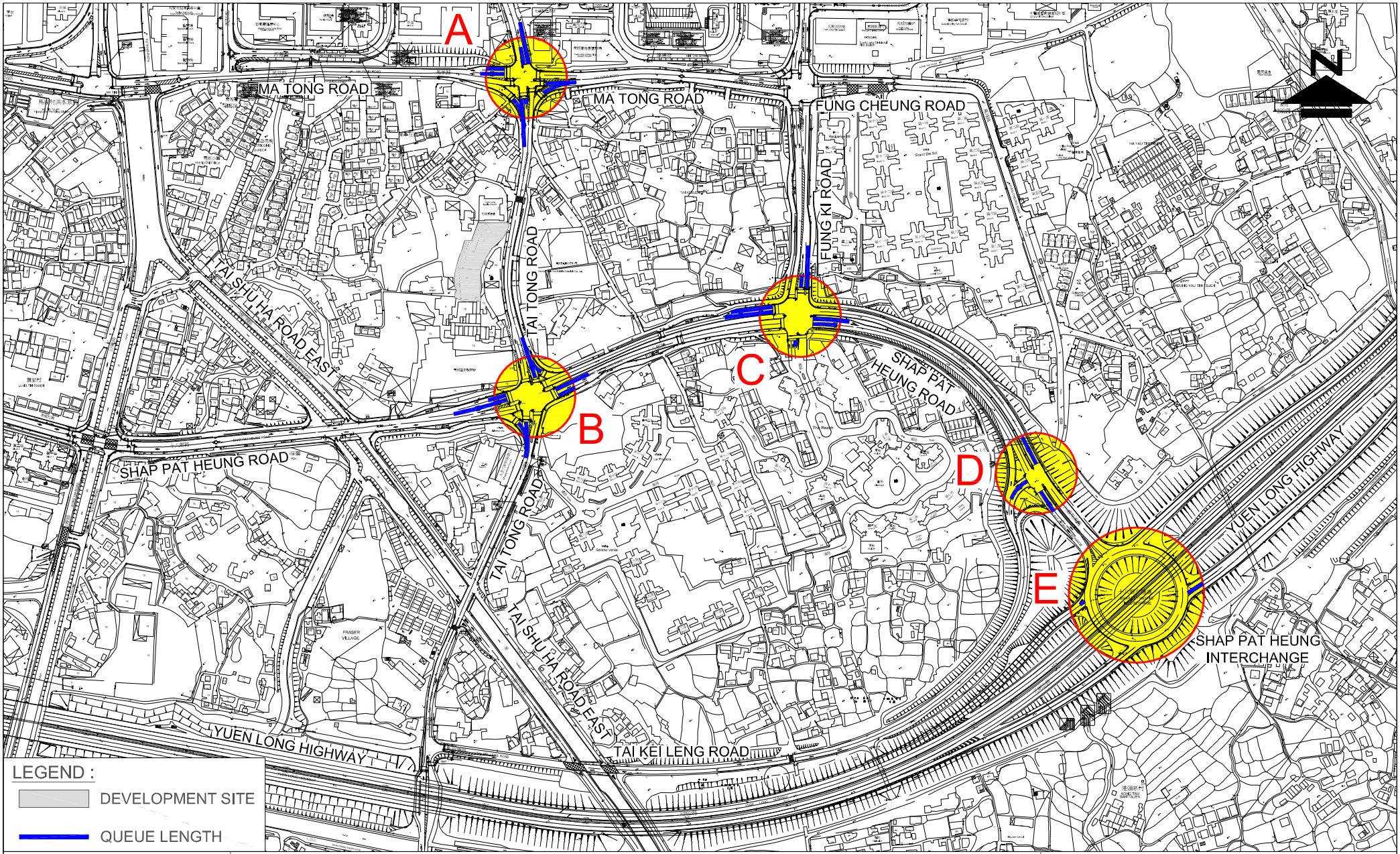

FIGURE NO.: 4.8	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: 2028 DESIGN QUEUE LENGTH (PM OFF-PEAK)
SCALE: 1 : 5000 @A4	DATE: 14 APR 2022

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FIGURE NO.: 4.9	PROJECT TITLE: Conservation of a Grade 3 Historic Building in Yuen Long Siu Lo
PROJECT NO.: 21120HK	DRAWING TITLE: PROPOSED JUNCTION LAYOUT OF SHAP PAT HEUNG INTERCHANGE (E) (CARRIED BY YUEN LONG SOUTH DEVELOPMENT)
SCALE: 1 : 1500@A4	DATE: 14 APR 2022

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Appendix 1

Junction Calculation Sheets

TRAFFIC SIGNALS CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: **(A) Ma Tong Road / Tai Tong Road**
Description: **2021 Off-peak Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Site Factor	Pro. Turning (%) A.M Off-Peak	Pro. Turning (%) P.M Off-Peak	Revised Saturation Flow (pcu/hr) A.M Off-Peak	Revised Saturation Flow (pcu/hr) P.M Off-Peak	A.M. Off-Peak Flow (pcu/hr)	A.M. Off-Peak y Value	A.M. Off-Peak Critical y	P.M. Off-Peak Flow (pcu/hr)	P.M. Off-Peak y Value	P.M. Off-Peak Critical y
Ma Tong Road (WB)	W		B	3	4.0	0	21	0	1	26%	16%	2235	2250	265	0.119	0.119	190	0.084	0.084
	W		B	3	5.0	15	0	1	0.063	100%	100%								
Tai Tong Road (NB)	N		D	2	3.5	8	0	1	1.11	42%	42%	2140	2140	415	0.194	0.194	445	0.208	0.208
	N		D	2	3.5	0	21	0	0.06	100%	100%								
Ma Tong Road (EB)	E		A	1	3.5	18	0	1	0.9	100%	100%	5360	5365	320	0.060	0.060	380	0.071	0.071
	E		A	1	3.5	0	0	0	0.9	0%	0%								
	E		A	1	3.5	0	30	0	0.9	63%	59%								
Tai Tong Road (SB)	S		C	4	3.5	0	24	0	1	100%	100%	3875	3880	430	0.111	0.111	480	0.124	0.124
	S		C	4	3.5	8	0	1	1	19%	19%								

Pedestrian crossing

Ep	3,4	Min. Crossing Time = 5Gm + 5FGm =10s
Fp	1,3,4	Min. Crossing Time = 6Gm + 6FGm =12s
Gp	1,2	Min. Crossing Time = 5Gm + 5FGm =10s
Hp	1,2,4	Min. Crossing Time = 6Gm + 6FGm =12s
Ip	3,4	Min. Crossing Time = 5Gm + 5FGm =10s
Jp	1,2,3	Min. Crossing Time = 8Gm + 8FGm =16s
Kp	1,2,4	Min. Crossing Time = 10Gm + 10FGm =20s
Lp	4	Min. Crossing Time = 5Gm + 5FGm =10s

Notes:

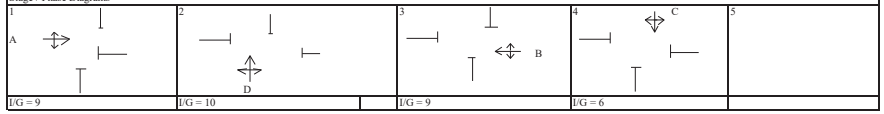
Traffic Flow (pcu / hr) [AM (PM)] N

120(130) 250(285) 60(65)
80(70)
165(220)
75(90)
55(25)
160(135)
50(30)
155(160) 210(220) 50(65)

Check Phase	
Σy	0.483
L (sec)	30
C (sec)	120
y pract.	0.675
R.C. (%)	40%

Check Phase	
Σy	0.487
L (sec)	30
C (sec)	120
y pract.	0.675
R.C. (%)	39%

Stage / Phase Diagrams



I/G = 9 | I/G = 10 | I/G = 9 | I/G = 6

TRAFFIC SIGNALS CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: **(B) Tai Tong Road / Shap Pat Heung Road**
Description: **2021 Off-peak Traffic Flows**

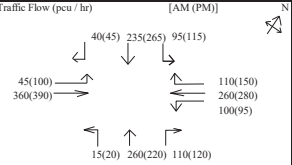
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Site Factor	Pro. Turning (%) A.M. Off-Peak	Pro. Turning (%) P.M. Off-Peak	Revised A.M. Off-Peak	Revised P.M. Off-Peak	A.M. Off-Peak Flow (pcu/hr)	A.M. Off-Peak y Value	A.M. Off-Peak Critical y	P.M. Off-Peak Flow (pcu/hr)	P.M. Off-Peak y Value	P.M. Off-Peak Critical y
Shap Pat Heung Road (WB)	W		C	3	3.8	0	30	0	1	59%	69%	4385	4375	470	0.107	0.107	525	0.120	0.120
	W		C	3	3.8	0	0	0	0.95	0%	0%								
	W		C	3	3.5	15	0	1	0.15	100%	100%								
Tai Tong Road (NB)	N		B	2	3.5	15	0	1	0.125	37%	54%	2275	2265	385	0.169	0.169	360	0.159	0.159
	N		B	2	3.5	0	15	0	1	32%	37%								
Shap Pat Heung Road (EB)	E		A	1	3.5	15	0	1	1	100%	100%	6055	6055	405	0.067	0.067	490	0.081	0.081
	E		A	1	3.8	0	0	0	1	0%	0%								
	E		A	1	3.8	0	0	0	1	0%	0%								
Tai Tong Road (SB)	S		D	4	3.5	15	0	1	0.135	100%	100%	2315	2315	370	0.160	0.160	425	0.184	0.184
	S		D	4	3.5	0	15	0	1	15%	15%								

Pedestrian crossing

Ep	3,4	Min. Crossing Time = 6Gm + 6FGm =12s
Fp	1,3,4	Min. Crossing Time = 7Gm + 7FGm =14s
Gp	1,2	Min. Crossing Time = 8Gm + 8FGm =16s
Hp	1,2,4	Min. Crossing Time = 10Gm + 10FGm =20s
Ip	3,4	Min. Crossing Time = 8Gm + 8FGm =16s
Jp	1,2,3	Min. Crossing Time = 6Gm + 8FGm =14s
Kp	1,2,4	Min. Crossing Time = 6Gm + 6FGm =12s
Lp	4	Min. Crossing Time = 9Gm + 9FGm =15s
Mp	2,3,4	Min. Crossing Time = 10Gm + 6FGm =16s
Np	1,2	Min. Crossing Time = 6Gm + 6FGm =12s

Notes:

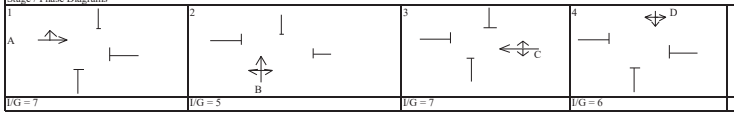
Traffic Flow (pcu / hr) [AM (PM)] N



Check Phase	
Σy	0.503
L (sec)	16
C (sec)	120
y pract.	0.780
R.C. (%)	55%

Check Phase	
Σy	0.543
L (sec)	16
C (sec)	120
y pract.	0.780
R.C. (%)	44%

Stage / Phase Diagrams



I/G = 7 | I/G = 5 | I/G = 7 | I/G = 6

TRAFFIC SIGNALS CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: **(C)Shap Pat Heung Road / Fung Ki Road**
Description: **2021 Off-peak Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Site Factor	Pro. Turning (%) A.M. Off-Peak	Pro. Turning (%) P.M. Off-Peak	Revised A.M Off-Peak	Revised P.M Off-Peak	A.M. Off-Peak Flow (pcu/hr)	A.M. Off-Peak y Value	A.M. Off-Peak Critical y	P.M. Off-Peak Flow (pcu/hr)	P.M. Off-Peak y Value	P.M. Off-Peak Critical y
Shap Pat Heung Road (WB)	W		B	2	3.5	0	21	0	0.855	100%	100%	1800	1800	290	0.161	0.161	385	0.214	
	W		B	2	3.5	0	0	0	0.35	0%	0%	735	735	98	0.133		127	0.172	
	W		B	2	3.5	15	0	1	1	14%	12%	1940	1940	257	0.133		333	0.172	
The Access Road of The Reach	N		E	4	3.5	15	0	1	1	100%	100%	1785	1785	15	0.008		15	0.008	
	N		E	4	3.5	0	35	0	1	16%	34%	2090	2075	18	0.009		23	0.011	
	N		E	4	3.5	0	30	0	1	100%	100%	2005	2005	17	0.009		22	0.011	
Shap Pat Heung Road (EB)	E		A	1	3.5	15	0	1	0.9	100%	100%	1610	1610	120	0.075	0.136	165	0.102	
	E		A	1	3.5	0	0	0	0.5	0%	0%	1052.5	1052.5	143	0.136		147	0.139	0.139
	E		A	1	3.5	0	0	0	1	0%	0%	2105	2105	287	0.136		293	0.139	
Fung Ki Road (SB)	S		C	2,3	3.5	18	0	1	1	100%	100%	1815	1815	320	0.176		450	0.248	0.248
	S		D	3	3.5	0	23	0	1	39%	30%	2055	2065	41	0.020		64	0.031	
	S		D	3	3.5	0	21	0	1	100%	100%	1965	1965	39	0.020		61	0.031	

Pedestrian crossing

Fp	Min. Crossing Time = 9Gm + 8FGm =17s
Gp	Min. Crossing Time = 10Gm + 10FGm =20s
Hp	Min. Crossing Time = 7Gm + 7FGm =14s
Ip	Min. Crossing Time = 7Gm + 7FGm =14s
Jp	Min. Crossing Time = 10Gm + 6FGm =16s

Notes:

Site factor are applied due to lane approaches are locally widened to provide an additional lane near the junction:

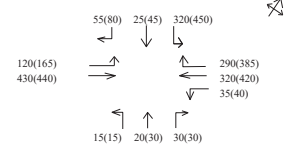
Site Factor of 0.95 is apply to fast lane of Shap Pat Heung Road (WB). Further 10% deduce due to the queue back effect from Fung Ki Road, which give total Site factor of 0.855

Site Factor of 0.35 is apply to middle lane of Shap Pat Heung Road (WB)

Site Factor of 0.95 is apply to near side lane of Shap Pat Heung Road (EB)

Site Factor of 0.5 is apply to middle lane of Shap Pat Heung Road (EB)

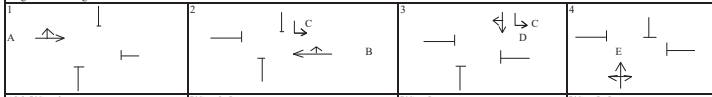
Traffic Flow (pcu / hr) [AM (PM)] N



Check Phase	
Σy	0.297
L (sec)	28
C (sec)	130
y pract.	0.706
R.C. (%)	138%

Check Phase	
Σy	0.387
L (sec)	19
C (sec)	130
y pract.	0.768
R.C. (%)	98%

Stage / Phase Diagrams



AM: I/G = 6 | I/G = 6+5 | I/G = 5 | I/G = 5+5
PM: I/G = 6 | I/G = 6 | I/G = 5 | I/G = 5+5

TRAFFIC SIGNALS CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: **(D)Shap Pat Heung Road / Tai Kei Leung Road**
Description: **2021 Off-peak Traffic Flows**

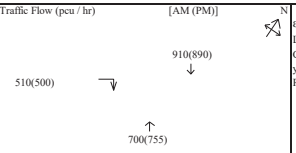
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Site Factor	Pro. Turning (%) A.M Off-Peak	Pro. Turning (%) P.M Off-Peak	Revised A.M Off-Peak	Revised P.M Off-Peak	A.M. Off-Peak Flow (pcu/hr)	A.M. Off-Peak y Value	A.M. Off-Peak Critical y	P.M. Off-Peak Flow (pcu/hr)	P.M. Off-Peak y Value	P.M. Off-Peak Critical y
Shap Pat Heung Road (SB)	S		A	1	3.5	0	0	1	0.9	0%	0%	1768.5	1768.5	439	0.248	0.248	430	0.243	0.243
	S		A	1	3.5	0	0	0	0.9	0%	0%	1894.5	1894.5	471	0.248		460	0.243	
Shap Pat Heung Road (NB)	N		A	1	3.5	0	0	1	1	0%	0%	1965	1965	338	0.172		365	0.186	
	N		A	1	3.5	0	0	0	1	0%	0%	2105	2105	362	0.172		390	0.186	
Tai Kei Leng Road (EB)	E		B	2	3.5	0	12	1	0.9	100%	100%	1570	1570	244	0.156	0.156	240	0.153	0.153
	E		B	2	3.5	0	13.5	0	0.9	100%	100%	1705	1705	266	0.156		260	0.153	

Pedestrian crossing

Notes:

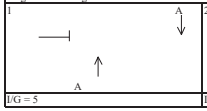
Site factor are applied due to traffic queue extended from Shap Pat Heung Interchange.
Based on site observation, about 10% delay of the effective green right turning from Tai Kei Leng Road to S-bound.
Similar 10% delay is also observed along the S-Bound approach.
Site Factor of 0.9 is apply to Shap Pat Heung Road (SB)
Site Factor of 0.9 is apply to Tai Kei Leng Road (EB)

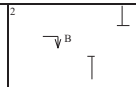
Traffic Flow (pcu / hr) [AM (PM)]



Check Phase		Check Phase	
Σy	0.404	Σy	0.396
L (sec)	10	L (sec)	10
C (sec)	90	C (sec)	90
y pract.	0.800	y pract.	0.800
R.C. (%)	98%	R.C. (%)	102%

Stage / Phase Diagrams





3

I/G = 5 I/G = 7 I/G =

JUNCTION DELAY CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: (A) Ma Tong Road / Tai Tong Road
Description: 2021 Off-peak Traffic Flows

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda X)} + \frac{X}{2q(1-X)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} X^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm
λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c
x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/ΣEs where S = saturation flow in veh/hour
c = Cycle time in seconds
g = Effective green time in seconds
q should be the flow in vehicles per second to give delay in seconds

Approach:	Ma Tong Road (WB) (LT & STR & RT)		Tai Tong Road (NB) (STR & LT)		Tai Tong Road (NB) (RT)		Ma Tong Road (EB) (LT)		Ma Tong Road (EB) (STR & RT)		Tai Tong Road (SB) (STR & LT)		Tai Tong Road (SB) (RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
q (veh/hr)	196	141	270	281	37	48	59	52	178	230	230	259	89	96
g (sec)	18	13	31	31	31	31	9	7	9	7	29	32	29	32
c (sec)	120	120	120	120	120	120	120	120	120	120	120	120	120	120
s (veh/hr)	1,922	1,933	1,552	1,552	363	363	1,207	1,207	2,763	2,767	1,404	1,407	1,467	1,467
λ	0.15	0.11	0.26	0.26	0.26	0.26	0.07	0.06	0.07	0.06	0.24	0.26	0.24	0.26
x	0.68	0.68	0.68	0.70	0.40	0.51	0.68	0.70	0.89	1.35	0.68	0.70	0.25	0.25
M=qc	6.54	4.69	9.01	9.38	1.23	1.60	1.98	1.73	5.93	7.65	7.65	8.64	2.96	3.21
Delay														
d	53.67	59.32	44.39	45.14	46.15	51.63	77.30	87.68	106.32	-23.32	46.49	45.46	37.92	35.99
Junction Delay (sec)	**58.3**	**34.3**												

From TPDM Vol4 Table 4.2.5
Average Queue N calculated by
N=q(r/2+d) or qr,whichever the greater

where r = effective red time
q = flow (in same units as r and d)
d = average delay per vehicle

Approach:	Shap Pat Heung Road (EB) (LT)		Tai Tong Road (NB) (STR & LT & RT)		Shap Pat Heung Road (EB) (STR)		Shap Pat Heung Road (WB) (STR & RT)		Shap Pat Heung Road (WB) (LT)		Tai Tong Road (SB) (STR & LT & RT)		Tai Tong Road (SB) (STR & LT & RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
r (sec)	102	107	89	89	89	89	111	113	111	113	91	88	91	88
N (veh)	**6**	**4**	**7**	**7**	**1**	**1**	**2**	**2**	**8**	**7**	**6**	**6**	**2**	**2**
Average Queue length (m)	**36.0**	**24.0**	**42.0**	**42.0**	**6.0**	**6.0**	**12.0**	**12.0**	**24.0**	**24.0**	**36.0**	**36.0**	**12.0**	**12.0**

JUNCTION DELAY CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: (B) Shap Pat Heung Road/ Tai Kei Leng Road
Description: 2021 Off-peak Traffic Flows

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda X)} + \frac{X}{2q(1-X)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} X^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm
λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c
x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/Ts where S = saturation flow in veh/hour
c = Cycle time in seconds
g = Effective green time in seconds
q should be the flow in vehicles per second to give delay in seconds

Approach:	Shap Pat Heung Road (WB) (STR & RT)		Shap Pat Heung Road (WB) (LT)		Tai Tong Road (NB) (STR & LT & RT)		Shap Pat Heung Road (EB) (STR)		Shap Pat Heung Road (EB) (LT)		Tai Tong Road (SB) (STR & LT & RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
q (veh/hr)	296	344	80	76	308	288	288	312	36	80	296	340
g (sec)	24	22	24	22	29	26	18	19	18	19	28	31
c (sec)	120	120	120	120	120	120	120	120	120	120	120	120
s (veh/hr)	3,284	3,276	716	716	2,316	2,304	3,416	3,416	1,428	1,428	2,308	2,304
λ	0.20	0.18	0.20	0.18	0.24	0.22	0.15	0.16	0.15	0.16	0.23	0.26
x	0.45	0.57	0.56	0.58	0.55	0.58	0.56	0.58	0.17	0.35	0.55	0.57
M=qc	9.87	11.47	2.67	2.53	10.27	9.60	9.60	10.40	1.20	2.67	9.87	11.33
Delay												
d	42.90	45.71	52.07	55.10	41.30	43.83	48.31	47.79	45.66	47.15	41.99	40.30
Junction Delay (sec)	**44.1**	**45.1**										

From TPDM Vol4 Table 4.2.5
Average Queue N calculated by
N=q(r/2+d) or qr,whichever the greater

where r = effective red time
q = flow (in same units as r and d)
d = average delay per vehicle

