2023年 3月 3 日
此文件在_____收到，城市規劃委員會只會在收到所有必要的資料及文件後才正式確認收到申請的日期。
This document is received on 3 MAR 2023.
The Town Planning Board will formally acknowledge the date of receipt of the application only upon receipt of all the required information and documents.

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

2300223 19/1 BY hand.

Form No. S16-I 表格第 S16-I 號

For Official Use Only 請勿填寫此欄	Application No. 申請編號	A/NE-KTS/525
	Date Received 收到日期	3 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。

---

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)

GREAT HUGE 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)

CHIH DESIGN 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）	Lot 409 RP, 409S.AA, 409S.AB, 409S.AC(PART), 409S.AD(PART), 409S.AE(PART), 409S.AF(PART), 409S.AG(PART), 409S.AH(PART),409S.AI(PART), 409S.AJ(PART), 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI(PART), 409S.BJ(PART), 409S.BK(PART), 409S.BL(PART), 409S.BM(PART), 409S.BN(PART), 409S.BO(PART), 409S.BP,(PART),409S.BQ, 409S.BR, 409S.BS, 409S.BT(PART), 409 S.F. RP(PART), 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8,409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19(PART), 409 S.F.ss.20(PART),409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X,409S.Y, 409S.Z, in D.D.94
(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 12,100 sq.m 平方米☑About 約 ☑Gross floor area 總樓面面積 5,808 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）	N/A 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	Approved Kwu Tung South Outline Zoning Plan no. S/NE-KTS/18
(e)	Land use zone(s) involved 涉及的土地用途地帶	Residential (Group D),
(f)	Current use(s) 現時用途	Open storage (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 .....2023..... 年 .....1..... 月 .....13..... 日的記錄，這宗申請共牽涉 .....8..... 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 .....7..... 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)
7	Details please refer to attached Table "Details of consent of "current land owner(s)" obtained"	

(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	PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT

(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 0.4 to 至 0.48
☐	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 ..... storeys 層 to 至 ..... 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	PROPOSED MINOR RELAXATION OF PLOT RATIO RESTRICTION FOR PERMITTED RESIDENTIAL DEVELOPMENT (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	5,808 sq.m 平方米	☑About 約
Proposed plot ratio 擬議地積比率	not more than 0.48	☐About 約
Proposed site coverage 擬議上蓋面積	not more than 33.3 %	☐About 約
Proposed no. of blocks 擬議座數	42	
Proposed no. of storeys of each block 每座建築物的擬議層數	2 storeys (for House 1 to 35) 3 storeys (for House 36 to 42) 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	21.5m PD(for House 1 to 35) 22.5 mPD (for House 36 to 42) mPD 米(主水平基準上) 8m (for House 1 to 35) 9m (for House 36 to 42)..... m 米	☐About 約 ☐About 約

☑ Domestic part 住用部分

GFA 總樓面面積	5,808 sq. m 平方米	☑About 約
number of Units 單位數目	42	
average unit size 單位平均面積	138.3 sq. m 平方米	☑About 約
estimated number of residents 估計住客數目	294	

☐ 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) Club House: 290.4sq.m. E&M: 220sq.m Carparking Space: 1,685sq.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	2,015 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]
1-35	G/F	E&M Room, Carport, Living Room, Dining Room
	1/F	Bedrooms
36-42	G/F	E&M Room, Car parking Space, Club House
	1/F	Living Room, Dining Room
	2/F	Bedrooms

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

Access Road, Landscape, Garden, Open Staircase

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)

Feb 2028

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 84 Motorcycle Parking Spaces 電單車車位 1 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 refer to T	☑ (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 1 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 ....
	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 ☐

Please refer to Traffic Impact Assessment, Environmental Assessement

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)

.....

PLEASE REFER TO TRAFFIC IMPACT ASSESSMENT, ENVIRONMENTAL ASSESSMENT .....

AND SEWERAGE & DRAINAGE IMPACT ASSESSMENT. .....

.....

.....

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 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 this application 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

CHIH MING YUEN ..... DIRECTOR .....