Approach:	Shap Pat Heung Road (WB) (STR & RT)		Shap Pat Heung Road (WB) (LT)		Tai Tong Road (NB) (STR & LT & RT)		Shap Pat Heung Road (EB) (STR)		Shap Pat Heung Road (EB) (LT)		Tai Tong Road (SB) (STR & LT & RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
r (sec)	96	98	96	98	91	94	102	101	102	101	92	89
N (veh)	**8**	**9**	**2**	**2**	**8**	**8**	**8**	**9**	**1**	**2**	**8**	**8**
Average Queue length (m)	**30.0**	**36.0**	**12.0**	**12.0**	**30.0**	**30.0**	**24.0**	**24.0**	**6.0**	**12.0**	**30.0**	**36.0**

JUNCTION DELAY CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: (C)Shap Pat Heung Road / Fung Ki Road
Description: 2021 Off-peak Traffic Flows

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda X)} + \frac{X}{2q(1-X)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} X^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm
λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c
x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/ĖS where S = saturation flow in veh/hour
c = Cycle time in seconds
g = Effective green time in seconds
q should be the flow in vehicles per second to give delay in seconds

Approach:	Shap Pat Heung Road (WB) (RT)		Shap Pat Heung Road (WB) (STR & LT)		The Access Road of The Reach (NB) (LT)		The Access Road of The Reach (NB) (STR & RT))		Shap Pat Heung Road (EB) (LT)		Shap Pat Heung Road (EB) (STR)		Fung Ki Road (SB) (LT)		Fung Ki Road (SB) (STR & RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
q (veh/hr)	232	308	284	368	12	12	28	36	96	132	344	352	256	360	64	100
g (sec)	40	44	49	55	6	6	6	6	41	36	41	36	60	66	6	6
c (sec)	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
s (veh/hr)	1,440	1,440	2,140	2,140	1,428	1,428	3,276	3,264	1,288	1,288	2,526	2,526	1,452	1,452	3,216	3,224
λ	0.31	0.34	0.38	0.42	0.05	0.05	0.05	0.05	0.32	0.28	0.32	0.28	0.46	0.51	0.05	0.05
x	0.52	0.63	0.35	0.41	0.18	0.18	0.19	0.24	0.24	0.37	0.43	0.50	0.38	0.49	0.43	0.67
M=qc	8.38	11.12	10.26	13.29	0.43	0.43	1.01	1.30	3.47	4.77	12.42	12.71	9.24	13.00	2.31	3.61
Delay																
d	39.53	39.41	30.00	27.12	62.42	62.42	60.40	60.64	34.08	39.80	36.20	40.58	24.24	22.69	62.13	71.03
Junction Delay (sec)	**36.5**	**34.8**														

From TPDM Vol4 Table 4.2.5
Average Queue N calculated by
N=q(r/2+d) or qr,whichever the greater

where r = effective red time
q = flow (in same units as r and d)
d = average delay per vehicle

Approach:	Shap Pat Heung Road (WB) (RT)		Shap Pat Heung Road (WB) (STR & LT)		The Access Road of The Reach (LT)		The Access Road of The Reach (STR & RT))		Shap Pat Heung Road (EB) (LT)		Shap Pat Heung Road (EB) (STR)		Fung Ki Road (SB) (LT)		Fung Ki Road (SB) (STR & RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
r (sec)	90	86	81	75	124	124	124	124	89	94	89	94	70	64	124	124
N (veh)	**6**	**7**	**6**	**8**	**0**	**0**	**1**	**1**	**2**	**3**	**9**	**9**	**5**	**6**	**2**	**4**
Average Queue length (m)	**36.0**	**42.0**	**24.0**	**30.0**	**0.0**	**0.0**	**0.0**	**6.0**	**12.0**	**18.0**	**24.0**	**30.0**	**30.0**	**36.0**	**6.0**	**12.0**

JUNCTION DELAY CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: (D)Shap Pat Heung Road / Tai Kei Leung Road
Description: 2021 Off-peak Traffic Flows

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda X)} + \frac{X}{2q(1-X)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} X^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm
λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c
x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/Ès where S = saturation flow in veh/hour
c = Cycle time in seconds
g = Effective green time in seconds
q should be the flow in vehicles per second to give delay in seconds

Approach:	Shap Pat Heung Road (SB) (STR)		Shap Pat Heung Road (NB) (STR)		Tai Kei Leng Road (EB) (RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
q (veh/hr)	728	712	560	604	408	400
g (sec)	49	49	49	49	31	31
c (sec)	90	90	90	90	90	90
s (veh/hr)	2,930	2,930	3,256	3,256	2,620	2,620
λ	0.54	0.54	0.54	0.54	0.34	0.34
x	0.46	0.45	0.32	0.34	0.45	0.44
M=qc	18.20	17.80	14.00	15.10	10.20	10.00
Delay						
d	13.16	13.06	11.70	11.93	23.90	23.80
Junction Delay (sec)	**10.3**	**9.5**				

From TPDM Vol4 Table 4.2.5
Average Queue N calculated by
N=q(r/2+d) or qr,whichever the greater

where r = effective red time
q = flow (in same units as r and d)
d = average delay per vehicle

Approach:	Shap Pat Heung Road (SB) (STR)		Shap Pat Heung Road (NB) (STR)		Tai Kei Leng Road (EB) (RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
r (sec)	41	41	41	41	59	59
N (veh)	**8**	**8**	**6**	**7**	**7**	**7**
Average Queue length (m)	**24.0**	**24.0**	**18.0**	**18.0**	**18.0**	**18.0**

TRAFFIC SIGNALS CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: **(A) Ma Tong Road / Tai Tong Road**
Description: **2028 Reference Off-peak Traffic Flows**

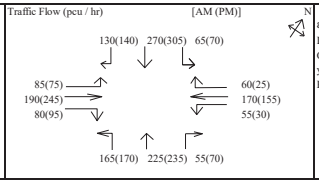
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Site Factor	Pro. Turning (%) A.M. Off-Peak	Pro. Turning (%) P.M Off-Peak	Revised Saturation Flow (pcu/hr) A.M Off-Peak	Revised Saturation Flow (pcu/hr) P.M Off-Peak	A.M. Off-Peak Flow (pcu/hr)	A.M. Off-Peak y Value	A.M. Off-Peak Critical y	P.M. Off-Peak Flow (pcu/hr)	P.M. Off-Peak y Value	P.M. Off-Peak Critical y
Ma Tong Road (WB)	W		B	3	4.0	0	21	0	1	26%	14%	2235	2255	285	0.128	0.128	210	0.093	0.093
	W		B	3	5.0	15	0	1	0.063	100%	100%								
Tai Tong Road (NB)	N		D	2	3.5	8	0	1	1.11	42%	42%	2140	2140	445	0.208	0.208	475	0.222	0.222
	N		D	2	3.5	0	21	0	0.06	100%	100%								
Ma Tong Road (EB)	E		A	1	3.5	18	0	1	0.9	100%	100%	5365	5365	355	0.066	0.066	415	0.077	0.077
	E		A	1	3.5	0	0	0	0.9	0%	0%								
	E		A	1	3.5	0	30	0	0.9	60%	57%								
Tai Tong Road (SB)	S		C	4	3.5	0	24	0	1	100%	100%	3875	3880	465	0.120	0.120	515	0.133	0.133
	S		C	4	3.5	8	0	1	1	19%	19%								

Pedestrian crossing

Ep	3,4	Min. Crossing Time = 5Gm + 5FGm =10s
Fp	1,3,4	Min. Crossing Time = 6Gm + 6FGm =12s
Gp	1,2	Min. Crossing Time = 5Gm + 5FGm =10s
Hp	1,2,4	Min. Crossing Time = 6Gm + 6FGm =12s
Ip	3,4	Min. Crossing Time = 5Gm + 5FGm =10s
Jp	1,2,3	Min. Crossing Time = 8Gm + 8FGm =16s
Kp	1,2,4	Min. Crossing Time = 10Gm + 10FGm =20s
Lp	4	Min. Crossing Time = 5Gm + 5FGm =10s

Notes:

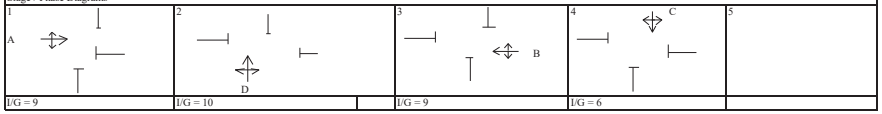
Traffic Flow (pcu / hr) [AM (PM)]



Check Phase	
Σy	0.522
L (sec)	30
C (sec)	120
y pract.	0.675
R.C. (%)	29%

Check Phase	
Σy	0.525
L (sec)	30
C (sec)	120
y pract.	0.675
R.C. (%)	29%

Stage / Phase Diagrams



I/G = 9 | I/G = 10 | I/G = 9 | I/G = 6

TRAFFIC SIGNALS CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: **(B) Tai Tong Road / Shap Pat Heung Road**
Description: **2028 Reference Off-peak Traffic Flows**

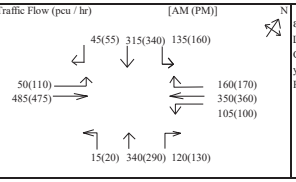
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Site Factor	Pro. Turning (%) A.M. Off-Peak	Pro. Turning (%) P.M. Off-Peak	Revised A.M. Off-Peak	Revised P.M. Off-Peak	A.M. Off-Peak Flow (pcu/hr)	A.M. Off-Peak y Value	A.M. Off-Peak Critical y	P.M. Off-Peak Flow (pcu/hr)	P.M. Off-Peak y Value	P.M. Off-Peak Critical y
Shap Pat Heung Road (WB)	W		C	3	3.8	0	30	0	1	62%	64%	4380	4380	615	0.140	0.140	630	0.144	0.144
	W		C	3	3.8	0	0	0	0.95	0%	0%								
	W		C	3	3.5	15	0	1	0.15	100%	100%								
Tai Tong Road (NB)	N		B	2	3.5	15	0	1	0.125	30%	44%	2285	2280	475	0.208	0.208	440	0.193	0.193
	N		B	2	3.5	0	15	0	1	28%	33%								
Shap Pat Heung Road (EB)	E		A	1	3.5	15	0	1	1	100%	100%	6055	6055	535	0.088	0.088	585	0.097	0.097
	E		A	1	3.8	0	0	0	1	0%	0%								
	E		A	1	3.8	0	0	0	1	0%	0%								
Tai Tong Road (SB)	S		D	4	3.5	15	0	1	0.135	100%	100%	2320	2315	495	0.213	0.213	555	0.240	0.240
	S		D	4	3.5	0	15	0	1	13%	14%								

Pedestrian crossing

Ep	3,4	Min. Crossing Time = 6Gm + 6FGm =12s
Fp	1,3,4	Min. Crossing Time = 7Gm + 7FGm =14s
Gp	1,2	Min. Crossing Time = 8Gm + 8FGm =16s
Hp	1,2,4	Min. Crossing Time = 10Gm + 10FGm =20s
Ip	3,4	Min. Crossing Time = 8Gm + 8FGm =16s
Jp	1,2,3	Min. Crossing Time = 6Gm + 8FGm =14s
Kp	1,2,4	Min. Crossing Time = 6Gm + 6FGm =12s
Lp	4	Min. Crossing Time = 9Gm + 9FGm =15s
Mp	2,3,4	Min. Crossing Time = 10Gm + 6FGm =16s
Np	1,2	Min. Crossing Time = 6Gm + 6FGm =12s

Notes:

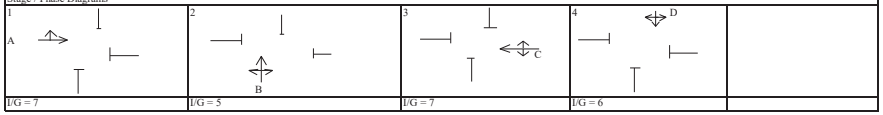
Traffic Flow (pcu / hr) [AM (PM)]



Check Phase	
Σy	0.650
L (sec)	16
C (sec)	120
y pract.	0.780
R.C. (%)	20%

Check Phase	
Σy	0.673
L (sec)	16
C (sec)	120
y pract.	0.780
R.C. (%)	16%

Stage / Phase Diagrams



I/G = 7 | I/G = 5 | I/G = 7 | I/G = 6

TRAFFIC SIGNALS CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: **(C)Shap Pat Heung Road / Fung Ki Road**
Description: **2028 Reference Off-peak Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Site Factor	Pro. Turning (%) A.M Off-Peak	Pro. Turning (%) P.M Off-Peak	Revised A.M Off-Peak	Revised P.M Off-Peak	A.M. Off-Peak Flow (pcu/hr)	A.M. Off-Peak y Value	A.M. Off-Peak Critical y	P.M. Off-Peak Flow (pcu/hr)	P.M. Off-Peak y Value	P.M. Off-Peak Critical y
Shap Pat Heung Road (WB)	W		B	2	3.5	0	21	0	0.855	100%	100%	1800	1800	310	0.172	0.185	415	0.231	
	W		B	2	3.5	0	0	0	0.35	0%	0%	735	735	136	0.185		155	0.211	
	W		B	2	3.5	15	0	1	1	11%	11%	1945	1945	359	0.185		410	0.211	
The Access Road of The Reach	N		E	4	3.5	15	0	1	1	100%	100%	1785	1785	15	0.008		15	0.008	
	N		E	4	3.5	0	35	0	1	16%	34%	2090	2075	18	0.009		23	0.011	
	N		E	4	3.5	0	30	0	1	100%	100%	2005	2005	17	0.009		22	0.011	
Shap Pat Heung Road (EB)	E		A	1	3.5	15	0	1	0.9	100%	100%	1610	1610	140	0.087	0.184	185	0.115	
	E		A	1	3.5	0	0	0	0.5	0%	0%	1052.5	1052.5	193	0.184		185	0.176	0.176
	E		A	1	3.5	0	0	0	1	0%	0%	2105	2105	387	0.184		370	0.176	
Fung Ki Road (SB)	S		C	2,3	3.5	18	0	1	1	100%	100%	1815	1815	345	0.190		480	0.264	0.264
	S		D	3	3.5	0	23	0	1	42%	28%	2050	2070	43	0.021		69	0.033	
	S		D	3	3.5	0	21	0	1	100%	100%	1965	1965	42	0.021		66	0.033	
Pedestrian crossing			Fp			Min. Crossing Time = 9Gm + 8FGm =17s													
			Gp			Min. Crossing Time = 10Gm + 10FGm =20s													
			Hp			Min. Crossing Time = 7Gm + 7FGm =14s													
			Ip			Min. Crossing Time = 7Gm + 7FGm =14s													
			Jp			Min. Crossing Time = 10Gm + 6FGm =16s													

Notes:
Site factor are applied due to lane approaches are locally widened to provide an additional lane near the junction:

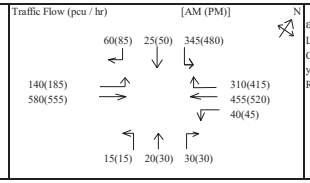
Site Factor of 0.95 is apply to fast lane of Shap Pat Heung Road (WB). Further 10% deduce due to the queue back effect from Fung Ki Road, which give total Site factor of 0.855

Site Factor of 0.35 is apply to middle lane of Shap Pat Heung Road (WB)

Site Factor of 0.95 is apply to near side lane of Shap Pat Heung Road (EB)

Site Factor of 0.5 is apply to middle lane of Shap Pat Heung Road (EB)

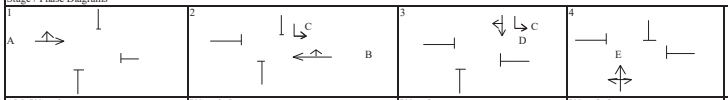
Traffic Flow (pcu / hr) [AM (PM)]



Check Phase	
εy	0.369
L (sec)	28
C (sec)	130
y pract.	0.706
R.C. (%)	91%

Check Phase	
εy	0.440
L (sec)	19
C (sec)	130
y pract.	0.768
R.C. (%)	75%

Stage / Phase Diagrams



AM: I/G = 6	I/G = 6+5	I/G = 5	I/G = 5+5
PM: I/G = 6	I/G = 6	I/G = 5	I/G = 5+5

TRAFFIC SIGNALS CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: **(D)Shap Pat Heung Road / Tai Kei Leung Road**
Description: **2028 Reference Off-peak Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Site Factor	Pro. Turning (%) A.M Off-Peak	Pro. Turning (%) P.M Off-Peak	Revised A.M Off-Peak	Revised P.M Off-Peak	A.M. Off-Peak Flow (pcu/hr)	A.M. Off-Peak y Value	A.M. Off-Peak Critical y	P.M. Off-Peak Flow (pcu/hr)	P.M. Off-Peak y Value	P.M. Off-Peak Critical y
Shap Pat Heung Road (SB)	S		A	1	3.5	0	0	1	0.9	0%	0%	1768.5	1768.5	529	0.299	0.299	502	0.284	0.284
	S		A	1	3.5	0	0	0	0.9	0%	0%	1894.5	1894.5	566	0.299		538	0.284	
Shap Pat Heung Road (NB)	N		A	1	3.5	0	0	1	1	0%	0%	1965	1965	415	0.211		425	0.216	
	N		A	1	3.5	0	0	0	1	0%	0%	2105	2105	445	0.211		455	0.216	
Tai Kei Leng Road (EB)	E		B	2	3.5	0	12	1	0.9	100%	100%	1570	1570	280	0.179	0.179	271	0.173	0.173
	E		B	2	3.5	0	13.5	0	0.9	100%	100%	1705	1705	305	0.179		294	0.173	
Pedestrian crossing																			

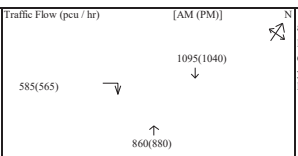
Notes:
Site factor are applied due to traffic queue extended from Shap Pat Heung Interchange.

Based on site observation, about 10% delay of the effective green right turning from Tai Kei Leng Road to S-bound.

Similar 10% delay is also observed along the S-Bound approach.

Site Factor of 0.9 is apply to Shap Pat Heung Road (SB)
Site Factor of 0.9 is apply to Tai Kei Leng Road (EB)

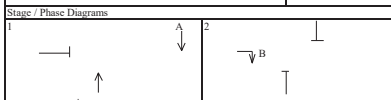
Traffic Flow (pcu / hr) [AM (PM)]



Check Phase	
εy	0.478
L (sec)	10
C (sec)	90
y pract.	0.800
R.C. (%)	68%

Check Phase	
εy	0.456
L (sec)	10
C (sec)	90
y pract.	0.800
R.C. (%)	75%

Stage / Phase Diagrams



I/G = 5	I/G = 7	I/G =

JUNCTION DELAY CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: (A) Ma Tong Road / Tai Tong Road
Description: 2028 Reference Off-peak Traffic Flows

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda X)} + \frac{X}{2q(1-X)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} X^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm
λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c
x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/sEs where S = saturation flow in veh/hour
c = Cycle time in seconds
g = Effective green time in seconds
q should be the flow in vehicles per second to give delay in seconds

Approach:	Ma Tong Road (WB) (LT & STR & RT)		Tai Tong Road (NB) (STR & LT)		Tai Tong Road (NB) (RT)		Ma Tong Road (EB) (LT)		Ma Tong Road (EB) (STR & RT)		Tai Tong Road (SB) (STR & LT)		Tai Tong Road (SB) (RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
q (veh/hr)	211	156	289	300	41	52	63	56	200	252	248	278	96	104
g (sec)	18	13	30	31	30	31	9	7	9	7	29	31	29	31
c (sec)	120	120	120	120	120	120	120	120	120	120	120	120	120	120
s (veh/hr)	1,922	1,937	1,552	1,552	363	363	1,207	1,207	2,767	2,767	1,404	1,407	1,467	1,467
λ	0.15	0.11	0.25	0.26	0.25	0.26	0.07	0.06	0.07	0.06	0.24	0.26	0.24	0.26
x	0.74	0.72	0.73	0.75	0.44	0.56	0.73	0.75	1.02	1.49	0.73	0.75	0.27	0.27
M=qc	7.04	5.19	9.63	10.00	1.36	1.73	2.10	1.85	6.67	8.40	8.27	9.26	3.21	3.46
Delay														
d	57.57	61.57	47.34	48.42	48.68	55.18	89.28	103.69	-539.19	-21.68	49.53	48.85	38.33	36.50
Junction Delay (sec)	**-50.9**	**37.3**												

From TPDM Vol4 Table 4.2.5
Average Queue N calculated by
N=q(r/2+d) or qr,whichever the greater

where r = effective red time
q = flow (in same units as r and d)
d = average delay per vehicle

Approach:	Shap Pat Heung Road (EB) (LT)		Tai Tong Road (NB) (STR & LT & RT)		Shap Pat Heung Road (EB) (STR)		Shap Pat Heung Road (WB) (STR & RT)		Shap Pat Heung Road (WB) (LT)		Tai Tong Road (SB) (STR & LT & RT)		Tai Tong Road (SB) (STR & LT & RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
r (sec)	102	107	90	89	90	89	111	113	111	113	91	89	91	89
N (veh)	**6**	**5**	**7**	**8**	**1**	**1**	**3**	**2**	**6**	**8**	**7**	**7**	**2**	**3**
Average Queue length (m)	**36.0**	**30.0**	**42.0**	**48.0**	**6.0**	**6.0**	**18.0**	**12.0**	**18.0**	**24.0**	**42.0**	**42.0**	**12.0**	**18.0**

JUNCTION DELAY CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: (B) Shap Pat Heung Road/ Tai Kei Leng Road
Description: 2028 Reference Off-peak Traffic Flows

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda X)} + \frac{X}{2q(1-X)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} X^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm
λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c
x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/Ès where S = saturation flow in veh/hour
c = Cycle time in seconds
g = Effective green time in seconds
q should be the flow in vehicles per second to give delay in seconds

Approach:	Shap Pat Heung Road (WB) (STR & RT)		Shap Pat Heung Road (WB) (LT)		Tai Tong Road (NB) (STR & LT & RT)		Shap Pat Heung Road (EB) (STR)		Shap Pat Heung Road (EB) (LT)		Tai Tong Road (SB) (STR & LT & RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
q (veh/hr)	408	424	84	80	380	352	388	380	40	88	396	444
g (sec)	20	19	20	19	28	25	20	19	20	19	30	33
c (sec)	120	120	120	120	120	120	120	120	120	120	120	120
s (veh/hr)	3,280	3,280	716	716	2,324	2,312	3,416	3,416	1,428	1,428	2,308	2,304
λ	0.17	0.16	0.17	0.16	0.23	0.21	0.17	0.16	0.17	0.16	0.25	0.28
x	0.75	0.82	0.70	0.71	0.70	0.73	0.68	0.70	0.17	0.39	0.69	0.70
M=qc	13.60	14.13	2.80	2.67	12.67	11.73	12.93	12.67	1.33	2.93	13.20	14.80
Delay												
d	51.30	56.65	68.54	70.59	45.28	48.68	48.99	50.33	43.98	47.64	43.46	41.82
Junction Delay (sec)	**48.3**	**50.2**										

From TPDM Vol4 Table 4.2.5
Average Queue N calculated by
N=q(r/2+d) or qr,whichever the greater

where r = effective red time
q = flow (in same units as r and d)
d = average delay per vehicle

Approach:	Shap Pat Heung Road (WB) (STR & RT)		Shap Pat Heung Road (WB) (LT)		Tai Tong Road (NB) (STR & LT & RT)		Shap Pat Heung Road (EB) (STR)		Shap Pat Heung Road (EB) (LT)		Tai Tong Road (SB) (STR & LT & RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
r (sec)	100	101	100	101	92	95	100	101	100	101	90	87
N (veh)	**11**	**13**	**3**	**3**	**10**	**9**	**11**	**11**	**1**	**2**	**10**	**11**
Average Queue length (m)	**48.0**	**48.0**	**18.0**	**18.0**	**36.0**	**36.0**	**30.0**	**30.0**	**6.0**	**12.0**	**42.0**	**42.0**

JUNCTION DELAY CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: (C)Shap Pat Heung Road / Fung Ki Road
Description: 2028 Reference Off-peak Traffic Flows

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda X)} + \frac{X}{2q(1-X)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} X^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm
λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c
x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/ĖS where S = saturation flow in veh/hour
c = Cycle time in seconds
g = Effective green time in seconds
q should be the flow in vehicles per second to give delay in seconds

Approach:	Shap Pat Heung Road (WB) (RT)		Shap Pat Heung Road (WB) (STR & LT)		The Access Road of The Reach (NB) (LT)		The Access Road of The Reach (NB) (STR & RT))		Shap Pat Heung Road (EB) (LT)		Shap Pat Heung Road (EB) (STR)		Fung Ki Road (SB) (LT)		Fung Ki Road (SB) (STR & RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
q (veh/hr)	248	332	396	452	12	12	28	36	112	148	464	444	276	384	68	108
g (sec)	45	48	42	52	6	6	6	6	45	40	45	40	53	63	6	6
c (sec)	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
s (veh/hr)	1,440	1,440	2,144	2,144	1,428	1,428	3,276	3,264	1,288	1,288	2,526	2,526	1,452	1,452	3,212	3,228
λ	0.35	0.37	0.32	0.40	0.05	0.05	0.05	0.05	0.35	0.31	0.35	0.31	0.41	0.48	0.05	0.05
x	0.50	0.62	0.57	0.53	0.18	0.18	0.19	0.24	0.25	0.37	0.53	0.57	0.47	0.55	0.46	0.72
M=qc	8.96	11.99	14.30	16.32	0.43	0.43	1.01	1.30	4.04	5.34	16.76	16.03	9.97	13.87	2.46	3.90
Delay																
d	35.70	36.60	38.10	30.98	62.42	62.42	60.40	60.64	31.60	37.06	35.16	39.05	29.97	25.54	62.55	76.38
Junction Delay (sec)	**36.6**	**36.0**														

From TPDM Vol4 Table 4.2.5
Average Queue N calculated by
N=q(r/2+d) or qr,whichever the greater

where r = effective red time
q = flow (in same units as r and d)
d = average delay per vehicle

Approach:	Shap Pat Heung Road (WB) (RT)		Shap Pat Heung Road (WB) (STR & LT)		The Access Road of The Reach (LT)		The Access Road of The Reach (STR & RT))		Shap Pat Heung Road (EB) (LT)		Shap Pat Heung Road (EB) (STR)		Fung Ki Road (SB) (LT)		Fung Ki Road (SB) (STR & RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
r (sec)	85	82	88	78	124	124	124	124	85	90	85	90	77	67	124	124
N (veh)	**6**	**8**	**10**	**10**	**0**	**0**	**1**	**1**	**3**	**4**	**11**	**11**	**6**	**7**	**2**	**4**
Average Queue length (m)	**36.0**	**48.0**	**36.0**	**42.0**	**0.0**	**0.0**	**0.0**	**6.0**	**18.0**	**24.0**	**30.0**	**36.0**	**36.0**	**42.0**	**6.0**	**12.0**

JUNCTION DELAY CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: (D)Shap Pat Heung Road / Tai Kei Leung Road
Description: 2028 Reference Off-peak Traffic Flows

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda X)} + \frac{X}{2q(1-X)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} X^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm
λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c
x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/Ès where S = saturation flow in veh/hour
c = Cycle time in seconds
g = Effective green time in seconds
q should be the flow in vehicles per second to give delay in seconds

Approach:	Shap Pat Heung Road (SB) (STR)		Shap Pat Heung Road (NB) (STR)		Tai Kei Leng Road (EB) (RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
q (veh/hr)	876	832	688	704	468	452
g (sec)	50	50	50	50	30	30
c (sec)	90	90	90	90	90	90
s (veh/hr)	2,930	2,930	3,256	3,256	2,620	2,620
λ	0.56	0.56	0.56	0.56	0.33	0.33
x	0.54	0.51	0.38	0.39	0.54	0.52
M=qc	21.90	20.80	17.20	17.60	11.70	11.30
Delay						
d	13.58	13.26	11.79	11.88	25.58	25.34
Junction Delay (sec)	**10.7**	**9.9**				

From TPDM Vol4 Table 4.2.5
Average Queue N calculated by
N=q(r/2+d) or qr,whichever the greater

where r = effective red time
q = flow (in same units as r and d)
d = average delay per vehicle

Approach:	Shap Pat Heung Road (SB) (STR)		Shap Pat Heung Road (NB) (STR)		Tai Kei Leng Road (EB) (RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
r (sec)	40	40	40	40	60	60
N (veh)	**10**	**9**	**8**	**8**	**8**	**8**
Average Queue length (m)	**30.0**	**30.0**	**24.0**	**24.0**	**24.0**	**24.0**

TRAFFIC SIGNALS CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: **(A) Ma Tong Road / Tai Tong Road**
Description: **2028 Design Off-peak Traffic Flows**

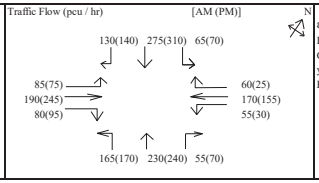
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Site Factor	Pro. Turning (%) A.M Off-Peak	Pro. Turning (%) P.M Off-Peak	Revised Saturation Flow (pcu/hr) A.M Off-Peak	Revised Saturation Flow (pcu/hr) P.M Off-Peak	A.M. Off-Peak Flow (pcu/hr)	A.M. Off-Peak y Value	A.M. Off-Peak Critical y	P.M. Off-Peak Flow (pcu/hr)	P.M. Off-Peak y Value	P.M. Off-Peak Critical y
Ma Tong Road (WB)	W		B	3	4.0	0	21	0	1	26%	14%	2235	2255	285	0.128	0.128	210	0.093	0.093
	W		B	3	5.0	15	0	1	0.063	100%	100%								
Tai Tong Road (NB)	N		D	2	3.5	8	0	1	1.11	42%	41%	2145	2145	450	0.210	0.210	480	0.224	0.224
	N		D	2	3.5	0	21	0	0.06	100%	100%								
Ma Tong Road (EB)	E		A	1	3.5	18	0	1	0.9	100%	100%	5365	5365	355	0.066	0.066	415	0.077	0.077
	E		A	1	3.5	0	0	0	0.9	0%	0%								
	E		A	1	3.5	0	30	0	0.9	60%	57%								
Tai Tong Road (SB)	S		C	4	3.5	0	24	0	1	100%	100%	3875	3880	470	0.121	0.121	520	0.134	0.134
	S		C	4	3.5	8	0	1	1	19%	18%								

Pedestrian crossing

Ep	3,4	Min. Crossing Time = 5Gm + 5FGm =10s
Fp	1,3,4	Min. Crossing Time = 6Gm + 6FGm =12s
Gp	1,2	Min. Crossing Time = 5Gm + 5FGm =10s
Hp	1,2,4	Min. Crossing Time = 6Gm + 6FGm =12s
Ip	3,4	Min. Crossing Time = 5Gm + 5FGm =10s
Jp	1,2,3	Min. Crossing Time = 8Gm + 8FGm =16s
Kp	1,2,4	Min. Crossing Time = 10Gm + 10FGm =20s
Lp	4	Min. Crossing Time = 5Gm + 5FGm =10s

Notes:

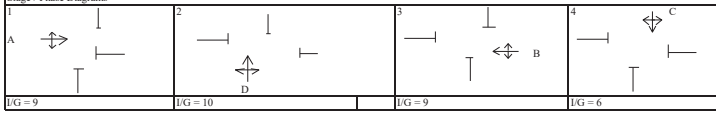
Traffic Flow (pcu / hr) [AM (PM)]



Check Phase	
Σy	0.525
L (sec)	30
C (sec)	120
y pract.	0.675
R.C. (%)	29%

Check Phase	
Σy	0.528
L (sec)	30
C (sec)	120
y pract.	0.675
R.C. (%)	28%

Stage / Phase Diagrams



I/G = 9 | I/G = 10 | I/G = 9 | I/G = 6

TRAFFIC SIGNALS CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: **(B) Tai Tong Road / Shap Pat Heung Road**
Description: **2028 Design Off-peak Traffic Flows**

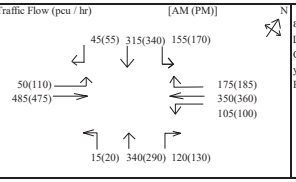
Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Site Factor	Pro. Turning (%) A.M. Off-Peak	Pro. Turning (%) P.M. Off-Peak	Revised A.M. Off-Peak	Revised P.M. Off-Peak	A.M. Off-Peak Flow (pcu/hr)	A.M. Off-Peak y Value	A.M. Off-Peak Critical y	P.M. Off-Peak Flow (pcu/hr)	P.M. Off-Peak y Value	P.M. Off-Peak Critical y
Shap Pat Heung Road (WB)	W		C	3	3.8	0	30	0	1	66%	67%	4375	4375	630	0.144	0.144	645	0.147	0.147
	W		C	3	3.8	0	0	0	0.95	0%	0%								
	W		C	3	3.5	15	0	1	0.15	100%	100%								
Tai Tong Road (NB)	N		B	2	3.5	15	0	1	0.125	30%	44%	2285	2280	475	0.208	0.208	440	0.193	0.193
	N		B	2	3.5	0	15	0	1	28%	33%								
Shap Pat Heung Road (EB)	E		A	1	3.5	15	0	1	1	100%	100%	6055	6055	535	0.088	0.088	585	0.097	0.097
	E		A	1	3.8	0	0	0	1	0%	0%								
	E		A	1	3.8	0	0	0	1	0%	0%								
Tai Tong Road (SB)	S		D	4	3.5	15	0	1	0.135	100%	100%	2320	2315	515	0.222	0.222	565	0.244	0.244
	S		D	4	3.5	0	15	0	1	13%	14%								

Pedestrian crossing

Ep	3,4	Min. Crossing Time = 6Gm + 6FGm =12s
Fp	1,3,4	Min. Crossing Time = 7Gm + 7FGm =14s
Gp	1,2	Min. Crossing Time = 8Gm + 8FGm =16s
Hp	1,2,4	Min. Crossing Time = 10Gm + 10FGm =20s
Ip	3,4	Min. Crossing Time = 8Gm + 8FGm =16s
Jp	1,2,3	Min. Crossing Time = 6Gm + 8FGm =14s
Kp	1,2,4	Min. Crossing Time = 6Gm + 6FGm =12s
Lp	4	Min. Crossing Time = 9Gm + 9FGm =15s
Mp	2,3,4	Min. Crossing Time = 10Gm + 6FGm =16s
Np	1,2	Min. Crossing Time = 6Gm + 6FGm =12s

Notes:

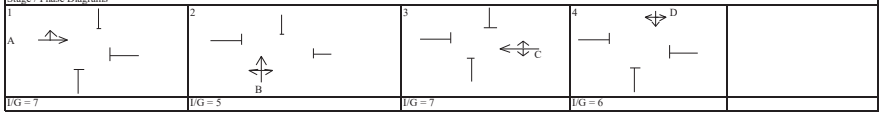
Traffic Flow (pcu / hr) [AM (PM)]



Check Phase	
Σy	0.662
L (sec)	16
C (sec)	120
y pract.	0.780
R.C. (%)	18%

Check Phase	
Σy	0.681
L (sec)	16
C (sec)	120
y pract.	0.780
R.C. (%)	15%

Stage / Phase Diagrams



I/G = 7 | I/G = 5 | I/G = 7 | I/G = 6

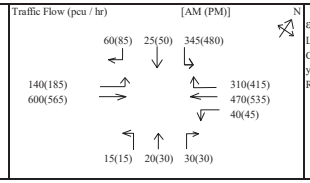
TRAFFIC SIGNALS CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: **(C)Shap Pat Heung Road / Fung Ki Road**
Description: **2028 Design Off-peak Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Site Factor	Pro. Turning (%) A.M Off-Peak	Pro. Turning (%) P.M Off-Peak	Revised A.M Off-Peak	Revised P.M Off-Peak	A.M. Off-Peak Flow (pcu/hr)	A.M. Off-Peak y Value	A.M. Off-Peak Critical y	P.M. Off-Peak Flow (pcu/hr)	P.M. Off-Peak y Value	P.M. Off-Peak Critical y
Shap Pat Heung Road (WB)	W		B	2	3.5	0	21	0	0.855	100%	100%	1800	1800	310	0.172	0.191	415	0.231	
	W		B	2	3.5	0	0	0	0.35	0%	0%	735	735	140	0.191		159	0.217	
	W		B	2	3.5	15	0	1	1	11%	11%	1945	1945	370	0.190		421	0.216	
The Access Road of The Reach	N		E	4	3.5	15	0	1	1	100%	100%	1785	1785	15	0.008		15	0.008	
	N		E	4	3.5	0	35	0	1	16%	34%	2090	2075	18	0.009		23	0.011	
	N		E	4	3.5	0	30	0	1	100%	100%	2005	2005	17	0.009		22	0.011	
Shap Pat Heung Road (EB)	E		A	1	3.5	15	0	1	0.9	100%	100%	1610	1610	140	0.087	0.190	185	0.115	
	E		A	1	3.5	0	0	0	0.5	0%	0%	1052.5	1052.5	200	0.190		188	0.179	0.179
	E		A	1	3.5	0	0	0	1	0%	0%	2105	2105	400	0.190		377	0.179	
Fung Ki Road (SB)	S		C	2,3	3.5	18	0	1	1	100%	100%	1815	1815	345	0.190		480	0.264	0.264
	S		D	3	3.5	0	23	0	1	42%	28%	2050	2070	43	0.021		69	0.033	
	S		D	3	3.5	0	21	0	1	100%	100%	1965	1965	42	0.021		66	0.033	
Pedestrian crossing			Fp			Min. Crossing Time = 9Gm + 8FGm =17s													
			Gp			Min. Crossing Time = 10Gm + 10FGm =20s													
			Hp			Min. Crossing Time = 7Gm + 7FGm =14s													
			Ip			Min. Crossing Time = 7Gm + 7FGm =14s													
			Jp			Min. Crossing Time = 10Gm + 6FGm =16s													

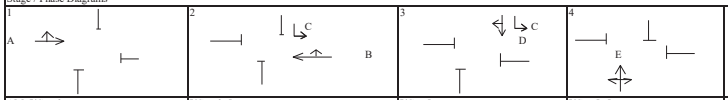
Notes:
Site factor are applied due to lane approaches are locally widened to provide an additional lane near the junction:
Site Factor of 0.95 is apply to fast lane of Shap Pat Heung Road (WB). Further 10% deduce due to the queue back effect from Fung Ki Road, which give total Site factor of 0.855
Site Factor of 0.35 is apply to middle lane of Shap Pat Heung Road (WB)
Site Factor of 0.95 is apply to near side lane of Shap Pat Heung Road (EB)
Site Factor of 0.5 is apply to middle lane of Shap Pat Heung Road (EB)

Traffic Flow (pcu / hr) [AM (PM)]



Check Phase		Check Phase	
Σy	0.381	Σy	0.443
L (sec)	28	L (sec)	19
C (sec)	130	C (sec)	130
y pract.	0.706	y pract.	0.768
R.C. (%)	85%	R.C. (%)	73%

Stage / Phase Diagrams



AM: I/G = 6	I/G = 6+5	I/G = 5	I/G = 5+5
PM: I/G = 6	I/G = 6	I/G = 5	I/G = 5+5

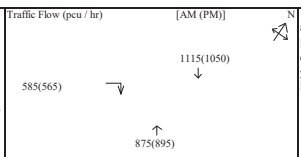
TRAFFIC SIGNALS CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: **(D)Shap Pat Heung Road / Tai Kei Leung Road**
Description: **2028 Design Off-peak Traffic Flows**

Approach	Direction	Movement notation	Phase	Stage	Width (m)	Radius (m) Left	Radius (m) Right	Nearside 0/1	Site Factor	Pro. Turning (%) A.M Off-Peak	Pro. Turning (%) P.M Off-Peak	Revised A.M Off-Peak	Revised P.M Off-Peak	A.M. Off-Peak Flow (pcu/hr)	A.M. Off-Peak y Value	A.M. Off-Peak Critical y	P.M. Off-Peak Flow (pcu/hr)	P.M. Off-Peak y Value	P.M. Off-Peak Critical y
Shap Pat Heung Road (SB)	S		A	1	3.5	0	0	1	0.9	0%	0%	1768.5	1768.5	538	0.304	0.304	507	0.287	0.287
	S		A	1	3.5	0	0	0	0.9	0%	0%	1894.5	1894.5	577	0.304		543	0.287	
Shap Pat Heung Road (NB)	N		A	1	3.5	0	0	1	1	0%	0%	1965	1965	422	0.215		432	0.220	
	N		A	1	3.5	0	0	0	1	0%	0%	2105	2105	453	0.215		463	0.220	
Tai Kei Leng Road (EB)	E		B	2	3.5	0	12	1	0.9	100%	100%	1570	1570	280	0.179	0.179	271	0.173	0.173
	E		B	2	3.5	0	13.5	0	0.9	100%	100%	1705	1705	305	0.179		294	0.173	
Pedestrian crossing																			

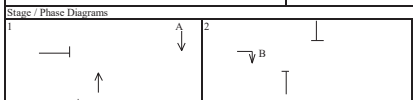
Notes:
Site factor are applied due to traffic queue extended from Shap Pat Heung Interchange.
Based on site observation, about 10% delay of the effective green right turning from Tai Kei Leng Road to S-bound.
Similar 10% delay is also observed along the S-Bound approach.
Site Factor of 0.9 is apply to Shap Pat Heung Road (SB)
Site Factor of 0.9 is apply to Tai Kei Leng Road (EB)

Traffic Flow (pcu / hr) [AM (PM)]



Check Phase		Check Phase	
Σy	0.483	Σy	0.459
L (sec)	10	L (sec)	10
C (sec)	90	C (sec)	90
y pract.	0.800	y pract.	0.800
R.C. (%)	66%	R.C. (%)	74%

Stage / Phase Diagrams



I/G = 5	I/G = 7	I/G =

JUNCTION DELAY CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: (A) Ma Tong Road / Tai Tong Road
Description: 2028 Design Off-peak Traffic Flows

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda X)} + \frac{X}{2q(1-X)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} X^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm
λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c
x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/¡Es where S = saturation flow in veh/hour
c = Cycle time in seconds
g = Effective green time in seconds
q should be the flow in vehicles per second to give delay in seconds

Approach:	Ma Tong Road (WB) (LT & STR & RT)		Tai Tong Road (NB) (STR & LT)		Tai Tong Road (NB) (RT)		Ma Tong Road (EB) (LT)		Ma Tong Road (EB) (STR & RT)		Tai Tong Road (SB) (STR & LT)		Tai Tong Road (SB) (RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
q (veh/hr)	211	156	293	304	41	52	63	56	200	252	252	281	96	104
g (sec)	18	13	31	31	31	31	8	7	8	7	29	32	29	32
c (sec)	120	120	120	120	120	120	120	120	120	120	120	120	120	120
s (veh/hr)	1,922	1,937	1,552	1,552	363	363	1,207	1,207	2,767	2,767	1,404	1,407	1,467	1,467
λ	0.15	0.11	0.25	0.26	0.25	0.26	0.07	0.06	0.07	0.06	0.24	0.26	0.24	0.26
x	0.75	0.73	0.74	0.76	0.44	0.56	0.74	0.76	1.03	1.51	0.74	0.76	0.27	0.27
M=qc	7.04	5.19	9.75	10.12	1.36	1.73	2.10	1.85	6.67	8.40	8.40	9.38	3.21	3.46
Delay														
d	58.30	62.29	47.62	48.78	48.50	54.92	91.40	106.67	-338.18	-22.26	49.81	49.21	38.18	36.38
Junction Delay (sec)	**-15.1**	**37.6**												

From TPDM Vol4 Table 4.2.5
Average Queue N calculated by
N=q(r/2+d) or qr,whichever the greater

where r = effective red time
q = flow (in same units as r and d)
d = average delay per vehicle