Name in Block Letters 姓名（請以正楷填寫） 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
Others 其他 .....

on behalf of 代表 CHIH DESIGN LIMITED .....

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

Date 日期 19-1-2023 ..... (DD/MM/YYYY 日/月/年)

Remark 備註

The materials submitted in this application 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。

For Developments involving Columbarium Use, please also complete the following:
如發展涉及靈灰安置所用途，請另外填妥以下資料:

Ash interment capacity 骨灰安放容量@

Maximum number of sets of ashes that may be interred in the niches 在龕位內最多可安放骨灰的數量	N/A
Maximum number of sets of ashes that may be interred other than in niches 在非龕位的範圍內最多可安放骨灰的數量	N/A
Total number of niches 龕位總數	N/A
Total number of single niches 單人龕位總數	N/A
Number of single niches (sold and occupied) 單人龕位數目 (已售並佔用)	N/A
Number of single niches (sold but unoccupied) 單人龕位數目 (已售但未佔用)	N/A
Number of single niches (residual for sale) 單人龕位數目 (待售)	N/A
Total number of double niches 雙人龕位總數	N/A
Number of double niches (sold and fully occupied) 雙人龕位數目 (已售並全部佔用)	N/A
Number of double niches (sold and partially occupied) 雙人龕位數目 (已售並部分佔用)	N/A
Number of double niches (sold but unoccupied) 雙人龕位數目 (已售但未佔用)	N/A
Number of double niches (residual for sale) 雙人龕位數目 (待售)	N/A
Total no. of niches other than single or double niches (please specify type) 除單人及雙人龕位外的其他龕位總數 (請列明類別)	N/A
Number. of niches (sold and fully occupied) 龕位數目 (已售並全部佔用)	N/A
Number of niches (sold and partially occupied) 龕位數目 (已售並部分佔用)	N/A
Number of niches (sold but unoccupied) 龕位數目 (已售但未佔用)	N/A
Number of niches (residual for sale) 龕位數目 (待售)	N/A
Proposed operating hours 擬議營運時間	N/A
	N/A

(包括運輸人支子

@ Ash interment capacity in relation to a columbarium means –
就靈灰安置所而言，骨灰安放容量指：
- the maximum number of containers of ashes that may be interred in each niche in the columbarium;
每個龕位內可安放的骨灰容器的最高數目;
- the maximum number of sets of ashes that may be interred other than in niches in any area in the columbarium; and
在該靈灰安置所並非龕位的範圍內，總共最多可安放多少份骨灰；以及
- the total number of sets of ashes that may be interred in the columbarium.
在該骨灰安置所內，總共最多可安放多少份骨灰。

Gist of Application 申請摘要

(Please provide details in both English and Chinese as far as possible. This part will be circulated to relevant consultees, uploaded to the Town Planning Board's Website for browsing and free downloading by the public and available at the Planning Enquiry Counters of the Planning Department for general information.)
(請盡量以英文及中文填寫。此部分將會發送予相關諮詢人士、上載至城市規劃委員會網頁供公眾免費瀏覽及下載及於規劃署規劃資料查詢處供一般參閱。)

Application No. 申請編號	(For Official Use Only) (請勿填寫此欄)
Location/address 位置／地址	Lot 409 RP, 409S.AA, 409S.AB, 409S.AC(PART), 409S.AD(PART), 409S.AE(PART), 409S.AF(PART), 409S.AG(PART), 409S.AH(PART),409S.AI(PART), 409S.AJ(PART), 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ, 409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI(PART), 409S.BJ(PART), 409S.BK(PART), 409S.BL(PART), 409S.BM(PART), 409S.BN(PART),409S.BO(PART), 409S.BP,(PART),409S.BQ, 409S.BR, 409S.BS, 409S.BT(PART), 409 S.F. RP(PART), 409 S.F.ss.1, A S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8,409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19(PART), 409 S.F.ss.20(PART),409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X,409S.Y, 409S.Z, in D.D.94
Site area 地盤面積	12,100 sq. m 平方米 ☑ About 約 (includes Government land of 包括政府土地 sq. m 平方米 ☐ About 約)
Plan 圖則	Approved Kwu Tung South Outline Zoning Plan no. S/NE-KTS/18
Zoning 地帶	Residential (Group D)
Applied use/ development 申請用途/發展	PROPOSED MINOR RELAXATION OF PLOT RATIO RESTRICTION FOR PERMITTED RESIDENTIAL DEVELOPMENT

(i) Gross floor area and/or plot ratio 總樓面面積及／或地積比率		sq.m 平方米	Plot Ratio 地積比率
	Domestic 住用	5,808 ☐ About 約 ☐ Not more than 不多於	0.48 ☐About 約 ☑Not more than 不多於
	Non-domestic 非住用	☐ About 約 ☐ Not more than 不多於	☐About 約 ☐Not more than 不多於
(ii) No. of block 幢數	Domestic 住用	42 Blocks	
	Non-domestic 非住用	N/A	
	Composite 綜合用途	N/A	

(iii)	Building height/No. of storeys 建築物高度／層數	Domestic 住用	8m (for House 1 to 35) 9m (for House 36 to 42) m 米 ☑ (Not more than 不多於)
			21.5m PD(for House 1 to 35) 22.5m PD (for House 36-42) mPD 米(主水平基準上) ☐ (Not more than 不多於)
			2 storeys (for House 1 to 35) 3 storeys (for House 36 to 42) Storeys(s) 層 ☐ (Not more than 不多於) *(☑Include 包括/☐ Exclude 不包括* *☑ Carport 停車間* *☐ Basement 地庫* *☐ Refuge Floor 防火層* *☑ Podium 平台)*
		Non-domestic 非住用	2.8 m 米 ☐ (Not more than 不多於)
			15.95mPD mPD 米(主水平基準上) ☐ (Not more than 不多於)
			1 Storeys(s) 層 ☑ (Not more than 不多於) *(☑Include 包括/☐ Exclude 不包括* *☑ Carport 停車間* *☐ Basement 地庫* *☐ Refuge Floor 防火層* *☐ Podium 平台)*
		Composite 綜合用途	N/A m 米 ☐ (Not more than 不多於)
			N/A mPD 米(主水平基準上) ☐ (Not more than 不多於)
			N/A Storeys(s) 層 ☐ (Not more than 不多於) *(☐Include 包括/☐ Exclude 不包括* *☐ Carport 停車間* *☐ Basement 地庫* *☐ Refuge Floor 防火層* *☐ Podium 平台)*
(iv)	Site coverage 上蓋面積	not more than 33.3 % ☑ About 約	
(v)	No. of units 單位數目	42	
(vi)	Open space 休憩用地	Private 私人	2,015 sq.m 平方米 ☑ Not less than 不少於
		Public 公眾	sq.m 平方米 ☐ Not less than 不少於

(vii)	No. of parking spaces and loading / unloading spaces 停車位及上落客貨車位數目	Total no. of vehicle parking spaces 停車位總數 Private Car Parking Spaces 私家車車位 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) _____ _____	84 nos. of private car parking spaces and 1 no. of motorcycle parking spaces
		Total no. of vehicle loading/unloading bays/lay-bys 上落客貨車位／停車處總數 Taxi Spaces 的士車位 Coach Spaces 旅遊巴車位 Light Goods Vehicle Spaces 輕型貨車車位 Medium Goods Vehicle Spaces 中型貨車位 Heavy Goods Vehicle Spaces 重型貨車車位 Others (Please Specify) 其他 (請列明) _____ _____	1 no. of light goods vehicle spaces