Approach:	Shap Pat Heung Road (EB) (LT)		Tai Tong Road (NB) (STR & LT & RT)		Shap Pat Heung Road (EB) (STR)		Shap Pat Heung Road (WB) (STR & RT)		Shap Pat Heung Road (WB) (LT)		Tai Tong Road (SB) (STR & LT & RT)		Tai Tong Road (SB) (STR & LT & RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
r (sec)	102	107	89	89	89	89	112	113	112	113	91	88	91	88
N (veh)	**6**	**5**	**8**	**8**	**1**	**1**	**3**	**3**	**6**	**8**	**7**	**7**	**2**	**3**
Average Queue length (m)	**36.0**	**30.0**	**48.0**	**48.0**	**6.0**	**6.0**	**18.0**	**18.0**	**18.0**	**24.0**	**42.0**	**42.0**	**12.0**	**18.0**

JUNCTION DELAY CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: (B) Shap Pat Heung Road/ Tai Kei Leng Road
Description: 2028 Design Off-peak Traffic Flows

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda X)} + \frac{X}{2q(1-X)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} X^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm
λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c
x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/Ès where S = saturation flow in veh/hour
c = Cycle time in seconds
g = Effective green time in seconds
q should be the flow in vehicles per second to give delay in seconds

Approach:	Shap Pat Heung Road (WB) (STR & RT)		Shap Pat Heung Road (WB) (LT)		Tai Tong Road (NB) (STR & LT & RT)		Shap Pat Heung Road (EB) (STR)		Shap Pat Heung Road (EB) (LT)		Tai Tong Road (SB) (STR & LT & RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
q (veh/hr)	420	436	84	80	380	352	388	380	40	88	412	452
g (sec)	19	18	19	18	27	25	19	18	19	18	32	34
c (sec)	120	120	120	120	120	120	120	120	120	120	120	120
s (veh/hr)	3,276	3,276	716	716	2,324	2,312	3,416	3,416	1,428	1,428	2,308	2,304
λ	0.16	0.15	0.16	0.15	0.23	0.21	0.16	0.15	0.16	0.15	0.27	0.28
x	0.81	0.89	0.74	0.74	0.73	0.73	0.72	0.74	0.18	0.41	0.67	0.69
M=qc	14.00	14.53	2.80	2.67	12.67	11.73	12.93	12.67	1.33	2.93	13.73	15.07
Delay												
d	56.07	69.41	76.57	79.69	46.94	48.68	50.80	52.55	44.93	48.76	41.63	40.90
Junction Delay (sec)	**50.2**	**54.0**										

From TPDM Vol4 Table 4.2.5
Average Queue N calculated by
N=q(r/2+d) or qr,whichever the greater

where r = effective red time
q = flow (in same units as r and d)
d = average delay per vehicle

Approach:	Shap Pat Heung Road (WB) (STR & RT)		Shap Pat Heung Road (WB) (LT)		Tai Tong Road (NB) (STR & LT & RT)		Shap Pat Heung Road (EB) (STR)		Shap Pat Heung Road (EB) (LT)		Tai Tong Road (SB) (STR & LT & RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
r (sec)	101	102	101	102	93	95	101	102	101	102	88	86
N (veh)	**12**	**15**	**3**	**3**	**10**	**9**	**11**	**11**	**1**	**2**	**10**	**11**
Average Queue length (m)	**48.0**	**60.0**	**18.0**	**18.0**	**42.0**	**36.0**	**30.0**	**30.0**	**6.0**	**12.0**	**42.0**	**42.0**

JUNCTION DELAY CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: (C)Shap Pat Heung Road / Fung Ki Road
Description: 2028 Design Off-peak Traffic Flows

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda X)} + \frac{X}{2q(1-X)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} X^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm
λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c
x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/ĖS where S = saturation flow in veh/hour
c = Cycle time in seconds
g = Effective green time in seconds
q should be the flow in vehicles per second to give delay in seconds

Approach:	Shap Pat Heung Road (WB) (RT)		Shap Pat Heung Road (WB) (STR & LT)		The Access Road of The Reach (NB) (LT)		The Access Road of The Reach (NB) (STR & RT))		Shap Pat Heung Road (EB) (LT)		Shap Pat Heung Road (EB) (STR)		Fung Ki Road (SB) (LT)		Fung Ki Road (SB) (STR & RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
q (veh/hr)	248	332	408	464	12	12	28	36	112	148	480	452	276	384	68	108
g (sec)	45	48	41	51	6	6	6	6	45	40	45	40	52	62	6	6
c (sec)	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
s (veh/hr)	1,440	1,440	2,144	2,144	1,428	1,428	3,276	3,264	1,288	1,288	2,526	2,526	1,452	1,452	3,212	3,228
λ	0.35	0.37	0.32	0.39	0.05	0.05	0.05	0.05	0.35	0.31	0.35	0.31	0.40	0.48	0.05	0.05
x	0.50	0.62	0.60	0.55	0.18	0.18	0.19	0.24	0.25	0.37	0.55	0.58	0.48	0.55	0.46	0.72
M=qc	8.96	11.99	14.73	16.76	0.43	0.43	1.01	1.30	4.04	5.34	17.33	16.32	9.97	13.87	2.46	3.90
Delay																
d	35.70	36.60	39.37	32.04	62.42	62.42	60.40	60.64	31.60	37.06	35.47	39.23	30.77	26.31	62.55	76.38
Junction Delay (sec)	**37.0**	**36.5**														

From TPDM Vol4 Table 4.2.5
Average Queue N calculated by
N=q(r/2+d) or qr,whichever the greater

where r = effective red time
q = flow (in same units as r and d)
d = average delay per vehicle

Approach:	Shap Pat Heung Road (WB) (RT)		Shap Pat Heung Road (WB) (STR & LT)		The Access Road of The Reach (LT)		The Access Road of The Reach (STR & RT))		Shap Pat Heung Road (EB) (LT)		Shap Pat Heung Road (EB) (STR)		Fung Ki Road (SB) (LT)		Fung Ki Road (SB) (STR & RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
r (sec)	85	82	89	79	124	124	124	124	85	90	85	90	78	68	124	124
N (veh)	**6**	**8**	**10**	**10**	**0**	**0**	**1**	**1**	**3**	**4**	**11**	**11**	**6**	**7**	**2**	**4**
Average Queue length (m)	**36.0**	**48.0**	**42.0**	**42.0**	**0.0**	**0.0**	**0.0**	**6.0**	**18.0**	**24.0**	**36.0**	**36.0**	**36.0**	**42.0**	**6.0**	**12.0**

JUNCTION DELAY CALCULATION Job No: 21120HK **CTA Consultants Ltd.**

Junction: (D)Shap Pat Heung Road / Tai Kei Leung Road
Description: 2028 Design Off-peak Traffic Flows

TRRL Method (Transport Road Research Laboratory)

$$d = \frac{c(1-\lambda)^2}{2(1-\lambda X)} + \frac{X}{2q(1-X)} - 0.65\left(\frac{c}{q^2}\right)^{\frac{1}{3}} X^{(2+5\lambda)}$$

where d = average delay per vehicle on the particular arm
λ = proportion of the cycle which is effectively green for the phase under consideration i.e.f g/c
x = The degree of saturation. This is the ratio of actual flow to the maximum possible flow under the given setting of signals and equals 3600q/Ès where S = saturation flow in veh/hour
c = Cycle time in seconds
g = Effective green time in seconds
q should be the flow in vehicles per second to give delay in seconds

Approach:	Shap Pat Heung Road (SB) (STR)		Shap Pat Heung Road (NB) (STR)		Tai Kei Leng Road (EB) (RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
q (veh/hr)	892	840	700	716	468	452
g (sec)	50	50	50	50	30	30
c (sec)	90	90	90	90	90	90
s (veh/hr)	2,930	2,930	3,256	3,256	2,620	2,620
λ	0.56	0.56	0.56	0.56	0.33	0.33
x	0.55	0.52	0.39	0.40	0.54	0.52
M=qc	22.30	21.00	17.50	17.90	11.70	11.30
Delay						
d	13.70	13.31	11.86	11.94	25.58	25.34
Junction Delay (sec)	**10.7**	**9.9**				

From TPDM Vol4 Table 4.2.5
Average Queue N calculated by
N=q(r/2+d) or qr,whichever the greater

where r = effective red time
q = flow (in same units as r and d)
d = average delay per vehicle

Approach:	Shap Pat Heung Road (SB) (STR)		Shap Pat Heung Road (NB) (STR)		Tai Kei Leng Road (EB) (RT)	
	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak	A.M. Off-Peak	P.M. Off-Peak
r (sec)	40	40	40	40	60	60
N (veh)	**10**	**9**	**8**	**8**	**8**	**8**
Average Queue length (m)	**30.0**	**30.0**	**24.0**	**24.0**	**24.0**	**24.0**

Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.5.523 [19102,19/06/2015]

Filename: 21076HK Jn E.arc8
Path: \\PROJSRV\Project\CTA Consultants Limited\CTA - Project\21076HK (wkk) - Town planning application of Ma Tin Pok RCHE\Cal\2022-04-12
Report generation date: 12/4/2022 15:05:33

Summary of junction performance

	AM Off-Peak				PM Off-Peak			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	Shap Pat Heung Interchange - 2021 Existing							
Arm 1	0.47	2.23	0.32	A	2.23	4.88	0.69	A
Arm 2	0.72	2.06	0.42	A	1.40	3.46	0.58	A
Arm 3	1.63	4.19	0.62	A	1.79	4.64	0.64	A
	Shap Pat Heung Interchange - 2028 Design							
Arm 1	2.73	5.74	0.73	A	3.82	7.39	0.79	A
Arm 2	1.28	3.37	0.56	A	1.92	4.40	0.66	A
Arm 3	0.33	2.13	0.25	A	0.32	2.24	0.24	A
	Shap Pat Heung Interchange - 2028 Reference							
Arm 1	2.67	5.65	0.73	A	3.73	7.24	0.79	A
Arm 2	1.27	3.35	0.56	A	1.90	4.36	0.66	A
Arm 3	0.33	2.13	0.25	A	0.32	2.24	0.24	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2021 Existing, AM Off-Peak " model duration: 11:00 - 12:00
"D2 - 2021 Existing, PM Off-Peak" model duration: 16:00 - 17:00
"D3 - 2028 Reference, AM Off-Peak" model duration: 11:00 - 12:00
"D4 - 2028 Reference, PM Off-Peak" model duration: 16:00 - 17:00
"D5 - 2028 Design, AM Off-Peak" model duration: 11:00 - 12:00
"D6 - 2028 Design, PM Off-Peak" model duration: 16:00 - 17:00

Run using Junctions 8.0.5.523 at 12/4/2022 15:05:30

Generated on 12/4/2022 15:05:40 using Junctions 8 (8.0.5.523)

File summary

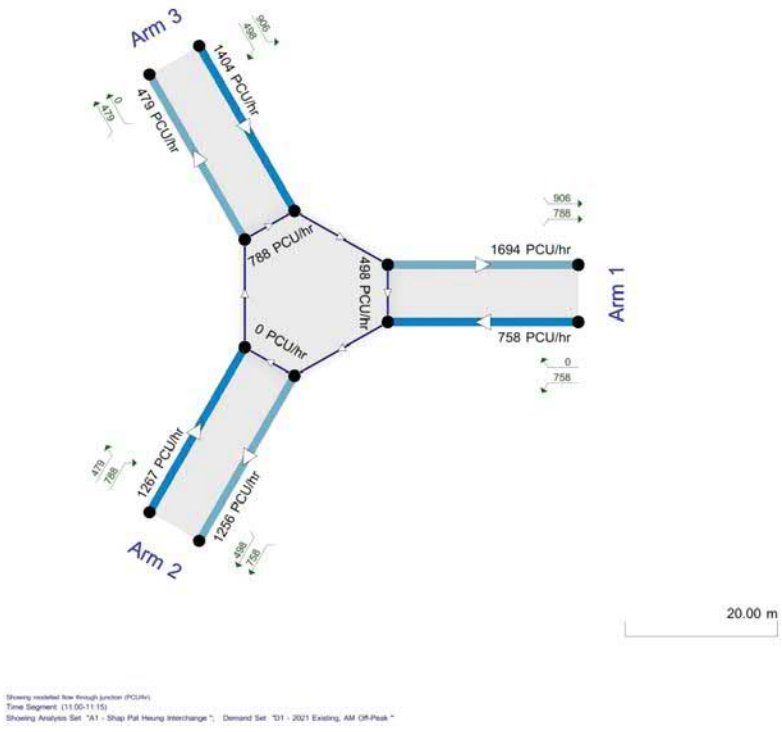
Title	(untitled)
Location	
Site Number	
Date	11/10/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ITADMIN
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	PCU	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of ARCADY.

Shap Pat Heung Interchange - 2021 Existing, AM Off-Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Shap Pat Heung Interchange	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 Existing, AM Off-Peak	2021 Existing	AM Off-Peak		FLAT	11:00	12:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
E	Shap Pat Heung Interchange	Roundabout	1,2,3			2.97	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Yuen Long Highway west bound	
2	2	Yuen Long Highway east bound	
3	3	Shap Pat Heung road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	7.30	9.70	20.00	26.36	100.00	41.00	
2	7.30	10.50	25.00	40.00	100.00	25.00	
3	7.30	10.20	30.00	30.00	100.00	50.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.579	2665.145
2		(calculated)	(calculated)	0.643	3020.964
3		(calculated)	(calculated)	0.582	2729.917

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	760.00	100.000
2	FLAT	✓	1270.00	100.000
3	FLAT	✓	1410.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
11:00-11:15	1	760.00	760.00		
11:00-11:15	2	1270.00	1270.00		
11:00-11:15	3	1410.00	1410.00		
11:15-11:30	1	760.00	760.00		
11:15-11:30	2	1270.00	1270.00		
11:15-11:30	3	1410.00	1410.00		
11:30-11:45	1	760.00	760.00		
11:30-11:45	2	1270.00	1270.00		
11:30-11:45	3	1410.00	1410.00		
11:45-12:00	1	760.00	760.00		
11:45-12:00	2	1270.00	1270.00		
11:45-12:00	3	1410.00	1410.00		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.000	760.000	0.000
	2	790.000	0.000	480.000
	3	910.000	500.000	0.000

Turning Proportions (PCU) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.00	1.00	0.00
	2	0.62	0.00	0.38
	3	0.65	0.35	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction E (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction E (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.32	2.23	0.47	A
2	0.42	2.06	0.72	A
3	0.62	4.19	1.63	A

Main Results for each time segment

Main results: (11:00-11:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	760.00	758.13	497.70	0.00	2376.95	0.320	0.47	2.222	A
2	1270.00	1267.11	0.00	0.00	3020.96	0.420	0.72	2.049	A
3	1410.00	1403.53	788.20	0.00	2270.84	0.621	1.62	4.121	A

Main results: (11:15-11:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	760.00	760.00	499.98	0.00	2375.63	0.320	0.47	2.227	A
2	1270.00	1269.99	0.00	0.00	3020.96	0.420	0.72	2.055	A
3	1410.00	1409.96	790.00	0.00	2269.79	0.621	1.63	4.186	A

Main results: (11:30-11:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	760.00	760.00	499.99	0.00	2375.62	0.320	0.47	2.227	A
2	1270.00	1270.00	0.00	0.00	3020.96	0.420	0.72	2.055	A
3	1410.00	1409.99	790.00	0.00	2269.79	0.621	1.63	4.186	A

Main results: (11:45-12:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	760.00	760.00	500.00	0.00	2375.62	0.320	0.47	2.227	A
2	1270.00	1270.00	0.00	0.00	3020.96	0.420	0.72	2.055	A
3	1410.00	1409.99	790.00	0.00	2269.79	0.621	1.63	4.186	A

Shap Pat Heung Interchange - 2021 Existing, PM Off-Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Shap Pat Heung Interchange	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2021 Existing, PM Off-Peak	2021 Existing	PM Off-Peak		FLAT	16:00	17:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
E	Shap Pat Heung Interchange	Roundabout	1,2,3			4.35	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Yuen Long Highway west bound	
2	2	Yuen Long Highway east bound	
3	3	Shap Pat Heung road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	7.30	9.70	20.00	26.36	100.00	41.00	
2	7.30	10.50	25.00	40.00	100.00	25.00	
3	7.30	10.20	30.00	30.00	100.00	50.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.579	2665.145
2		(calculated)	(calculated)	0.643	3020.964
3		(calculated)	(calculated)	0.582	2729.917

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1655.00	100.000
2	FLAT	✓	1460.00	100.000
3	FLAT	✓	1390.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:00-16:15	1	1655.00	1655.00		
16:00-16:15	2	1460.00	1460.00		
16:00-16:15	3	1390.00	1390.00		
16:15-16:30	1	1655.00	1655.00		
16:15-16:30	2	1460.00	1460.00		
16:15-16:30	3	1390.00	1390.00		
16:30-16:45	1	1655.00	1655.00		
16:30-16:45	2	1460.00	1460.00		
16:30-16:45	3	1390.00	1390.00		
16:45-17:00	1	1655.00	1655.00		
16:45-17:00	2	1460.00	1460.00		
16:45-17:00	3	1390.00	1390.00		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.000	845.000	810.000
	2	970.000	0.000	490.000
	3	920.000	470.000	0.000

Turning Proportions (PCU) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.00	0.51	0.49
	2	0.66	0.00	0.34
	3	0.66	0.34	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction E (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Generated on 12/4/2022 15:05:40 using Junctions 8 (8.0.5.523)

Heavy Vehicle Percentages - Junction E (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.69	4.88	2.23	A
2	0.58	3.46	1.40	A
3	0.64	4.64	1.79	A

Main Results for each time segment

Main results: (16:00-16:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1655.00	1646.20	467.61	0.00	2394.37	0.691	2.20	4.758	A
2	1460.00	1454.45	805.69	0.00	2502.69	0.583	1.39	3.416	A
3	1390.00	1382.95	966.31	0.00	2167.10	0.641	1.76	4.550	A

Main results: (16:15-16:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1655.00	1654.91	469.98	0.00	2393.00	0.692	2.22	4.875	A
2	1460.00	1459.96	809.96	0.00	2499.95	0.584	1.40	3.460	A
3	1390.00	1389.94	969.98	0.00	2164.96	0.642	1.78	4.644	A

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1655.00	1654.97	469.99	0.00	2393.00	0.692	2.23	4.877	A
2	1460.00	1459.99	809.99	0.00	2499.93	0.584	1.40	3.460	A
3	1390.00	1389.98	969.99	0.00	2164.95	0.642	1.78	4.645	A

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1655.00	1654.99	470.00	0.00	2392.99	0.692	2.23	4.877	A
2	1460.00	1460.00	809.99	0.00	2499.93	0.584	1.40	3.460	A
3	1390.00	1389.99	970.00	0.00	2164.95	0.642	1.79	4.645	A

Shap Pat Heung Interchange - 2028 Reference, AM Off-Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Shap Pat Heung Interchange	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2028 Reference, AM Off-Peak	2028 Reference	AM Off-Peak		FLAT	11:00	12:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
E	Shap Pat Heung Interchange	Roundabout	1,2,3			4.25	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Yuen Long Highway west bound	
2	2	Yuen Long Highway east bound	
3	3	Shap Pat Heung road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	7.30	9.70	20.00	26.36	100.00	41.00	
2	7.30	10.50	25.00	40.00	100.00	25.00	
3	7.30	10.20	30.00	30.00	100.00	50.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.579	2665.145
2		(calculated)	(calculated)	0.643	3020.964
3		(calculated)	(calculated)	0.582	2729.917

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1710.00	100.000
2	FLAT	✓	1370.00	100.000
3	FLAT	✓	550.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
11:00-11:15	1	1710.00	1710.00		
11:00-11:15	2	1370.00	1370.00		
11:00-11:15	3	550.00	550.00		
11:15-11:30	1	1710.00	1710.00		
11:15-11:30	2	1370.00	1370.00		
11:15-11:30	3	550.00	550.00		
11:30-11:45	1	1710.00	1710.00		
11:30-11:45	2	1370.00	1370.00		
11:30-11:45	3	550.00	550.00		
11:45-12:00	1	1710.00	1710.00		
11:45-12:00	2	1370.00	1370.00		
11:45-12:00	3	550.00	550.00		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.000	815.000	895.000
	2	845.000	0.000	525.000
	3	0.000	550.000	0.000

Turning Proportions (PCU) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.00	0.48	0.52
	2	0.62	0.00	0.38
	3	0.00	1.00	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction E (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction E (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.73	5.65	2.67	A
2	0.56	3.35	1.27	A
3	0.25	2.13	0.33	A

Generated on 12/4/2022 15:05:40 using Junctions 8 (8.0.5.523)

Main Results for each time segment

Main results: (11:00-11:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1710.00	1699.51	548.70	0.00	2347.42	0.728	2.62	5.472	A
2	1370.00	1364.96	889.51	0.00	2448.78	0.559	1.26	3.307	A
3	550.00	548.70	841.89	0.00	2239.57	0.246	0.32	2.128	A

Main results: (11:15-11:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1710.00	1709.87	550.00	0.00	2346.67	0.729	2.65	5.651	A
2	1370.00	1369.97	894.93	0.00	2445.29	0.560	1.27	3.347	A
3	550.00	550.00	844.98	0.00	2237.77	0.246	0.33	2.132	A

Main results: (11:30-11:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1710.00	1709.96	550.00	0.00	2346.67	0.729	2.67	5.653	A
2	1370.00	1369.99	894.98	0.00	2445.26	0.560	1.27	3.347	A
3	550.00	550.00	844.99	0.00	2237.76	0.246	0.33	2.132	A

Main results: (11:45-12:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1710.00	1709.98	550.00	0.00	2346.67	0.729	2.67	5.653	A
2	1370.00	1370.00	894.99	0.00	2445.25	0.560	1.27	3.347	A
3	550.00	550.00	845.00	0.00	2237.76	0.246	0.33	2.132	A