Submitted Plans, Drawings and Documents 提交的圖則、繪圖及文件

	Chinese 中文	English 英文
Plans and Drawings 圖則及繪圖		
Master layout plan(s)/Layout plan(s) 總綱發展藍圖／布局設計圖	☐	☑
Block plan(s) 樓宇位置圖	☐	☑
Floor plan(s) 樓宇平面圖	☐	☑
Sectional plan(s) 截視圖	☐	☑
Elevation(s) 立視圖	☐	☑
Photomontage(s) showing the proposed development 顯示擬議發展的合成照片	☐	☑
Master landscape plan(s)/Landscape plan(s) 園境設計總圖／園境設計圖	☐	☑
Others (please specify) 其他（請註明）	☐	☐
_____		
_____		
Reports 報告書		
Planning Statement/Justifications 規劃綱領/理據	☐	☑
Environmental assessment (noise, air and/or water pollutions) 環境評估（噪音、空氣及／或水的污染）	☐	☑
Traffic impact assessment (on vehicles) 就車輛的交通影響評估	☐	☑
Traffic impact assessment (on pedestrians) 就行人的交通影響評估	☐	☐
Visual impact assessment 視覺影響評估	☐	☐
Landscape impact assessment 景觀影響評估	☐	☐
Tree Survey 樹木調查	☐	☐
Geotechnical impact assessment 土力影響評估	☐	☐
Drainage impact assessment 排水影響評估	☐	☑
Sewerage impact assessment 排污影響評估	☐	☑
Risk Assessment 風險評估	☐	☐
Others (please specify) 其他（請註明）	☐	☐
_____		
_____		

Note: May insert more than one「✔」. 註：可在多於一個方格內加上「✔」號

Note: The information in the Gist of Application above is provided by the applicant for easy reference of the general public. Under no circumstances will the Town Planning Board accept any liabilities for the use of the information nor any inaccuracies or discrepancies of the information provided. In case of doubt, reference should always be made to the submission of the applicant.

註： 上述申請摘要的資料是由申請人提供以方便市民大眾參考。對於所載資料在使用上的問題及文義上的歧異，城市規劃委員會概不負責。若有任何疑問，應查閱申請人提交的文件。

CHIH Design Ltd.

Our Ref.: 2105PA - L002
Date : 19th Jan 2023

(By hand)

The Secretary
Town Planning Board
C/o Town Planning Board Section
Planning Department
15/F, North Point Government Offices
333 Java Road
North Point, Hong Kong

Dear Sir/Madam,

Re : Application for Permission Under Section 16
Proposed Residential Development at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D. 94, Kwu Tung South, N.T.

On behalf of Great Huge Limited (the Applicant), we submit herewith the following for the consideration of the Town Planning Board:-

1. A duly completed and signed Application Form;
2. 4 copies of Planning Statement (including drawings);
3. 4 copies of Traffic Impact Assessment;
4. 4 copies of Sewerage and Drainage Impact Assessment;
5. 4 copies of Environmental Assessment;
6. 1 no. of DVD containing each soft copy of Planning Statement, TIA, S&DIA & EA report.
7. Authorization letter issued by the Applicant;
8. A set of copies of Land Registry record
9. A table of Details of consent of "current land owner(s)" obtained
10. 8 no. of consent letters for other lots owner; and
11. Particulars of applicant and authorized agent.

Should you have any queries, please do not hesitate to contact the undersigned at 2581 3081.

Sincerely Yours,
For and on behalf of
CHIH Design Ltd.

Eric Ming Yuen Chih
Director

EC/fh

2023年 3月 3 日
此文件在_____收到。城市規劃委員會只會在收到所有必要的資料及文件後才正式確認收到申請的日期。

3 MAR 2023
This document is received on _____.
The Town Planning Board will formally acknowledge the date of receipt of the application only upon receipt of all the required information and documents.

c.c. Great Huge Limited – Mr. Wan
(by post & E-mail) (w/ encl)

Unit A, 20/F, Morrison Plaza, 5-9A Morrison Hill Road, Wanchai, Hong Kong Telephone (852) 2581 3081 Fax (852) 2742 0622
香港灣仔摩利臣山道5-9A號天樂廣場20樓A室 電話(852) 2581 3081 傳真(852) 2742 0622

PROPOSED RRIVATE RESIDENTIAL DEVELOPMENT

at

Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

PLANNING STATEMENT

Applicant:	Great Huge Limited
Planning Consultant and Architect:	CHIH Design Limited
Date of Submission:	20th Jan 2023

EXECUTIVE SUMMARY

This planning statement is prepared and submitted under section 16 of the Town Planning Ordinance (Cap 131) by CHIH design Limited (on behalf of the applicant) in support of an application for the proposed private residential development at various lots in D.D.94, Kwu Tong South, New Territories. The subject site falls within a R(D) zone designated under the Approved Kwu Tung South Outline Zoning Plan no. S/NE-KTS/18.

The proposed private residential development under this application is within the following parameters: -

- Proposed plot ratio not more than 0.48 (a minor relaxation of plot ratio) and site coverage not more than 33.3%
- Proposed development of total 42 houses
- Improvement of an existing access road

The proposed private residential development is justified as follows: -

- The proposal is a notional 0.468PR scheme.
- The proposed development parameters are similar to that of a precedent case, application no. A/NE-KTS/466, that was approved by the Board in 2019.
- The proposed development is compatible with the surrounding in terms of building height and volume.
- The proposed development does not adversely affect the existing traffic system.
- The proposed development does not adversely affect the drainage system.
- The proposed development is not subjected to any adverse effect from the surrounding in terms of air quality and noise.
- The proposed development does not require any tree felling.

內容摘要

此規劃書是根據 <<城市規劃條例>> (第 131 章) 第 16 條，位於新界古洞南丈量約份第 94 約多個地段的住宅發展項目遞交許可申請，申請代表由 CHIH Design Limited 提交。是次許可申請是位於古洞南分區計劃大綱核准圖住宅（丁類 ）的規劃區域。（核准圖編號 S/NE-KTS/18）

是次申請內容有以下項目：-

- 擬建住宅發展項目的地積比率不多於 0.48(輕微放寬地積比率)和地盆覆蓋率不多於 33.3%;
- 擬建 42 間獨立屋;
- 改善現有道路。

是次申請有以下理據：-

- 是次申請的住宅發展項目在概念上是 0.468 的地積比率設計方案;
- 是次申請所建議的設計參數和城規會已批核的案例接近，批核個案的城規會申請編號為 A/NE-KTS/466，批核年份是 2019 年。
- 建築方案的高度和體積與鄰近的建築物配合;
- 擬建的住宅發展項目不會對區內的交通帶來不良影響; 及
- 擬建的住宅發展項目不會對區內的渠務設施帶來不良影響。
- 擬建的住宅發展項目不會受到空氣及噪音的污染
- 擬建的住宅發展項目不需要砍伐樹木

INTRODUCTION

1. Introduction
2. Background
3. The Development Proposal
4. Planning Justifications
   - 4.1 A notional 0.47 PR scheme
   - 4.2 A valid precedent case
   - 4.3 Compatible scale
   - 4.4 No tree felling
   - 4.5 No Adverse Traffic Impact
   - 4.6 No Adverse Drainage Impact
   - 4.7 No Adverse Air Quality and Noise Impact

Appendix 1

Table 1 – Development Parameters

Appendix 2

Table 2 – Lots Schedule

LIST OF PLANS

Plan 1 Site Location Plan
Plan 2 Subject Site
Plan 3 Aerial View of The Subject Site and Surroundings
Plan 4 Lot Plan (the ownership plan)
Plan 5 Master Layout Plan
Plan 6 Ground Floor Plan
Plan 7 First Floor Plan
Plan 8 Second Floor Plan
Plan 9 Section A-A’
Plan 10 Schematic Landscape Plan
Plan 11 Location of Photomontage vantage points
Plan 12 Vantage point 1
Plan 13 Vantage point 2
Plan 14 Vantage point 3
Plan 15 Vantage point 4

1. INTRODUCTION

This planning statement is prepared and submitted under section 16 of the Town Planning Ordinance (Cap. 131) by CHIH Design Limited on behalf of Great Huge Limited. (the applicant) in support of an application for a private residential development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T. Kwu Tung South, NT. (the subject site).