Shap Pat Heung Interchange - 2028 Reference, PM Off-Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Shap Pat Heung Interchange	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2028 Reference, PM Off-Peak	2028 Reference	PM Off-Peak		FLAT	16:00	17:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
E	Shap Pat Heung Interchange	Roundabout	1,2,3			5.44	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Yuen Long Highway west bound	
2	2	Yuen Long Highway east bound	
3	3	Shap Pat Heung road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	7.30	9.70	20.00	26.36	100.00	41.00	
2	7.30	10.50	25.00	40.00	100.00	25.00	
3	7.30	10.20	30.00	30.00	100.00	50.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.579	2665.145
2		(calculated)	(calculated)	0.643	3020.964
3		(calculated)	(calculated)	0.582	2729.917

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Generated on 12/4/2022 15:05:40 using Junctions 8 (8.0.5.523)

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1870.00	100.000
2	FLAT	✓	1575.00	100.000
3	FLAT	✓	515.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:00-16:15	1	1870.00	1870.00		
16:00-16:15	2	1575.00	1575.00		
16:00-16:15	3	515.00	515.00		
16:15-16:30	1	1870.00	1870.00		
16:15-16:30	2	1575.00	1575.00		
16:15-16:30	3	515.00	515.00		
16:30-16:45	1	1870.00	1870.00		
16:30-16:45	2	1575.00	1575.00		
16:30-16:45	3	515.00	515.00		
16:45-17:00	1	1870.00	1870.00		
16:45-17:00	2	1575.00	1575.00		
16:45-17:00	3	515.00	515.00		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.000	905.000	965.000
	2	1040.000	0.000	535.000
	3	0.000	515.000	0.000

Turning Proportions (PCU) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.00	0.48	0.52
	2	0.66	0.00	0.34
	3	0.00	1.00	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction E (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction E (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.79	7.24	3.73	A
2	0.66	4.36	1.90	A
3	0.24	2.24	0.32	A

Main Results for each time segment

Main results: (16:00-16:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1870.00	1855.51	513.73	0.00	2367.67	0.790	3.62	6.848	A
2	1575.00	1567.51	957.52	0.00	2405.03	0.655	1.87	4.262	A
3	515.00	513.73	1035.06	0.00	2127.06	0.242	0.32	2.228	A

Main results: (16:15-16:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1870.00	1869.72	515.00	0.00	2366.94	0.790	3.69	7.229	A
2	1575.00	1574.92	964.86	0.00	2400.31	0.656	1.89	4.361	A
3	515.00	515.00	1039.94	0.00	2124.21	0.242	0.32	2.236	A

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1870.00	1869.91	515.00	0.00	2366.94	0.790	3.72	7.237	A
2	1575.00	1574.98	964.95	0.00	2400.25	0.656	1.90	4.361	A
3	515.00	515.00	1039.98	0.00	2124.19	0.242	0.32	2.236	A

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1870.00	1869.95	515.00	0.00	2366.93	0.790	3.73	7.240	A
2	1575.00	1574.99	964.98	0.00	2400.23	0.656	1.90	4.362	A
3	515.00	515.00	1039.99	0.00	2124.18	0.242	0.32	2.236	A

Shap Pat Heung Interchange - 2028 Design, AM Off-Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Shap Pat Heung Interchange	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2028 Design, AM Off-Peak	2028 Design	AM Off-Peak		FLAT	11:00	12:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
E	Shap Pat Heung Interchange	Roundabout	1,2,3			4.30	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Yuen Long Highway west bound	
2	2	Yuen Long Highway east bound	
3	3	Shap Pat Heung road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	7.30	9.70	20.00	26.36	100.00	41.00	
2	7.30	10.50	25.00	40.00	100.00	25.00	
3	7.30	10.20	30.00	30.00	100.00	50.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.579	2665.145
2		(calculated)	(calculated)	0.643	3020.964
3		(calculated)	(calculated)	0.582	2729.917

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1720.00	100.000
2	FLAT	✓	1370.00	100.000
3	FLAT	✓	550.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
11:00-11:15	1	1720.00	1720.00		
11:00-11:15	2	1370.00	1370.00		
11:00-11:15	3	550.00	550.00		
11:15-11:30	1	1720.00	1720.00		
11:15-11:30	2	1370.00	1370.00		
11:15-11:30	3	550.00	550.00		
11:30-11:45	1	1720.00	1720.00		
11:30-11:45	2	1370.00	1370.00		
11:30-11:45	3	550.00	550.00		
11:45-12:00	1	1720.00	1720.00		
11:45-12:00	2	1370.00	1370.00		
11:45-12:00	3	550.00	550.00		

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.000	815.000	905.000
	2	845.000	0.000	525.000
	3	0.000	550.000	0.000

Turning Proportions (PCU) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.00	0.47	0.53
	2	0.62	0.00	0.38
	3	0.00	1.00	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction E (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction E (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.73	5.74	2.73	A
2	0.56	3.37	1.28	A
3	0.25	2.13	0.33	A

Main Results for each time segment

Main results: (11:00-11:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1720.00	1709.29	548.70	0.00	2347.42	0.733	2.68	5.553	A
2	1370.00	1364.93	899.36	0.00	2442.44	0.561	1.27	3.327	A
3	550.00	548.70	841.87	0.00	2239.58	0.246	0.32	2.128	A

Main results: (11:15-11:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1720.00	1719.87	550.00	0.00	2346.67	0.733	2.71	5.739	A
2	1370.00	1369.97	904.93	0.00	2438.86	0.562	1.28	3.367	A
3	550.00	550.00	844.98	0.00	2237.77	0.246	0.33	2.132	A

Main results: (11:30-11:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1720.00	1719.96	550.00	0.00	2346.67	0.733	2.72	5.741	A
2	1370.00	1369.99	904.98	0.00	2438.83	0.562	1.28	3.367	A
3	550.00	550.00	844.99	0.00	2237.76	0.246	0.33	2.132	A

Main results: (11:45-12:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1720.00	1719.98	550.00	0.00	2346.67	0.733	2.73	5.744	A
2	1370.00	1370.00	904.99	0.00	2438.82	0.562	1.28	3.367	A
3	550.00	550.00	845.00	0.00	2237.76	0.246	0.33	2.132	A

Shap Pat Heung Interchange - 2028 Design, PM Off-Peak

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
Shap Pat Heung Interchange	ARCADY			100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Single Time Segment Only	Locked
2028 Design, PM Off-Peak	2028 Design	PM Off-Peak		FLAT	16:00	17:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
E	Shap Pat Heung Interchange	Roundabout	1,2,3			5.53	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Yuen Long Highway west bound	
2	2	Yuen Long Highway east bound	
3	3	Shap Pat Heung road	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	7.30	9.70	20.00	26.36	100.00	41.00	
2	7.30	10.50	25.00	40.00	100.00	25.00	
3	7.30	10.20	30.00	30.00	100.00	50.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.579	2665.145
2		(calculated)	(calculated)	0.643	3020.964
3		(calculated)	(calculated)	0.582	2729.917

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	FLAT	✓	1880.00	100.000
2	FLAT	✓	1575.00	100.000
3	FLAT	✓	515.00	100.000

Direct/Resultant Flows

Direct Flows Data

Time Segment	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
16:00-16:15	1	1880.00	1880.00		
16:00-16:15	2	1575.00	1575.00		
16:00-16:15	3	515.00	515.00		
16:15-16:30	1	1880.00	1880.00		
16:15-16:30	2	1575.00	1575.00		
16:15-16:30	3	515.00	515.00		
16:30-16:45	1	1880.00	1880.00		
16:30-16:45	2	1575.00	1575.00		
16:30-16:45	3	515.00	515.00		
16:45-17:00	1	1880.00	1880.00		
16:45-17:00	2	1575.00	1575.00		
16:45-17:00	3	515.00	515.00		

Generated on 12/4/2022 15:05:40 using Junctions 8 (8.0.5.523)

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.000	905.000	975.000
	2	1040.000	0.000	535.000
	3	0.000	515.000	0.000

Turning Proportions (PCU) - Junction E (for whole period)

		To		
		1	2	3
From	1	0.00	0.48	0.52
	2	0.66	0.00	0.34
	3	0.00	1.00	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction E (for whole period)

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction E (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.79	7.39	3.82	A
2	0.66	4.40	1.92	A
3	0.24	2.24	0.32	A

Main Results for each time segment

Main results: (16:00-16:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1880.00	1865.15	513.73	0.00	2367.67	0.794	3.71	6.971	A
2	1575.00	1567.46	967.30	0.00	2398.74	0.657	1.89	4.293	A
3	515.00	513.73	1035.02	0.00	2127.08	0.242	0.32	2.228	A

Main results: (16:15-16:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1880.00	1879.71	515.00	0.00	2366.94	0.794	3.79	7.377	A
2	1575.00	1574.91	974.85	0.00	2393.88	0.658	1.91	4.395	A
3	515.00	515.00	1039.94	0.00	2124.21	0.242	0.32	2.236	A

Main results: (16:30-16:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1880.00	1879.90	515.00	0.00	2366.94	0.794	3.81	7.386	A
2	1575.00	1574.98	974.95	0.00	2393.82	0.658	1.91	4.396	A
3	515.00	515.00	1039.98	0.00	2124.19	0.242	0.32	2.236	A

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	1880.00	1879.95	515.00	0.00	2366.93	0.794	3.82	7.389	A
2	1575.00	1574.99	974.97	0.00	2393.80	0.658	1.92	4.396	A
3	515.00	515.00	1039.99	0.00	2124.18	0.242	0.32	2.236	A

APPENDIX 8A

TRAFFIC STATEMENT

Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

Traffic Statement

1. INTRODUCTION

1.1 This Traffic Statement is to support the Section 16 (S16) planning application for Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long.

1.2 The applicant has put forward a conservation-cum-development proposal on the Site. A S16 planning application (Planning Application No. A/YL/289) was approved in July 2022. A new S16 planning application with new development parameters is now applying.

1.3 The tentative development parameters for the Proposals are shown below:

Table 1.1 Development Parameters for the Approved Scheme (Planning Application No. A/YL/289)

Site Area	About 1,953 m^2
GFA	About 5,930 m^2
No. of Beds	281 (or within a range of 260 – 300)

Table 1.2 Development Parameters for the This Application

Site Area	About 1,877.1 m^2
GFA	About 6,956 m^2
No. of Beds	241 beds (or within a range of 220 – 260)

1.4 This Traffic Statement is therefore prepared to identify the magnitude of the change in traffic volume generated from the proposed development, and its impact due to this minor change.

2. THE FINDINGS

2.1 **Table 2.1** gives a detail calculation on the estimated traffic trips induced by the proposed development.

Table 2.1 Derivation of the Traffic Trips on the Scenarios

	Approved Scheme (Planning Application No. A/YL/289)				**This Application**			
Site Area	About 1,953 m^2				About 1,877.1 m^2			
GFA	About 5,930 m^2				About 6,956 m^2			
No. of Beds	281 beds (or within a range of 260 – 300)				241 beds (or within a range of 220 – 260)			
	AM Peak		**PM Peak**		**AM Peak**		**PM Peak**	
	Gen.	**Attn.**	**Gen.**	**Attn.**	**Gen.**	**Attn.**	**Gen.**	**Attn.**
Trip Rates (pcu/hr/flat)	0.08633	0.08633	0.08633	0.08633	0.08633	0.08633	0.08633	0.08633
Trips (pcu/hr)	**26**	**21**	**13**	**17**	**22**	**18**	**11**	**15**

Note:

1) Upper range of no. of beds is adopted as conservative approach.

2.2 **Table 2.2** gives a comparison of the traffic generated by the development with 300 beds and 260 beds.

Table 2.2 Comparison of the Traffic Trips

	Peak Hour Trips (pcu/hr)			
	AM Peak		**PM Peak**	
	Gen.	**Attn.**	**Gen.**	**Attn.**
This Application (260 beds)	22	18	11	15
Approved Scheme (300 beds)	26	21	13	17
Difference	**-4**	**-3**	**-2**	**-2**

2.3 From **Table 2.2**, it is revealed that the decrease of no. of beds from 300 to 260 will generate lesser traffic trips in the peak hours.

3. CONCLUSION

3.1 With the decrease of no. of beds from 300 to 260, the proposed development will generate lesser traffic trips in the peak hours. The traffic impact by the proposed development to road network under the new application will be even smaller than the approved scheme.

3.2 Therefore, the assessment in the TIA (Planning Application No. A/YL/289) approved in July 2022 is already in conservative approach and could be adopted for this new application. The proposed change is therefore considered acceptable from traffic engineering point of view.

APPENDIX 9

JUSTIFICATION REVIEW OF QUANTITATIVE RISK ASSESSMENT

REVIOUSLY SUBMITTED FOR THE SECOND PLANNING APPLICATION (A/YL/289)

Project:	SECTION 16 PLANNING APPLICATION FOR PROPOSED CONSERVATION OF HISTORIC BUILDING AND MINOR RELAXATION OF BUILDING HEIGHT RESTRICTION FOR PERMITTED SOCIAL WELFARE FACILITY (RESIDENTIAL CARE HOME FOR THE ELDERLY) AT LOT NOS.1695 S.E SS. 1 RP, 1695 S.F SS.1, 1695 S.H RP (PART) AND ADJOINING GOVERNMENT LAND IN D.D. 120, TAI KEI LENG, YUEN LONG, NEW TERRITORIES JUSTIFICATION REVIEW OF QUANTITATIVE RISK ASSESSMENT FOR CALTEX PETROL FILLING STATION
Report No.:	RT21220-QRA-01

Revision	Issue Date	Description	Author	Checker	Approver
0	08/12/21	Issued for Comment	BW	YS	HM

Prepared by:

Ben Wong
Consultant

Checked by:

Sui Hang Yan
Technical Director

Approved by:

Henry Mak
Director

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Abbreviation

AADT	Annual Average Daily Traffic
ATC 2020	Annual Traffic Census 2020
ETA	Event tree analysis
GIS	Geographic Information System
HAD	Home Affairs Department
HKPSG	Hong Kong Planning Standards and Guidelines
PFS	Petrol Filling Station
QRA	Quantitative Risk Assessment
VCE	Vapour Cloud Explosion

1. Introduction

A social welfare facility for residential care home for the elderly (RCHE) has been proposed at Lot Nos.1695 S.E ss. 1 RP, 1695 S.F SS.1 and 1695 S.H RP (Part) in D.D. 120, Tai Kei Leng, Yuen Long, New Territories (the proposed Site), which is located at Tai Tong Road, Yuen Long and is adjacent to the Caltex Petrol Filling Station (here referred as 'Caltex PFS').

With reference to the Hong Kong Planning Standards and Guidelines" [1] (HKPSG) *Chapter 12 Section 3.7.1*, the development of Patrol Filling Station (PFS) without LPG filling facilities is governed under the Dangerous Goods Ordinance, Cap. 295, as well as other relevant ordinances

A Quantitative Risk Assessment Report conducted by Cundall Hong Kong Limited was previously submitted and approved by the EPD and Town Planning Board (hereafter called as approved QRA). Since the applicant would apply for a minor relaxation of height restriction and thus the commencement of construction period would be rescheduled from 2021 to 2022 and the operation period would be changed from 2023 to 2025. A justification review is conducted to evaluate if any changes in the key assessment parameters and thus the major risk levels associated with Caltex PFS compared with the approved QRA Study.

2. Justification of Surrounding Population and Meteorological Data

2.1 Pedestrian Population

Based on the approved QRA for the same site, pedestrian flow was assessed by site survey in March 2019 and it is anticipated that pedestrian population will be reduced due to the pandemic situation during 2021. As such the result of the pedestrian population in the approved QRA will be adopted and shall be considered as a conservative approach. As such, no update will be made on the pedestrian population.

2.2 Road Traffic Population

The traffic population was estimated using the average vehicle occupancy from Core Station 5016 "San Tin Highway Castle Peak Rd & San Tam Rd (from Kam Tin Rd to Fairview Park Boulevard)" of ATC 2020[3]. Based on the approved QRA, the AADT in 2020 was 81,870 which is less than the data in 2017 with 90,650. There is a 9.6% decrease in the traffic population.

In comparison to the latest 5-year annual traffic census (from 2013 to 2017) mentioned in the approved QRA, the latest 5-year annual traffic censuses (from 2016 to 2020) for the public traffic roads (Shap Pat Heung Road Station No.: 5711) within the proposed study zone was:

Table 1 Average Annual Growth Rate from 2013 to 2017 of Shap Pat Heung Road Station No.:5711

Year	2013	2017
AADT	17540	21810
Avg. Annual Growth Rate	5.6%	

Table 2 Average Annual Growth Rate from 2016 to 2020 of Shap Pat Heung Road Station No.:5711

Year	2016	2020
AADT	21960	26860
Avg. Annual Growth Rate	5.2%	

Based on the approved QRA, the estimated average annual growth rate from 2013 to 2017 was 5.6% (**Table 1**) while the average annual growth rate from 2016 to 2020 was 5.2% (**Table 2**). The decrease of growth rate from 2016 to 2020 will be adopted in the estimation of the traffic population within the proposed study zone in construction phase in and operation phase. Due to the slight decrease in the average annual growth rate, there will be no significant change in the risk assessment.

2.3 Land and Building Population

The population updated within the proposed study zone on the following data:

- Projections of Population Distribution 2021 — 2029

According to latest Projections of Population Distribution 2021 — 2029 issued by Planning Department [4], the population of tertiary planning unit 524 is summarised in **Table 3.**

According to the latest Project of Population Distribution 2021 — 2029 [20], the projected population up to year 2020 is available.

Table 3 Population Growth Factor for Residential of Tertiary Planning Unit 524

Year	2019	2020	2021	2022	2023	2024	2025
Population	77,300	76,300	76,000	76,200	77,000	78,400	78,300

According to the approved QRA, the used population is 83,007 in 2023, which was projected linearly from data of 2014 – 2020. By using the updated population of 78,300 in 2025 would not violate the simulation result.

2.4 Meteorological Data

In comparison to the latest 5-year Weather Observation (from 2010 to 2014) mentioned in the approved QRA, the latest 5-year Weather Observation (from 2016 to 2020) of the Wetland Park Weather Station is used for Justification and provided in **Table 4** and **Table 5** respectively.

Table 4 Weather Observation by Year from 2010-2014 (Hong Kong Observatory)

Year	2010	2011	2012	2013	2014
Prevailing Wind Direction (degrees)	160	60	60	60	160
Mean Wind Speed (km/h)	7.1	6.9	6.9	6.8	6.2

Table 5 Weather Observation by Year from 2016-2020 (Hong Kong Observatory)

Year	2010	2011	2012	2013	2014
Prevailing Wind Direction (degrees)	60	60	60	60	60
Mean Wind Speed (km/h)	6	5.8	6	5.8	5.5

Weather observation data in 2016-2020 showed a lower average wind speed (5.82km/h) comparing to data in 2010-2014 (6.78km/h) with similar wind direction. Wind speed, wind stability and direction data taken and adopted for the approved QRA report still valid. Therefore, no adverse meteorological factors were identified due to the updated weather data.

3. Justification of Hazard Identification

Hazard of PFS is not further identified in this Justification as the CALTEX PFS has no new installation or change of equipment. No significant Hazard causing the increase of risk is found in this report.

4. Justification of Frequency Analysis

4.1 Overview

In frequency analysis, the probability of an accidental petrol release was assessed depending on the likelihood of containment failure. Base failure frequencies and Ignition and Explosion Probability were remaining constant, which were retrieved from historical data from other QRA studies, as such the only adjustment of the road traffic accident statistics was reviewed.

4.2 Road Tanker Unloading / Vehicle Refueling Operation

Road traffic accident statistics (**Table 4**) from the Transport Department showed that 84% of all road accidents in Hong Kong was under slight collision, 15% (take 20% in the aforementioned calculation) was under serious collision and less than 1% was under fatal collision. Referring to the approved QRA report, there was only minimal change in percentage and the amount of traffic accident per year. The proposed change of traffic accident data used in the simulation is in humble scale and is recessive and acceptable. Detailed road traffic accidents by severity are provided in **Table 6**.

Table 6 Road Traffic Accidents by Severity (2000-2020) [5]

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
Fatal	162	167	162	173	160	139	135	153	143
Serious	2,838	3,165	3,118	2,674	2,519	2,504	2,315	2,376	2,096
Slight	11,949	12,299	12,296	11,589	12,347	12,419	12,399	12,786	12,337
Total	**14,949**	**15,631**	**15,576**	**14,436**	**15,026**	**15,062**	**14,849**	**15,315**	**14,576**

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017
Fatal	126	114	128	116	128	99	117	129	104
Serious	1,943	2,052	2,190	2,385	2,476	2,508	2,510	2,379	2,070
Slight	12,247	12,777	13,223	13,393	13,485	13,183	13,543	13,591	13,551
Total	**14,316**	**14,943**	**15,541**	**15,894**	**16,089**	**15,790**	**16,170**	**16,099**	**15,725**

Year	2018	2019	2020	Total
Fatal	107	107	96	2,765
Serious	1,682	1,831	1,912	49,543
Slight	14,146	14,164	13,290	271,014
Total	**15,935**	**16,102**	**15,298**	**323,322**

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5. No Significant Adverse Consequence

Based on a constant physical effect model and consequence end-point criteria, the hazardous release and effects zones on the surrounding population were predicted to remain unchanged. There is no further adverse impact of the hazardous outcomes on the surrounding population.

6. No Insurmountable Risk

6.1 Risk Criteria

The off-site risk levels of hazardous installations were still in line with Hong Kong Risk Guidelines stipulated in Chapter 12 of the HKPSG by the Planning Department to determine the acceptability [1].

Individual Risk

The maximum level of off-site Individual Risk associated with the hazardous installations in Hong Kong should not exceed 1 in 100,000 years, i.e. 10^{-5} per year.

Societal Risk

The societal risk guideline is expressed in terms of lines plotting the frequency (F) of N or more fatalities in the estimated off-site population from hazardous scenarios at the facility of concern.

6.2 Review of Risk Assessment Results

The individual risk contour (10^{-5} per year with consideration of exposure factor 10%) remains unchanged as the site boundary of Caltex PFS does not change compared with the approved QRA studies; thus, the individual risks of Caltex PFS are in compliance with the Hong Kong Risk Guidelines.