The proposed residential development under this application is within the following parameters: -

- Proposed plot ratio not more than 0.48(a minor relaxation of plot ratio) and site coverage not more than 33.3%
- Proposed development of total 42 houses.
- Improvement of the existing access road.

This statement provides development parameters and planning justifications. It is the intention of this planning statement to prove that the proposed residential development at various lots in DD94, Kwu Tung South, NT is acceptable from planning point of view.

2. BACKGROUND

The application site is currently used as open storage. The owners (the applicant) intend to develop the application site for residential use. According to OZP, residential development in R(D) zone (where the subject site falls upon) is on column II. To enable the proposed development, a section 16 Planning Application would be required to obtain permission from the Town Planning Board.

3. THE DEVELOPMENT PROPOSAL

The Development Scheme

The proposed private residential development comprises 42 houses within the application site and an improved access road leading from Hang Tau Road to the site. Among all, 35 nos.

of houses are detached and the remaining 7 nos. situated on a 1 storey non-domestic podium that comprises a communal carpark, a clubhouse and E/M rooms. The schematic layout of the proposal is annexed to Plan 6 to Plan 8. Plan 9 illustrates a schematic section of the proposed development. Plan 10 illustrates a preliminary landscape proposal for the development. Plan 11 to Plan 15 illustrates the perspective views of the proposed development.

The proposed development parameters are list out in Table 1 annexed as Appendix I.

Land Matters

The subject site comprises various lots in D.D. 94 in Kwu Tung South. Table 2 annexed as Appendix II shows the subject private lots with a total area of around 12,400 m^2. Plan 4 illustrates the demarcation of the lots. Part of some of the lots encroach upon the V -Zone to the south and the AGR-Zone to the West. Those lot areas encroach upon the V-zone and the AGR-zone are excluded from site area in this application. Thus, the application site area is reduced to 12,100 m^2, for the area solely falls within R(D) zone.

Upon approval of this application, the applicant will submit to the District Lands Office for a land exchange application to allow the proposed private residential development under lease.

Access Road

The condition of the existing access road leading from Hang Tau Road to the site is typical to many other rural access roads. It was not constructed in a planned manner nor according to any design standard. It varies in width, not properly paved, and is not lit by streetlamps. Apart from the subject application site, the existing access road also serves other neighboring houses/structures.

It is from traffic point of view that the existing access road would challenge the proposed development. For this reason. A different access road, comprising a section of the maintenance road of Sheung Yue River, is proposed to be improved to cater for this development use.

The proposed road improvement works comprises carriageway widening, provision of pedestrian way and a roundabout traffic intersection, etc..The improvement works will enhance vehicular safety for the subject site and the neighboring users. A preliminary design of the proposed access road, is described in the traffic impact assessment report.

4. PLANNING JUSTIFICATION

4.1 A notional 0.468 PR scheme

Certain lots forming part of the current application encroach upon the V -Zone to the south and the AGR-Zone to the West. Such parts of these lots that fall within the V-zone and the AGR-zone have been excluded in this application but will however benefit the future proposed houses as private garden area. If such excluded parts were counted as site area, the plot ratio of the application would be lowered to 0.468, revealing a more sensible low density residential scheme.

4.2 A valid precedent case

Application no. A/NE-KTS/466 was approved by the Board in 2019. This application features a minor relaxation of plot ratio and building height, respectively 0.48 and 10.5m. A comparison between this precedent case and the current application is drawn as follows:

A comparison between the precedent case and the current application

	Precedent case	Current Application
Plot ratio	0.48	0.48
population density	19no. house /5,627sq.m. =3.38%	42 no. house /12,100 sq.m. =3.47%
building height.	10.5m	8 or 9m
Green coverage	32%	40%

One can see that the current application is similar to the precedent case in terms of plot ratio and population density, but a lowered building height. The majority of houses (35 nos. out of 42 nos. in total) in the current scheme are in fact 2 storeys high in comparison to those 3 storeys in the precedent case. However, despite less no. of storey, the green coverage of the current application is 40% in comparison to 32% in the precedent case, (that is 12% higher) due to a more effective site planning. Similar to that of the precedent case, the minor relaxation of PR to 0.48 for the proposed

development meets the high demand of residential housing need in general. Yet, there are no design compromises and in fact, the proposed scheme is greener due to more careful architectural planning. The precedent case is therefore a true valid justification to support the minor relaxation of plot ratio at the current scheme.