The societal risks of Caltex PFS during Construction and Operation Phases of the Development in 2025 was considered with the updated traffic and population data. It is evaluated that Caltex PFS for Construction Phase (2021) and Operation Phase (2025) should reside in the "Acceptable" region.

The risk review was conducted and the outcome results in terms of individual risk, and societal risk should be found no significant conflict with the approved QRA due to the insignificant changes in the assessment parameters.

7. Conclusions

This Justification review has been conducted to review if risks associated with Caltex PFS are in compliance with Hong Kong Risk Guidelines in 2025 after an introduction of an additional population from the Proposed Development in vicinity of Caltex PFS during Construction and Operation Phases. Most likely the updated data in this review include the Projection of Population, AADT, Road Traffic Accidents would not bring significant adverse risk in 2025.

Individual Risk

The individual risk contour according to the approved report [2] of 10^{-5}per year with consideration of exposure factor of 10% was unchanged and confined within the unchanged site boundary of Caltex PFS. Therefore, the individual risks of Caltex PFS are still in compliance with the Hong Kong Risk Guidelines.

Societal Risk

Comparing the data for 2025 and that for 2023, the two set of data was with high resemblance that the result had proven to be effective. Therefore, it could be concluded that the additional information in the review would not incur significant impact to the simulation result on the exiting risk. The societal risks associated with Caltex PFS during both Construction and Operation Phases are in compliance with Hong Kong Risk Guidelines in terms of societal risk.

Conclusions

The qualitative review for QRA was conducted regarding to the operation stage in 2025, as such the risks are in compliance with Hong Kong Risk Guidelines in terms of the individual risk and societal risk, and no particular mitigation measures are required to manage the risks. This justification review supported that the QRA report is still acceptable and valid for the operation phase of PFS by 2025.

8. References

[1] Planning Department, The Government of the Hong Kong Special Administrative Region of the People's Republic of China, Hong Kong Planning Standards & Guidelines Chapter 12, Section 4.4, Hong Kong Risk Guidelines for Potential Hazardous Installations.

[2] Proposed Heritage Conversation of Siu Lo Cum Elderly Care Home Development at Lot DD123, Tai Tong Road, Yuen Long, Cundall,2019

[3] Transport Department, The Annual Traffic Census 2020, September 2021

[4] Planning Department, Projections of Population Distribution 2021-2029, https://www.pland.gov.hk/pland_en/info_serv/statistic/wgpd21.html

[5] Transport Department, Road Traffic Accident Statistics, 2000-2020, https://www.td.gov.hk/en/road_safety/road_traffic_accident_statistics/index.html

APPENDIX 9A

QRA STATEMENT

17 March 2023

Our Ref. No.: RT21220-L02

Town Planning Board Secretariat
15/F, North Point Government Offices
333 Java Road, North Point, Hong Kong
cc.
Fire Services Department
Planning Group
9th Floor, Fire Services Headquarters Building,
1 Hong Chong Road, Tsim Sha Tsui East, Kowloon
(Attn.: Mr. LI Shing To [Sr Station Offr (Planning Group)4])

Dear Sir/Madam,

Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

This Statement is to support the Section 16 (S16) planning application for captioned development.

The following mitigation measures are proposed to address the associated risks posed by a nearby Petrol Filling Station (PFS) to the proposed development:

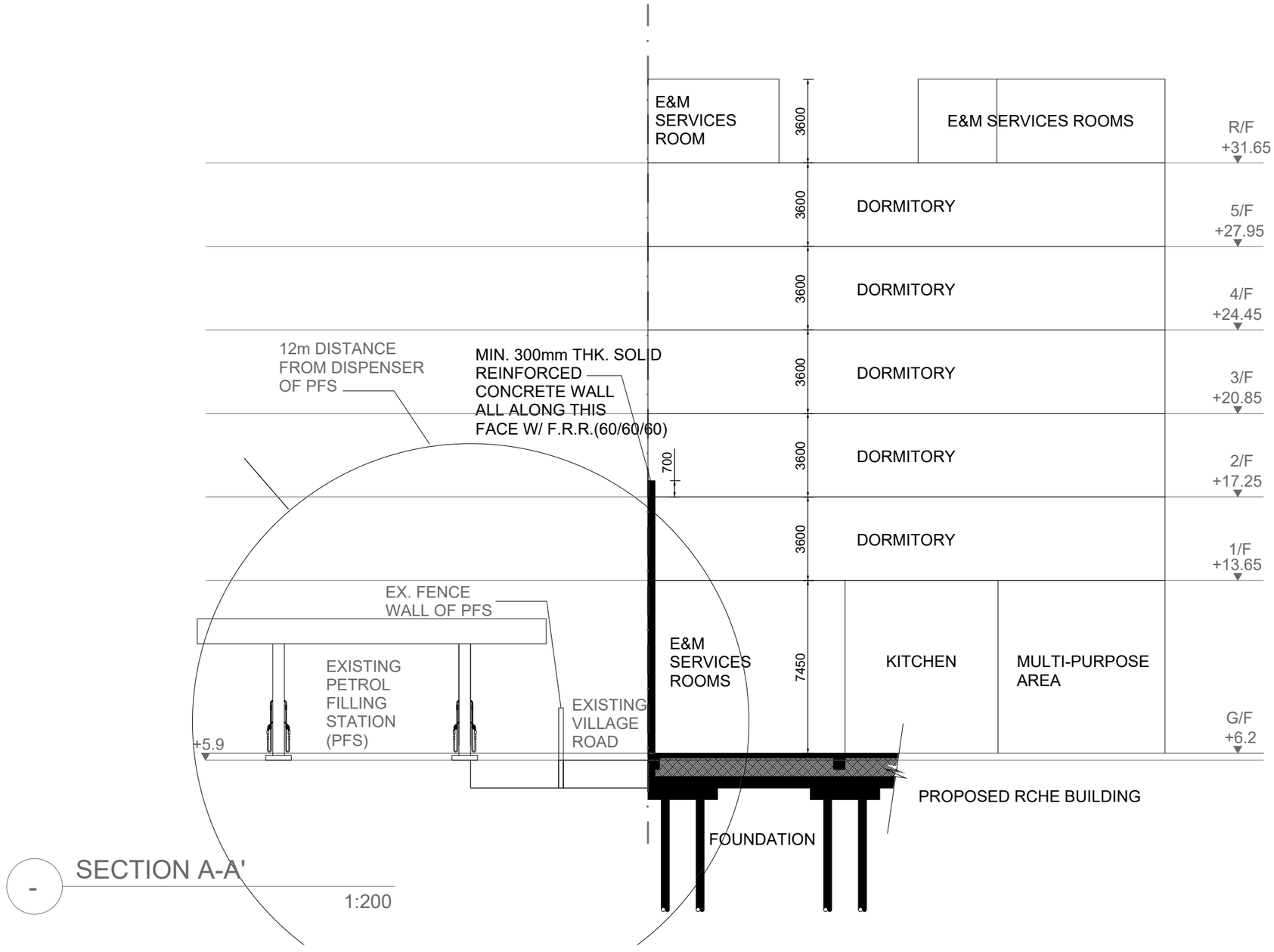
- A solid reinforced concrete wall, with a Fire Resistance Rating of at least 2 hours and a thickness of at least 300 mm, to be built from G/F to 2/F along the wall of the proposed building facing the nearby PFS;
- No intake / exhaust openings of the proposed building should be built within 12m from the dispenser of the PFS; and
- No emergency exit / entrance of the proposed building should be built within 12m from the dispenser of the PFS.

Enclosed please find drawing (GP-08) showing the proposed reinforced concrete wall and the Justification Review on the risk assessment report.

Should you have any queries, please do not hesitate to contact the undersigned at (852) 3568 4701 or through email: henry.mak@beexergy.com.

Yours faithfully,

Mr. Henry Mak
Managing Director
BeeXergy Consulting Limited



SECTION A-A'

1:200

PROJECT NO. 項目編號 : HK-A22006

- Do not scale drawings: figured dimensions are to be taken in preference.
不可縮放圖紙；如有標示尺寸，須以標示尺寸為準。
- All dimensions should be checked and verify on site before commencing any work: discrepancies found in this drawing shall be reported to the designer.
所有於圖紙上標示的尺寸，須於現場覆核和修正。如在地盤發現有任何與圖紙不符之處，須盡快通知設計師。
- This drawing should not be used as construction drawings without approval.
除有批核外，此圖不可作為施工用。

AMENDMENT PARTICULARS
更改細節 :

Revision 修正版	Description 內容	Date 日期
1	SUBMISSION	20230315
A		
B		
C		
D		
E		
F		
G		
H		

TOWN PLANNER & SURVEYOR
城市規劃師及測量師 :
DeSPACE (International) Limited
E-mail 電郵 : despaceinternational@gmail.com
Tel 電話 : 2493 3626

ARCHITECT 建築師 :
MINOR 細
CREATIVE 作室
E-mail 電郵 : info@minorcreative.com

AP, STRUCT ENGINEER
認可人士, 結構工程師 :
S.T. WONG & PARTNERS LIMITED
E-mail 電郵 : irstwong@gmail.com
Tel 電話 : 2625 1776
Fax 傳真 : 2467 9618

E&M CONSULTANT 機電顧問 :
WEC Engineering Consultants (International) Limited
Fax 傳真 : 2399 0066
Tel 電話 : 2393 8688

TRAFFIC CONSULTANT 交通顧問 :
CTA Consultants Limited 志達顧問有限公司

PROJECT NAME
項目名稱 :
Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal at Lot nos. 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

DRAWING TITLE 圖紙名稱 : SECTIONAL RELATIONSHIP W/ PETROL STATION

DESIGN IN CHARGE 設計負責人 : KL

DWG NO. 圖紙編號 : F-101

SCALE 比例 : 1:200@A3

DATE 日期 : 20230315

APPENDIX 10

Summary Table of Various Departmental Comments

Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal in "Government, Institution or Community (1)" Zone at Lots 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D.120 and Adjoining Government Land, Tai Kei Leng, Yuen Long, New Territories

(Application No. A/YL/302)

Response-to-Comment Table

Departmental Comments	Response
Email from PlanD received on 9 August 2023 refers: **Buildings Department:**	
On Further Information (3) (FI(3)) received on 15.6.2023: (a) Regarding the proposed high headroom (7450mm) on G/F in general building plans received by this department on 27.3.2023 and mentioned in applicant's letter dated 15.6.2023 in FI(3), please be advised that the Authorized Person had been required to provide further justification for high headroom on the whole G/F, in particular of the areas not involving the historical building. Paragraph 7(D)(v) in our disapproval letter dated 24.5.2023 refers.	Further justification for high headroom on the whole G/F, in particular of the areas not involving the historical building, would be provided during building plan submission stage.
(b) Please note that detailed checking for the proposed high headroom of remaining areas on G/F should be justified and proposed gross floor area calculation would be considered during plan submission stage.	Noted with thanks.
On Further Information (4) (FI(4)) received on 7.7.2023: (c) Regarding the Response-to-Comment table and revised layout plan of G/F attached in FI(4), it is noted that the conserved building 'Siu Lo' with covered landscaped area is proposed on the G/F of the proposed RCHE building. Please be advised that fire barriers having adequate fire resisting rating (FRR) under Section 35 of the Building (Construction) Regulation should be provided between the fire compartments of the conserved building with landscaped area on G/F and the remained areas of the proposed RCHE building, i.e. walls, fire doors leading to the landscaped area, and floor slab on 1/F of proposed RCHE building covered the conserved building 'Siu Lo' with covered landscaped area. Clause C7.1 of Code of Practice for Fire Safety in Buildings 2011 (FS Code) refers. Also, protection of all openings, joints and penetrations located in a fire barrier should have an FRR not less than that of the fire barrier. Clause C3.2 of FS Code refers.	Noted with thanks.
Email from PlanD received on 5 July 2023 refers: **Buildings Department:**	
(a) Regarding the emergency vehicular access (EVA) plans in FI(1), demonstration of the EVA for the existing building on the same site in compliance with Section 6 in Code of Practice for Fire Safety in Buildings 2011 shall be provided during the general building plan submission stage.	Noted with thanks. The relevant documents will be submitted during the general building plan submission stage.
(b) Regarding the revised Heritage Conservation Strategy plan in FI(1) and new plan showing the layout of the conserved building block and the area opened for public visit in FI(2), it is noted that the development involves co-existence of new building and existing heritage building, the applicant should clarify on whether there would be any proposed building works to be carried out and/or change in use in the existing heritage building, in particular at the area opened for public visit, during the general building plan submission stage. The applicant should also be reminded that the total development intensity of the site should not exceed the limits stipulated in the 1st schedule of Building (Planning) Regulations during the development process. Detailed comments on the proposed works to the existing heritage building will be provided at the plan submission stage.	Noted with thanks. The relevant documents will be submitted during the general building plan submission stage.
(c) Fire barriers having adequate fire resisting rating under Section 35 of the Building (Construction) Regulation should be provided to separate the new building and the existing building.	A landscaped area between the two buildings is designed to separate the new building and the existing building. Please refer to the **G/F Layout Plan of the Appendix 1 - Development Scheme**.
(d) Provision of means of escape in case of emergency, barrier free access, open space for the domestic building, lighting and ventilation of the existing building should not be jeopardized by the proposed new building.	It is confirmed that provision of means of escape in case of emergency, barrier free access, open space for the domestic building, lighting and ventilation of the existing building would not be jeopardized by the proposed new building. The relevant documents will be submitted during the general building plan submission stage.

Departmental Comments	Response
Email from PlanD received on 9 August 2023 refers: **Lands Department:**	
(a) According to our desktop checking, the proposed right-of-way (ROW) is slightly encroached onto a private lot (i.e. Lot 1717 S.C in D.D.120 ("the private lot")), and the adjoining Government Land. The private lot is an Old Schedule "Agricultural" lot held under the Block Government Lease. No structure is allowed to be erected on the lot without prior approval of the Government.	The proposed right-of-way has been updated to only be located on Government Land. Please refer to the **Figure 5 - Drawing No. P-101 – Showing GFA to be Doubled Counted and Proposed Right of Way (for indicative only).**
(b) As the proposed ROW is slightly encroached onto the private lot, the applicant shall clarify the intention.	The proposed right-of-way has been updated to only be located on Government Land. Please refer to the **Figure 5 - Drawing No. P-101 – Showing GFA to be Doubled Counted and Proposed Right of Way (for indicative only).**

Departmental Comments	Response
Email from PlanD received on 9 August 2023 refers: **Social Welfare Department:**	
Application for the Incentive Scheme to Encourage Provision of Residential Care Home for the Elderly Premises in New Private Developments ("Premium Concession Scheme") (a) While the applicant has indicated his intention to apply for the Premium Concession Scheme for the development of the proposed Residential Care Home for the Elderly (RCHE), given an enhanced scheme with a 3-year pilot period has been put in place since 20.6.2023, the applicant should study the details of the Premium Concession Scheme in the Practice Note (PN) No. 5/2023 issued by Lands Department on 20.6.2023. As the total Gross Floor Area (GFA) of the RCHE premises will increase and such GFA will be exempted, would the applicant please refer to General Guideline on the calculation of GFA for RCHE premises as set out at Annex in the PN.	Noted with thanks.
(b) With a view to meeting the objective of providing a quality RCHE, the applicant should also refer to the updated version of i) Guidance Note of RCHE: ii) Best Practice in Design and Operation of RCHE; and iii) Best Practices Guidance - Basic Provision Schedule Specific Requirements for RCHE when Designing and Planning for the Proposed RCHE. Given the RCHE is a newly planned project, the applicant is reminded to comply with the entire ventilation requirements stipulated in Para. 4.9 "Heating, Lighting and Ventilation" in the latest version of the Code of Practice for Residential Care Homes (Elderly Persons) (CoP). We would consider the support-worthiness of the proposed RCHE for the Premium Concession Scheme upon receipt of a formal referral from Lands Department and seek the policy support from Labour and Welfare Bureau on the application as and when appropriate.	Noted with thanks.
Email from PlanD received on 30 June 2023 refers: **Social Welfare Department:**	
(a) While the applicant intended to apply for "Scheme to Encourage Provision of Residential Care Home for The Elderly Premises in New Private Development" (Premium Concession Scheme) for the RCHE and as per last comments, the applicant has not yet clarified in the current further information if the proposed RCHE as an independent building separated from the historic building "Siu Lo" and with its independent facilities (including but not limited to the E&M facilities, parking and loading/unloading provision).	It is confirmed that the proposed RCHE as an independent building separated from the historic building "Siu Lo" and with its independent facilities (including but not limited to the E&M facilities, parking and loading/unloading provision).
(b) Furthermore, for the applicant's submission of General Building Plans to Buildings Departments (BD) in April 2023, the applicant should take note that our recent comments on the salient design of RCHE (including capacity of the dormitory, provision of space on both sides of a bed, no. of isolation rooms/ facilities) provided to the Buildings Department on 4.5.2023 as the points below remain valid: <u>Capacity of the dormitory</u> • While the dormitory floors of the proposed RCHE is to be situated on 1/F to 3/F, it is noted that the capacity of each dormitory is either a 10-bed or a 2-bed dormitory. According to para of 6(a) of the	The capacity of each dormitory will be either a 5-bed or a 2-bed dormitory.

Best Practice in Design and Operation of RCHE, it is stated that "…To minimise institutional atmosphere and allow for small group living, the capacity of each dormitory is preferred limited to not more than eight persons…". Hence, the applicant should consider to trim down the capacity of the 10-bed dormitory as appropriate having considered our advice. <u>Provision of both sides of a bed</u> • For a 2-bed dormitory, it is noted most beds with its one side is leaning against the wall. Whereas as for the 10-bed dormitory, we observe 2 beds are placed adjoining together with partition. • To assist staff/family members to assist taking care of the residents from both sides of a bed, would the applicant please arrange the bed with spaces on bilateral sides. <u>No. of Isolation rooms/facilities</u> • As stipulated in note 27 of Para. 12.4.1 of Code of Practice for Residential Care Homes (Elderly Persons) January 2020 (Revised Edition), "***All RCHEs shall provide at least 1 designated Isolation room. If there are more than 50 beds, an additional Isolation room/facility shall be provided for every extra 50 beds (or less). For the RCHEs provided 200 beds or above, 4 Isolation rooms/facilities (including at least 1 designated Isolation room) shall be provided***". While the proposed RCHE is intended to provide a range of 220-260 beds, there are 3 no. of proposed Sick/Isolation/Quiet Room are found to be installed for the RCHE. The applicant please ensure the proposed provision of number of ***Isolation rooms/facilities*** for the intended RCHE shall be in compliance with relevant licensing requirements for infection control purpose.	The applicant will consider arranging the bed with spaces on bilateral sides. There are in total 4 nos. of Sick/Islocation/Quiet room provided on 1/F to 4/F.
(c) Apart from the above concerns, the applicant shall take note that the design and construction of the proposed RCHE should be in full compliance with the statutory and licensing requirements including but not limited to those stipulated in the Residential Care Home (Elderly Persons) Ordinance, Cap. 459 and its subsidiary legislation, as well as the latest version of the Code of Practice for Residential Care Homes (Elderly Persons).	Noted with thanks.
(d) Subject to the applicant's clarification/responses on the above concerns and the result of the planning application, we would consider the support-worthiness of the proposed RCHE for the Premium Concession Scheme upon receipt of a formal referral from Lands Department and seek the policy support from Labour and Welfare Bureau on the application at an appropriate stage.	Noted with thanks.
Email from PlanD received on 26 April 2023 refers: **Social Welfare Department:**	
<u>Salient points on design of the Residential Car Home for the Elderly (RCHE)</u> (a) <u>24m height restriction of the RCHE</u> - As indicated in the planning statement submitted by the applicant (P.12 refers), the RCHE is situated on "Not more than 31.65 mPD (NB: Ground Level at 6.2 mPD and Mean Street Level at 5.75 mPD)". - According to para 5.3 of the Code of Practice for Residential Care Homes (Elderly Persons) January 2020 (Revised Edition) (CoP), "...no part of the RCHE shall be situated at a height more than 24 metres above the ground floor, measuring vertically from the ground of the building to the floor of the premises in which the RCHE is to be situated.... If an RCHE operator can prove the RCHE possesses facilities for fire safety, evacuation and rescue, and appropriate evacuation, contingency and fire drill plans to the satisfaction of the DSW, the DSW may approve the ancillary facilities of the RCHE to which the residents normally do not have access (e.g. kitchen, laundry rooms, office, staff resting room) to be situated at a height more than 24m above the ground....". - In this light, the applicant is advised to ensure provision of the height of the proposed RCHE shall be in full compliance with relevant licensing and statutory height requirements.	All facilities provided for the elderlies from G/F to 5/F are situated at a height within 21.85m above the ground floor (6.2mPD - 28.05mPD). The proposed RCHE is in full compliance with relevant licensing and statutory height requirements.

(b) Heating, Lighting and Ventilation Requirements - Regarding the Heating, Lighting and Ventilation Requirements for RCHE as set out in para 4.9 of CoP which has been updated in February 2023, the applicant shall take note of all the latest requirements stipulated in the para. Among others, he shall pay special attention that the proposed RCHE should adopt the requirements on fresh air intake of mechanical ventilation system in compliance with the principles as stated at para 4.9.3a.	Noted with thanks.
(c) Minimum Area of Floor Space of Each Resident - While the proposed RCHE is intended to provide 240-260 bed spaces within the intended Gross Floor Area (GFA) of 5,400 sqm., the applicant shall ensure the area of floor space to be provided for each resident of the proposed RCHE shall be in compliance with the statutory and licensing requirements. - The applicant should especially take note of the proposed upward adjustment of the statutory minimum area of floor space per resident for different care levels of RCHEs as proposed in the Residential Care Homes Legislation (Miscellaneous Amendments) Bill 2022 (the Bill) (i.e. the proposed statutory minimum floor space per resident for the "High Care Level Homes" will be increased from 6.5 sqm. to 9.5 sqm., whereas the proposed statutory minimum floor space per resident for the "Medium and Low Care Level Homes" will be enhanced from 6.5 sqm. to 8 sqm. upon passage of the Bill and according to its different implementation stages).	A minimum floor space per resident at 9.5 sqm is allowed which is in compliance with the statutory and licensing requirements.
Views on support-worthiness of the Applicant's intention for joining the Incentive Scheme (d) For the present S.16 planning application, we note that applicant has further expressed his intention to join "Scheme to Encourage Provision of RCHE Premises in New Private Developments" (Incentive Scheme).	The Applicant intends to seek Formal Policy Support to the proposed RCHE development at the subject site under the "Incentive Scheme to Encourage Provision of Residential Care Home for the Elderly Premises in New Private Developments" to grant concessions to exempt the proposed RCHE from payment of land premium.
(e) Subject to the result of the planning permission considered by Town Planning Board, the consideration of the Planning Department (PlanD) and other government departments, and the applicant's clarification that the proposed RCHE as an independent building separating from the historic building "Siu Lo" and with its independent support facilities (including but not limited to the E&M facilities, parking and loading/ unloading provision) for the operation of the proposed RCHE, we may consider the worth-supportiness of the proposed RCHE under the Premium Concession Scheme upon receipt of a formal referral from Lands Department and seek policy support from Labour and Welfare Bureau on the application when suitable.	Noted with thanks.

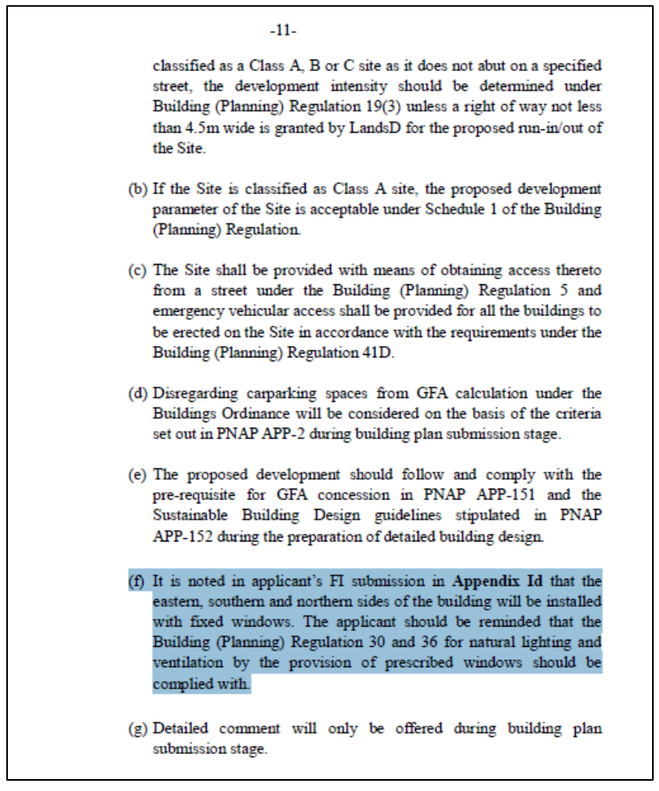
Departmental Comments	Response
Email from PlanD received on 9 August 2023 refers: **Commissioner for Heritage's Office and Antiquities and Monuments Office:**	
Comments on Further Information (2) received on 25.5.2023: (c) As shown in Figures 1 & 2 of Appendix 6, the later added bathroom in the Annex Block was indicated to be removed but such works were not mentioned in the Supplementary Planning Statement. While AMO has no adverse view on such proposed works, for clarity, please update the Supplementary Planning Statement to include the removal of the later added bathroom accordingly.	The clarification of the removal of the later added bathroom has been included in Section 4.4.3(a) of the Supplementary Planning Statement.
(d) Referring to item (v) of the Response-to-Comment ("R-to-C") and Figure 3 in Appendix 6, we are given to understand that the applicant has committed to continue optimising the structural design so as to reduce the visual impact of the proposed RCHE on the Annex Block of Siu Lo. The applicant is recommended to consider reviewing the positioning and size of the columns in front of the Annex Block. AMO would provide comments at the detailed design stage.	Noted with thanks.
(e) For item (f) of the R-to-C, while CHO and AMO's views and comments to the captioned application are provided to the Planning Department (PlanD) upon circulation of the planning application, we would like to	The sentence in Section 3.2.7 of the Supplementary Planning Statement has been updated.

reiterate that CHO and AMO were not involved in discussion with the applicant on the current application No. A/YL/302 but the previous application No. A/YL/289 only. In this connection, the applicant is advised to review the sentence “As per preliminary discussion with CHO and AMO, it is generally agreed that the current conservation-cum-development proposal is commensurate with Siu Lo’s grading and heritage value” in the Supplementary Planning Statement. Please revise relevant sections of the Supplementary Planning Statement particularly Section 3.2.7 for clarity.	
Comments on Further Information (4) (FI(4)) received on 7.7.2023: (f) It is noted that the loading/unloading area adjacent to the Annex Block Siu Lo is now proposed as a “covered heritage landscape garden” under the revised heritage conservation strategy plan. The applicant shall provide details, including the proposed use and layout of this area, and whether any building works would be proposed, for AMO’s comment.	The proposed use of the "covered heritage landscape garden” will be used for landscape and interpretation areas which allow public visit, with an initial theme of "Revival" to tell the story about the transformation of Siu Lo, its conservation process, “before and after" conditions by educational display panels or other media. Given this space will not be used as loading/unloading area, various activities can be held there. It is an extension of the proposed Heritage Garden that intended to be open for the scheduled public visits. It will be incorporated in the CMP.
(g) Regarding the replacement page of the application form part (V)(c) where a remark stated that “The original use of Siu Lo as “House” will be resumed, except 3 rooms on G/F to be opened for regular public visits according to CMP to be approved by AMO”, please amend to “…according to CMP to the satisfaction of AMO or of TPB”.	It has been updated. Please refer to the **updated Application Form**.
Comments on Further Information (5) (FI(5)) received on 21.7.2023: (h) It is noted that Appendix 2 of FI(5) provides an updated photomontage viewing from Tai Tong Road towards Siu Lo and the proposed RCHE building, we have no comment on FI(5). Nevertheless, as mentioned above, AMO would provide comments at the detailed design stage as the structural design of the columns will continue to be optimised to minimise the visual impact according to item (v) of the R-to-C in FI(2).	Noted with thanks.
Email from PlanD received on 8 May 2023 refers: **Antiquities and Monuments Office:**	
Arrangement of Public Guided Tours and Public Access (i) In addition to the provision of display boards for interpretation at the proposed "Heritage Garden", free online virtual tours, free private tours for non-government organizations and schools, and free guided/self-guided visits to the exterior of Siu Lo, we appreciate that the applicant has taken the initiative to enhance the public access arrangement by arranging participants of guided tours and private tours to visit the interior of Siu Lo (Section 4.4.3 (f) & (g) of the Supplementary Planning Statement ("SPS") and Section 2.2 of the Heritage Appraisal refer) . If the subject planning application is approved by the Town Planning Board ("TPB"), the applicant is reminded to include the latest proposed interpretation and opening arrangement in the Conservation Management Plan.	The latest proposed interpretation and opening arrangement will be included in the Conservation Management Plan. Please refer to the **Figure 7,** which shows the proposed interior layout of Siu Lo with the parts to be opened for guided tours and private tours to visit (highlighted in blue dotted line). Coherently, p.8 of the application form is revised to remark that certain parts of the interior on G/F will be opened for regular public visits for conservation purposes, subject to CMP to be approved by AMO.
Proposed New RCHE building (ii) According to Section 4.4.3 of the SPS, the vertical distance between the new RCHE building and the Annex Block has been raised from 1.2m in the previous scheme to approx. 1.5m to 3.15m under this current scheme to facilitate the occasional roof repair/maintenance works of the Annex Block. From the heritage conservation perspective, AMO has no adverse view on the current proposal given it would allow more vertical distance between the proposed RCHE building and the Annex Block of Siu Lo, hence more space for the repair and maintenance of the pitch-roof of the Annex Block. However, it is noted from Section 4.4.3 on p.11 of the SPS that the vertical distance ranges from approx, 1.5m to 2.3m, instead of 1.5m to 3.15m as observed in relevant drawings. The applicant is advised to clarify and confirm the vertical distance between the RCHE building and the Annex Block.	It is confirmed that the vertical distance between the RCHE building and the Annex Block ranges from 1.5m to 3.15m. The relevant statement of Section 4.4.3 is revised accordingly.
(iii) The name of the graded building quoted on p.11 of the SPS should read as "Tat Yan Study Hall". Please revise accordingly.	The name of the graded building is revised accordingly.
(iv) According to Section 4.4.3 (b) of the SPS, it is a heritage conservation strategy to provide an unobstructed view to the Main Building and Annex Block of Siu Lo from the main road, i.e. Tai Tong Road. While the principle of enhancing the vista of the graded building is appreciated, the applicant is advised to supplement elevation(s) or photomontages to demonstrate that the strategy is achievable in the current scheme. Besides, for better understanding of the visual impact on Siu Lo, the applicant is advised to provide photomontage(s) between Viewpoint 3 and Viewpoint 6 of the Visual Impact Assessment in Section 6.	With the intention to preserve the entire Grade 3 historic building as well as to optimize site development potential to provide RCHE facilities, the annex block of Siu Lo will be partially decked over by the proposed RCHE building. In the meantime, a great effort has been made to minimize the visual impact and obstruction of the public views towards Siu Lo, especially the main block. The **Figure 6**, taken between viewpoint 3 and viewpoint 6, demonstrate that the Siu Lo’s vista is

	enhanced. Specifically, a larger extent of the Annex Block will be visible under the revised scheme with less obstruction by the necessary structural columns of RCHE.
(v) As noted from Section 4.2 of the SPS, structural analysis of the proposed RCHE building have been conducted, and long structural span and thick structural elements would be adopted to reduce the visual impact arising from the proposed RCHE building on Siu Lo. However, it is noted from Viewpoint 3 of the Visual Impact Assessment that two columns are designed in front of Siu Lo to support the proposed RCHE building, and one of the columns appears to be erected at the mid-span in front of Siu Lo. Compared with the scheme in the approved Planning Application no. A/YL/289 submitted by the same applicant, the design of the columns in the current scheme seems to impose more visual impact on Siu Lo. The applicant is advised to consider whether the structural design of the RCHE building could be further optimized to reduce the visual impact arising from the columns in front of Siu Lo.	For both the previously approved scheme and the revised scheme, the structural columns supporting the new RCHE building will unavoidably be close to Siu Lo under the conservation-cum-development model. Nonetheless, Siu Lo is more hidden behind the RCHE block and its columns at front for ones standing at the site entrance at Tai Tong Road. The vista will be improved when the angle of RCHE block aligns with the Siu Lo Annex Block in the current scheme with the 2 columns standing at the back of the Annex Block. The consultancy team will continue to optimize the structural design to reduce the visual impact at the detailed design stage.
Comments on appendixes (vi) Below please find our observations and comments on the following appendixes: **<u>Heritage Appraisal (Appendix 3)</u>** Section 4.4 (Table) (a) Please revise the name of the 5th graded historic building to "No. 45 Tai Kei Leng (Entrance Gates and Enclosing Wall)".	The name of the graded building is revised accordingly. Please refer to the **Appendix 3 – Heritage Appraisal.**
Section 5.2 Character Defining Elements (CDEs) (b) CDE No. S-01 (p.9) - Please provide photo of the boundary wall where it states that it has "Low" significance.	A photo of the boundary wall has been incorporated. Please refer to the **Appendix 3 – Heritage Appraisal.**
(c) CDE No. ME-10 - According to Section 4.4.3 of the SPS, some of the existing windows of the Annex Block of Siu Lo will be converted into glazed windows without security bars to allow visitors to appreciate the internal area from outside. Noting that the "Window shutters, security bars and timber windows" (i.e. CDE no. ME-10) in the Heritage Appraisal are classified as CDEs of high significance, please advise the number of and indicate which window shutters, security bars and timber windows would be affected by the proposed conversion.	Please refer to the **Figure 8**, which shows the location of the proposed windows to be converted to glazed windows without security bars (highlighted in blue). CDE No. ME-10 are refer to the those in the Main Building, not the Annex Block. Please refer to AI-03 of the CDE list of the Annex Block -- Timber windows with iron security bars, which is considered of low significance. Most of the windows of the Annex Block have been replaced or changed, because most of them were broken and removed from the building by former occupants.
Section 7.6 Heritage Garden (d) Please move "Life of Water (生命之水)" to the 4th row "Backyard with the old water well".	The statement is revised accordingly. Please refer to the **Appendix 3 –Heritage Appraisal.**
Visual Impact Assessment (Appendix 5) Figure 6 (e) Please review the annotation of the drawing of the "Proposed Scheme" (bottom left diagram on that page). Revised drawing with the correct annotations should be provided.	The annotation of the drawing shall be “Proposed Development (Proposed Scheme) 擬議發展 (更新方案)”. The revised drawing with the correct annotations has been submitted in FI(1) on 5 May 2023 in addressing Planning Department’s comments.
Supplementary Planning Statement (f) Regarding the last sentence of the first paragraph of Section 3.2.7 of the SPS, "As per the preliminary discussion with CHO and AMO, it is generally agreed that the <u>current</u> conservation-cum-development proposal is commensurate with Siu Lo 's grading and heritage value,", we would like to clarify that while CHO and AMO have provided comments from the heritage conservation perspective on the previous planning application (No. A/YL/289) regarding the conservation-cum-development proposal, we were not involved in discussion with the applicant on the current application No. A/YL/302.	The heritage conservation strategy outlined in section 4.4.3 of the SPS remains largely unchanged from the previously approved scheme (A/YL/289), with the exception of minor amendments on the scheme of the new RCHE building. The applicant has also taken the initiative to enhance the public visit arrangement by allowing participants of guided tours and private tours to visit the interior of Siu Lo in current proposal.
(vii) To safeguard Siu Lo including the Main Building and Annex Block from deterioration, the applicant is strongly recommended to undertake urgent repair works for Siu Lo including the Main Building and Annex Block before proceeding with the detailed repair proposal for Siu Lo and building plans for the new RCHE building. AMO is pleased to provide technical advice to the urgent repair proposal.	Noted with thanks.
Archaeology (viii) The applicant is required to inform AMO (Mr. Jeffer MAK, tel: 2655 0822 and email: jpwmak@amo.gov.hk} immediately when any antiquities or supposed antiquities under the Antiquities and Monuments Ordinance (Cap.· 53} are discovered in the course of works	Noted with thanks.

Departmental Comments	Response
Email from PlanD received on 30 June 2023 refers: **Fire Services Department:**	
(a) Detailed fire safety requirements will be formulated upon receipt of formal submission of general building plans and referral from relevant licensing authority.	Noted with thanks.
(b) The applicant shall also be reminded that the EVA provision shall comply with the standard as stipulated in Section 6, Part D of the Code of Practice for Fire Safety in Buildings 2011 under the Building (Planning) Regulation 41D which is administered by the Buildings Department.	Noted with thanks.
Email from PlanD received on 26 April 2023 refers: **Fire Services Department:**	
(a) Considering a petrol filling station (PFS) is located in the vicinity to the social welfare facility, a separation distance between the filling point/vent pipe and utilities outside the boundary of PFS should be maintained for the sake of safety, particularly for the vulnerable occupant(s) of RCHE. The applicant should be reminded the wall forming part of an occupied building should not be located within 12m of the filling points of PFS from the dispensers of the PFS. Moreover, additional fire safety requirements may be imposed upon vetting of the building details with regard to the safety distance of the petrol filling station at the vicinity.	Noted with thanks. The following mitigation measures are proposed to address the associated risks: 1) A solid reinforced concrete wall, with a Fire Resistance Rating of at least 2 hours and a thickness of at least 300 mm, to be built from G/F to 2/F along the wall of the proposed building facing the nearby PFS; 2) No intake / exhaust openings of the proposed building should be built within 12m from the dispenser of the PFS; and No emergency exit / entrance of the proposed building should be built within 12m from the dispenser of the PFS.
(b) The applicant should be reminded for any new development proposed to be constructed in a close proximity of an existing licensed store, it should be ensured that the existing licensed store is not adversely affected.	Noted with thanks.

Departmental Comments	Response
Email from PlanD received on 5 July 2023 refers: **Transport Department:**	
(a) The local track abutting the application site is not under Transport Department's purview. The applicant shall obtain consent of the owners/managing parties of the local track for using it as the vehicular access to the application site.	Noted with thanks.
(b) Sufficient space should be provided within the application site for manoeuvring of vehicles. In addition, no parking, queuing and reverse movement of vehicles on public road are allowed.	Noted with thanks.
Email from PlanD received on 26 April 2023 refers: **Transport Department:**	
(a) As there is change in planning parameters, the applicant shall provide updated traffic impact assessment for our review.	There is a reduction of 40 beds (from 281 to 241) as compared with the previous approved application. Therefore, the expected traffic generation/attraction will be less than the previous submission, and hence should be acceptable in traffic terms.
(b) The applicant shall state clearly how the proposed development connects to Tai Tong Road.	It is the same as the previous approved application. Pleaser refer to the **Figure 5**.
(c) The applicant shall provide layout plan demonstrating that there are sufficient spaces for parking, loading/unloading and manoeuvring.	Superseded.
(d) The local track abutting the subject site is not under Transport Department's purview. The applicant shall obtain consent of the owners/managing parties of the local track for using it as the vehicular access to the subject site.	Noted.
(e) Sufficient space should be provided within the application site for manoeuvring of vehicles. In addition, no parking, queueing and reverse movement of vehicles on public road are allowed.	Noted and agreed. Please refer to response on (c).

Departmental Comments	Response
Email from PlanD received on 10 May 2023 refers: **Environmental Protection Department:**	
NIA (a) S.3.4.8 - We noted that the existing petrol filling station is immediately east of the site as the petrol filling station is one of the potential emitters in the Hong Kong Planning Standards and Guidelines (HKPSG). Please confirm there are no noisy activities within the petrol filling station at night time.	It is confirmed that no noisy activities within the petrol filling station at night time was observed during the site survey. The description has been supplemented in Section 3.4.8. Please refer to the **Appendix 6 – Noise Impact Assessment.**
(b) S.2.3.1 - Please document the Transport Department's (TD's) agreement on the traffic forecast data in the report once available. In case TD has no comment on the methodology for traffic forecast only, the consultant should provide written confirmation from the respective competent party (e.g. traffic consultant) that TD's endorsed methodology has been strictly adopted in preparing the traffic forecast data, and hence the validity of traffic data can be confirmed.	The TD agreement and written confirmation from the appointed traffic consultant are attached in **Appendix 6 – Noise Impact Assessment.**
(c) S.3.3 - Yuen Long Baptist Church is located to the north of the site. Please supplement the description for Yuen Long Baptist Church and clarify if the church will not rely on openable windows for ventilation in the report. Otherwise, the applicant should quantitatively assess the fixed noise impact on the church.	With reference to the RNTPC Paper No. A/YL/252A for Proposed Composite School and Religious Institution (Church) Development, with minor relaxation of BH Restriction in Yuen Long Baptist Church, the subject Applicant proposed that the eastern, southern and northern sides of the building will be installed with fixed windows. Please refer to the extracted paper as below:  -11- classified as a Class A, B or C site as it does not abut on a specified street, the development intensity should be determined under Building (Planning) Regulation 19(3) unless a right of way not less than 4.5m wide is granted by LandsD for the proposed run-in/out of the Site. (b) If the Site is classified as Class A site, the proposed development parameter of the Site is acceptable under Schedule 1 of the Building (Planning) Regulation. (c) The Site shall be provided with means of obtaining access thereto from a street under the Building (Planning) Regulation 5 and emergency vehicular access shall be provided for all the buildings to be erected on the Site in accordance with the requirements under the Building (Planning) Regulation 41D. (d) Disregarding carparking spaces from GFA calculation under the Buildings Ordinance will be considered on the basis of the criteria set out in PNAP APP-2 during building plan submission stage. (e) The proposed development should follow and comply with the pre-requisite for GFA concession in PNAP APP-151 and the Sustainable Building Design guidelines stipulated in PNAP APP-152 during the preparation of detailed building design. (f) It is noted in applicant's FI submission in **Appendix Id** that the eastern, southern and northern sides of the building will be installed with fixed windows. The applicant should be reminded that the Building (Planning) Regulation 30 and 36 for natural lighting and ventilation by the provision of prescribed windows should be complied with. (g) Detailed comment will only be offered during building plan submission stage. The description has been supplemented in Section 3.3. Please refer to the **Appendix 6 – Noise Impact Assessment.**
SIA (d) Table 2.1: Please check if the no. of elderly home guest adopted for assessment should be 260 instead of 300.	The no. of elderly home guest adopted for assessment should be 260. The typo has been amended. Please refer to the **Appendix 7 –Sewerage and Drainage Impact Assessment.**

(e) It is noted that Appendix A is missing. Please supplement.	The master layout plan is provided in Appendix A. It is supplemented in **Appendix 7 –Sewerage and Drainage Impact Assessment.**

Departmental Comments	Response
Email from PlanD received on 11 May 2023 refers: **Drainage Services Department:**	
(i) According to Section·6.8 of SDM Corrigendum 1/2022, projection year up to the end of 21 st century for rainfall increase and extreme sea level rise plus design allowance should be considered as far as practicable; and	Rainfall increase due to Climate Change at the End of 21 st century (16.0%) has been considered. The calculation has been amended in Appendix I. Please refer to the **Appendix 7 –Sewerage and Drainage Impact Assessment.**
(ii) Appendix J: According to Section 9 .3 of Stormwater Drainage Manual, suitable allowance should be made in the design for deposition of sediment in stormwater channels and pipes. Please ensure the existing drainage facilities would not be adversely affected by the captioned development.	10% sediment deposition has been incorporated in the calculation of Appendix J. Please refer to the **Appendix 7 –Sewerage and Drainage Impact Assessment.**

Departmental Comments	Response
Email from PlanD received on 26 April 2023 refers: **Civil Engineering and Development Department:**	
(a) The applicant is reminded to submit plans of the proposed building works and site formation works to the Buildings Department for approval as required under the provisions of the Buildings Ordinance.	Noted with thanks.
(b) The applicant is reminded that the subject site is located within the Scheduled Area No. 2 and may be underlain by cavernous marble. Depending on the nature of foundation of the new development proposed at the site, extensive geotechnical investigation may be required as necessary. This would require a high-level involvement of experienced geotechnical engineer(s), both in the design and supervision of geotechnical aspects of the works to be carried out on the site.	Noted with thanks.

Departmental Comments	Response
Email from PlanD received on 26 April 2023 refers: **Food and Environmental Hygiene:**	
a) No Food and Environmental Hygiene Department's (FEHD) facilities will be affected and all related work or operation shall not cause any environmental nuisance, pest infestation and obstruction to the surrounding.	Noted with thanks.
(b) For any waste generated from such operation or activity, the applicant should arrange disposal properly at his own expenses.	Noted with thanks.
(c) Proper licence / permit issued by FEHD is required if there is any catering service / activities regulated by the Director of Food and Environmental Hygiene under the Public Health and Municipal Services Ordinance (Cap. 132) and other relevant legislation for the public.	Noted with thanks.

Departmental Comments	Response
Email from PlanD received on 26 April 2023 refers: **Urban Design and Landscape:**	
(a) According to the application no. A/YL/263-1 approved on 16.3.2023, the building height of the proposed RCHE development at the Ex-Hang Heung Factory Site is 33.1mPD instead of 36.7mPD as shown in Figures 4 and 5 and 28.7mPD as indicated in Section 6 of the Visual Impact Assessment (VIA).	The concerned building height of the Ex-Hang Heung Factory Site as mentioned in the VIA, including the statement in para. 3.4 and Section 6, Figures 4 and 5, are amended accordingly. Please refer to **Appendix 5 –Visual Impact Assessment.** (Remarks: A typo in the photomontage of the proposed scheme shown in Figure 6 is observed and replaced.)
(b) Para. 5.7.1 of the planning statement and paras. 6.3.5 & 6.6.3 (VP3 & VP6) and Section 7 of VIA – Judging from the photomontages, the entire development is perceivable at these two vantage points (VPs) and the open sky view is apparently obstructed. The visual impact to these two VPs can hardly be regarded as	For VP3 (para. 6.3.5), it is considered that the visual impact caused by the Proposed Development from this VP is graded as moderately adverse.

slightly adverse when comparing to the existing condition.	For VP6 (para. 6.6.3), it is considered that the resultant visual impact of the Proposed Development is considered moderately adverse. Please refer to **Appendix 5 –Visual Impact Assessment.**
(c) The Applicant should provide the Legend to show the design elements shown on all Landscape Plans.	The Legend has been included to show the design elements. Please refer to **Appendix 1 – Development Scheme – Plans & Drawings**
(d) Please be reminded that the approval of the s.16 application by the Town Planning Board does not imply approval of site coverage of greenery requirements under APP PNAP-152 and/or under the lease. The site coverage of greening calculation should be submitted separately to BD for approval.	Noted with thanks.

Previous s.16 Applications covering the Application Site

Approved Applications

Application No.	Applied Use(s) / Proposed Development(s)	Date of Consideration (RNTPC)	Approval Condition(s)
A/YL/256	Proposed Conservation of Historic Building and Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly)	20.3.2020	(1), (2), (3) and (4)
A/YL/289	Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly) and Proposed House Use with Conservation Proposal	29.7.2022	(1), (2), (3), (5) and (6)

Approval Conditions

(1) The submission of a Conservation Management Plan for the conservation of the Main Building and the Annex Block of Siu Lo prior to commencement of any works and implementation of the Conservation Management Plan.

(2) The submission of a full set of photographic, cartographic and/or 3D scanning records of the Main Building and the Annex Block of Siu Lo prior to commencement of works.

(3) The submission and implementation of a drainage proposal.

(4) The submission and implementation of a run-in/out proposal.

(5) The submission of an updated noise impact assessment and provision of noise mitigation measures.

(6) The provision of fire service installations and water supplies for fire-fighting.

Similar Applications within/straddling "G/IC(1)" Zone on the OZP

Approved Applications

Application No.	Applied Use(s) / Proposed Development(s)	Date of Consideration (RNTPC)	Approval Condition(s)
A/YL/252	Proposed Composite School and Religious Institution (Church) Development, with Minor Relaxation of Building Height Restriction	3.5.2019	(1), (2), (3), (4), (5) and (6)
A/YL/276	Proposed Minor Relaxation of Building Height Restriction for Permitted Social Welfare Facility (Residential Care Home for the Elderly)	10.6.2022	(2), (6) and (7)

Approval Conditions

(1) The submission and implementation of a sewerage impact assessment.

(2) The submission and implementation of a drainage proposal.

(3) Maintenance of the implemented drainage facilities.

(4) The submission and implementation of a detailed traffic management plan.

(5) The design and provision of traffic mitigation measures including the lay-by and relocation of zebra-crossing.

(6) The design and provision of water supplies for fire-fighting and fire service installations.

(7) The submission of an updated noise impact assessment and provision of noise mitigation measures.

姓名： 尹偉榮

電話： [redacted]

日期： 13-4-2023

支持安老院舍及保育發展申請 (申請編號: A/YL/302)

敬啟者:

是次申請項目惠及長者和社會。申請人亦詳細交代發展方向和保育方向，有以下優點：

- ✓ 歷史建築物開放予市民參觀；
- ✓ 改善安老院居住環境；
- ✓ 可區分新建築物和歷史建築物；
- ✓ 與鄰近環境相融；及
- ✓ 未有帶有嚴重視覺影響；

發展項目有裨益，值得支持！

尹偉榮

————————————————

簽署

姓名: 張寶榮

電話: [redacted]

日期: 2023.4.21

支持安老院舍及保育發展申請 (申請編號: A/YL/302)

敬啟者:

得悉此土地申請擬建安老院舍發展之用，參考申請人提交的文件及圖像，我同意安老院舍發展意向及設計。

老齡化社會問題日漸嚴重，長者人口越來越多，安老服務惠及長者和社會。而該此申請亦有很多優點：

- ✓ **香港甚少整幢安老院舍設計；**
- ✓ **申請人有意打造優質安老院；**
- ✓ **平衡保育及私人發展；及**
- ✓ **申請位置不落入鄉村土地，對村民影響很小；**

發展項目有裨益，值得支持！

簽署

敬啟者:

老人院發展計劃 (A/YL/302)

本人十分同意申請計劃，對安老服務行業帶來甚大效益。香港人口老化，對優質安老服務需求殷切。發展密度及高度與周邊環境融洽，擬議的園境方案亦可改善整體環境質素。原址保留筱廬及相應保育方案有效保留歷史文化和教育用途。本人十分支持該老人院發展。

姓名: 梁潔珠

日期: 14-4-2023

聯絡電話: [redacted]

簽署: 梁

姓名： 黃浩芳

電話： [redacted]

日期： 14-4-2023

敬啟者:

同意安老院舍及保育發展申請 (申請編號: A/YL/302)

本人支持此發展項目，原因如下：

1. **區內有安老院舍需求，地點合適。**
2. **交通位置極為便利，方便親人探望。**
3. **發展不會造成阻礙，不會影響周邊居民。**
4. **保育方案可行，亦開放予公眾。**
5. **6 層高度不會帶來很大視覺影響。**

因此本人強烈支持這次的重建。

簽署：

Appendix IV-5 of RNTPC Paper No. A/YL/302

致城市規劃委員會秘書：
專人送遞或郵遞：香港北角渣華道333號北角政府合署15樓
傳真：2877 0245 或 2522 8426
電郵：tpbpd@pland.gov.hk

To : Secretary, Town Planning Board
By hand or post : 15/F, North Point Government Offices, 333 Java Road, North Point, Hong Kong
By Fax : 2877 0245 or 2522 8426
By e-mail : tpbpd@pland.gov.hk

有關的規劃申請編號 The application no. to which the comment relates

A/YL/302

意見詳情（如有需要，請另頁說明）
Details of the Comment (use separate sheet if necessary)

本人反對在上述地段興建安老院舍

原因為下
1) 由於該位置處於鄉郊，安老院舍完工後會有不少的外來人經鄉村到安老院舍，加上村民的住宅保安比一般屋苑弱，因此興建安老院舍會在村內帶來嚴重治安問題。
2) 現在大棠路是雙線雙程行車，興建安老院舍會加劇大棠路塞車情況，由此看來，該位置是不適合興建院舍

「提意見人」姓名/名稱 Name of person/company making this comment ____________

簽署 Signature 陳浩倫 日期 Date 20-4-2023

☐ Urgent ☐ Return Receipt Requested ☐ Sign ☐ Encrypt ☐ Mark Subject Restricted ☐ Expand personal&publi

A/YL/302DD 120 "Siu Lo", Tai Kei Leng
25/04/2023 03:28

From: [redacted]
To: tpbpd <tpbpd@pland.gov.hk>
File Ref:

A/YL/302

Lots 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

Site area : About 1,877sq.m Includes Government Land of about 149sq.m

Zoning : "GIC (1)"

Applied development : Further increase of BH to 32mPD / 241 (280) bed RCH / House Use with Conservation Proposal / **OS 276 (750) sq.m** / 4 Vehicle Parking

Dear TPB Members,

Strong Objections.

Having already been granted 100% increase in BH, THAT THE Secretary artfully brushed off as "but the actual increase in the number of storeys, i.e. 3 storeys, was not significant", the applicant is looking for further concessions. The proposed height exceeds that stipulation for RCHE.

The statement "*to fully optimize the development potential according to the "Incentive Scheme to Encourage Provision of Residential Care Home for the Elderly Premises in New Private Developments* " is risible as the number of beds is to be reduced and the **proposed OS only 40% of the approved plan.**

The restricted area of the roof top is insufficient to provide open air recreational for 240 residents. Some bamboo plants against a wall are nothing more than green wash.

The Visual Impact is considerable.

Some members had reservations about the approved plan. This is less desirable. The applicant has already milked every possible advantage related to conservation and provision of RCHE, additional greed should not be accommodated.

Mary Mulvihill

From: [redacted]
To: tpbpd <tpbpd@pland.gov.hk>
Date: Wednesday, 23 March 2022 2:36 AM CST
Subject: Re: A/YL/289 DD 120 Siu Lo, Tai Kei Leng

Dear TPB Members,

Urban Design & Landscape Section, Planning Department
However, as compared with the approved scheme, while the hovering of the proposed RCHE building above the annex block of Siu Lo remains intact, we would like to point out that separation between the upper floor portion of the proposed RCHE building and the main building of Siu Lo is remarkably reduced (from about 8.5m to about 3.4m). This together with the proposed increase in BH of 0.9m and reduction of G/F headroom (from 7m to 5.8m) would provide a less suitable setting for the heritage feature. It would be advisable for the applicant to improve the proposed scheme on this aspect or provide more justifications in this regar d.

There are also multiple issues with the VPs with regard to obstruction of skyline but the amendments to the Visual Impact do not adequately reflect this.

Not only is the welfare of the residents negatively impacted by changes to the plan but also the general community.

Mary Mulvihill

From: [redacted]
To: tpbpd <tpbpd@pland.gov.hk>
Date: Monday, 7 February 2022 3:01 AM CST
Subject: A/YL/289 DD 120 Siu Lo, Tai Kei Leng

A/YL/289

Lots 1695 S.E ss.1 RP, 1695 S.F ss.1 and 1695 S.H RP (Part) in D.D. 120 and Adjoining Government Land, Tai Kei Leng, Yuen Long

Site area : About 1,953sq.m Includes Government Land of about 165sq.m

Zoning : "GIC (1)"

Applied development : MR of BHR / 280 bed RCH / House Use with Conservation Proposal / OS 750sq.m / 4 Vehicle Parking

Dear TPB Members,

Hopefully you will question how packing 280 frail elderly into a care home previously approved for 170 is to be achieved without a negative impact on the personal space and facilities to be enjoyed. Note that the additional floor comes with the removal of basement backroom facilities.

The pledges from the owner that nosey visitors peering in the windows of the heritage building, now proposed to be a private residence and not a visitor centre, will be tolerated are suspect.

It is depressing to watch the progress, or rather degeneration, of these developments once the initial approval is secured.

Members must ensure that changes to the plans enhance not diminish the living conditions of the elderly residents.

Mary Mulvihill

Recommended Advisory Clauses

(a) to note the comments of the District Lands Officer/Yuen Long, Lands Department (LandsD) that:

(i) as the southern portion of the Lot 1695 s.H RP would be excluded from the application site (the Site), the actual site area and boundary of the lot involved will be subject to verification upon receipt of land exchange application if any; and

(ii) in the event that planning permission is given by the Town Planning Board (the Board) for the proposal, the applicant should be reminded that land exchange application to the LandsD would be required to implement the proposal. Every application will be considered on its own merits by LandsD at its sole discretion acting in its capacity as a landlord and there is no guarantee that the land exchange application, including the grant of additional government land, for the proposal will be approved. If the application for land exchange is approved, it will be subject to such terms and conditions as may be imposed by LandsD at its sole discretion, including the payment of premium and administrative fee;

(b) to note the comments of the Commissioner for Transport that:

(i) the local track abutting the Site is not under the purview of the Transport Department (TD);

(ii) the applicant shall obtain consent of the owners/managing parties of the local track for using it as the vehicular access to the Site;

(iii) sufficient space should be provided within the Site for manoeuvring of vehicles; and;

(iv) no parking, queuing and reverse movement of vehicles on public road are allowed;

(c) to note the comments of the Chief Highway Engineer/New Territories West, Highways Department (HyD) that:

(i) the proposed access arrangement of the Site should be commented and approved by the TD;

(ii) it should be noted that the HyD shall not be responsible for the maintenance of any access connecting the Site and Tai Tong Road;

(iii) if the proposed access on Tai Tong Road is approved by TD, the applicant should ensure a run-in/out is constructed in accordance with the latest version of HyD Standard Drawings No. H1113 and H1114, or H5133, H5134 and H5135, whichever set if appropriate to match with the existing adjacent pavement; and

(iv) adequate drainage measures shall be provided to prevent surface water flowing from the Site to nearby public roads or exclusive road drains;

(d) to note the comments of the Director of Social Welfare that:

(i) while the applicant has indicated his intention to apply for the "Incentive Scheme to Encourage Provision of Residential Care Homes for the Elderly (RCHE) Premises in New Private Developments" ("Incentive Scheme") for the development of the proposed RCHE, given an enhanced scheme with a three-year pilot period has been put in place since 20.6.2023, the applicant should study the details of the "Incentive Scheme" in the Practice Note (PN) No. 5/2023 issued by LandsD. As the total Gross Floor Area (GFA) of the RCHE premises will increase and such GFA will be exempted, the applicant should refer to General Guideline on the calculation of GFA for RCHE premises as set out at Annex in the PN; and

(ii) with a view to meeting the objective of providing a quality RCHE, the applicant should also refer to the following updated version of: i) Guidance Note of RCHE; ii) Best Practice in Design and Operation of RCHE; and iii) Best Practices Guidance – Basic Provision Schedule Specific Requirements for RCHE when Designing and Planning for the Proposed RCHE. Given the RCHE is a newly planned project, the applicant is reminded to comply with the entire ventilation requirements stipulated in paragraph 4.9 "Heating, Lighting and Ventilation" in the latest version of the Code of Practice for Residential Care Homes (Elderly Persons) (the CoP). She would consider the support-worthiness of the proposed RCHE for the "Incentive Scheme" upon receipt of a formal referral from LandsD and seek policy support from the Labour and Welfare Bureau on the application as and when appropriate;

(e) to note the comments of the Chief Town Planner/Urban Design and Landscape, Planning Department that approval of the s.16 application by the Board does not imply approval of site coverage of greenery requirements under the Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers (PNAP) No. APP-152 and/or the lease. The site coverage of greening calculation should be submitted to Buildings Department (BD) for approval;

(f) to note the comments of the Director of Fire Services that:

(i) detailed fire safety requirements will be formulated upon receipt of formal submission of general building plans and referral from relevant licensing authority;

(ii) the emergency vehicular access (EVA) provision at the Site shall comply with the standard as stipulated in Section 6, Part D of the Code of Practice for Fire Safety in Buildings 2011 under the Building (Planning) Regulation (B(P)R) 41D which is administered by BD;

(iii) project proponent is also advised to consult the Social Welfare Department on the proposed development and should be reminded that licensing requirements will be formulated upon receipt of formal application via the Licensing Authority;

(iv) considering a petrol filling station (PFS) is located in vicinity to the social welfare facility, a separation distance between the filling point/vent pipe and utilities outside the boundary of PFS should be maintained for the sake of safety, particularly for the vulnerable occupant(s) of RCHE. The applicant should be reminded the wall forming part of an occupied building should not be located within 12m of the filling points of PFS from the dispensers of the PFS. Moreover,

additional fire safety requirements may be imposed upon vetting of the building details with regard to the safety distance of the petrol filling station at the vicinity; and

(v) for any new development proposed to be constructed in a close proximity of an existing licensed store, it should be ensured that the existing licensed store is not adversely affected;

(g) to note the comments of the Chief Engineer/Construction, Water Supplies Department (WSD) that:

(i) the exact connection points (both fresh water and flushing water) should be agreed with New Territories West Region of WSD; and

(ii) the proposed flushing water system of the Site should be conforming to the specification of reclaimed water supply system;

(h) to note the comments of the Chief Building Surveyor/New Territories West, BD that:

(i) presumably the Site abuts on Tai Tong Road and is a Class A site. RCHE with bed is domestic use under the Buildings Ordinance (BO). The permitted site coverage (SC) and plot ratio (PR) for the proposed domestic building of building height (BH) of 25.9m are 49% and 4.4 respectively under the First Schedule of the B(P)R. In the prevailing practice, modification may be considered and granted to treat RCHE as non-domestic building for the purposes of SC, PR and open space under the BO;

(ii) if the modification of B(P)R to treat RCHE as non-domestic building for the purposes of SC and PR is granted as stated above, the maximum SC and PR of the proposed buildings shall not be more than 89% and 8 respectively under the First Schedule of B(P)R for non-domestic buildings. In this connection, the proposed SC and PR of the proposed development shall be within the permitted SC and PR under the First Schedule of B(P)R which is acceptable under the BO;

(iii) it is noted from the current proposal that the proposed vehicular and pedestrian access of the Site is via a local vehicular track which rests on Government Land and lead to Tai Tong Road. The applicant shall consult LandsD on whether a right of way will be granted for the proposed access;

(iv) the Site shall be provided with means of obtaining access thereto from a street under Regulation 5 of the B(P)R and EVA shall be provided for all the buildings to be erected on the Site in accordance with the requirements under Regulation 41(D) of the B(P)R;

(v) demonstration of the EVA for the existing building on the same Site in compliance with Section 6 in Code of Practice for Fire Safety in Buildings 2011 (the FS Code) shall be provided during general building plan submission stage;

(vi) regarding the proposed high headroom (7.45m) on G/F, the applicant is advised that the Authorized Person had been required to provide further justifications for high headroom on the whole G/F, in particular of the areas not involving the historic building. Please make reference to paragraph 7(D)(v) in the disapproval letter dated 24.5.2023;

(vii) regarding the revised Heritage Conservation Strategy Plan and the plan showing the layout of the conserved building block and the area opened for public visit, it is noted that the development involves co-existence of new building and existing heritage building, the applicant should clarify any proposed building works to be carried out and/or change in use in the existing heritage building, in particular of the area opened for public visit, during general building plan submission stage. The applicant should also be reminded that the total development intensity of the site should not exceed the limits stipulated in the First Schedule of the B(P)R during the development process. Detailed comments on the proposed works to the existing heritage building will be provided at plan submission stage;

(viii) it is noted that the conserved building 'Siu Lo' with covered landscaped area is proposed on the G/F of the proposed RCHE building. The applicant is advised that fire barriers having adequate fire resisting rating (FRR) under Section 35 of the Building (Construction) Regulation should be provided between the fire compartments of the conserved building with landscaped area on G/F and the remained areas of the proposed RCHE building, i.e. walls, fire doors leading to the landscaped area, and floor slab on 1/F of the proposed RCHE building covering the conserved building 'Siu Lo' with covered landscaped area. Clause C7.1 of the FS Code refers. Also, protection of all openings, joints and penetrations located in a fire barrier should have an FRR not less than that of the fire barrier. Clause C3.2 of the FS Code refers;

(ix) provision of the means of escape in case of emergency, barrier free access, open space for the domestic building, lighting and ventilation of the existing building should not be jeopardized by the proposed new building;

(x) the proposed use under application is subject to the issue of a licence, the applicant should be reminded that any existing structures on the Site intended to be used for such purposes are required to comply with the building safety and other relevant requirements as may be imposed by the licensing authority; and

(xi) if the proposed PR is based on the assumption that GFA concession will be granted, the pre-requisites for GFA concession in PNAP No. APP-151 and the Sustainable Building Design guideline stipulated in PNAP No. APP-152 should be complied with;

(i) to note the comments of the Director of Food and Environmental Hygiene that:

(i) no Food and Environmental Hygiene Department's (FEHD's) facilities will be affected and all related work or operation shall not cause any environmental nuisance, pest infestation and obstruction to the surrounding;

(ii) for any waste generated from such operation or activity, the applicant should arrange disposal properly at his own expenses; and

(iii) proper licence/permit issued by FEHD is required if there is any catering service/ activities regulated by the Director of Food and Environmental Hygiene under the Public Health and Municipal Services Ordinance (Cap. 132) and other relevant legislation for the public; and

(j) to note the comments of the Head of Geotechnical Engineering Office, Civil Engineering and Development Department (CEDD) that:

(i) the applicant is reminded to submit plans of proposed building works, as necessary, to BD for approval as required under the provisions of the BO; and

(ii) the applicant is reminded that the Site is located within Scheduled Area No. 2 and may be underlain by cavernous marble. Depending on the nature of foundation of the new development proposed at the Site, extensive geotechnical investigation may be required as necessary. This would require a high-level involvement of experienced geotechnical engineer(s), both in the design and supervision of geotechnical aspects of the works to be carried out on the Site.