4.3 Compatible scale

The surrounding is predominately occupied by 1 to 3 storeys high temporary structures and village type development. The proposed residential development is 2 to 3 storey high with a 0.48 plot ratio and a not more than 33.3% site coverage. The proposed building is considered compatible in scale to its surroundings. (Detail refer to Plan 11 to plan 15).

4.4 No tree felling

There is total 1 nos. of existing tree within the site. The proposed private residential development will not demand any tree felling or tree transplant. The positioning of the new buildings and the landscaping proposal has fully considered keeping the existing tree. The architecture is so arranged that the existing tree will be utilized for noise/visual screening, as well as playing a part in the new landscaping. (Detail refers to the Plan 10).

4.5 No Adverse Traffic Impact

Since the proposed residential development is of low density, no significant traffic impact is expected on the future road. (Detail refer to Traffic Impact Assessment)

4.6 No Adverse Drainage Impact

Onsite sewage treatment plant is proposed. No adverse sewerage and drainage impact due to the proposed development is anticipated. (Detail refer to Sewerage & Drainage Impact Assessment)

4.7 No Adverse Air Quality and Noise Impact

The proposed development will not be adversely affected by the surrounding in terms of air quality and noise.

APPENDIX 1

Table 1: Development Parameters

	Current Application
Total Site Area	Approx. 12,100m^2
Total Plot Ratio	Not More than 0.48
Site Coverage	33.3% (Not more than)
Maximum Building Height	8m (for house no.1-35) 9m (for house no.36-42);
No. of Storeys	2 storeys (for house no.1-35) 3 storeys (for house no. 36-42)
Total Number of Residential Blocks	42
Private Open Space	Not less than 2015 m^2
Total GFA	5,808 m^2
Total Non-Domestic Floor Area (plot ratio non-accountable, including covered recreational facilities, carparking and E&M area)	2,195.4m^2 Including : - 290.4 m^2(Covered recreational facilities) - 1,685 m^2(Carpark and carports - 220 m^2 (E&M GFA exempted)
No. Residential Flats	42
Average Residential Flat Size	138.3 m^2 (about)
Traffic Provisions	
No. of car-parking Space for resident	79 (calculation refer to Traffic Impact Assessment)
No. of car-parking spaces for visitors	5

Table 2: Lot Schedule

Lot no.	Fall within the zoning in OZP		
	R(D)	AGR	V
409 RP	Y		
409S.AA	Y		
409S.AB	Y		
409S.AC	Y		Y
409S.AD	Y		Y
409S.AE	Y		Y
409S.AF	Y		Y
409S.AG	Y		Y
409S.AH	Y		Y
409S.AI	Y		Y
409S.AJ	Y		Y
409S.AK	Y		
409S.AL	Y		
409S.AM	Y		
409S.AN	Y		
409S.AO	Y		
409S.AP	Y		
409S.AQ	Y		
409S.AR	Y		
409S.AS	Y		
409S.AT	Y		
409S.AU	Y		
409S.AV	Y		
409S.AW	Y		
409S.AX	Y		
409S.AY	Y		
409S.AZ	Y		
409S.BA	Y		
409S.BB	Y		

Lot no.	R(D)-Zone	AGR-Zone	V-Zone
409S.BC	Y		
409S.BD	Y		
409S.BE	Y		
409S.BF	Y		
409S.BG	Y		
409S.BH	Y		
409S.BI	Y		Y
409S.BJ	Y		Y
409S.BK	Y		Y
409S.BL	Y		Y
409S.BM	Y		Y
409S.BN	Y		Y
409S.BO	Y		Y
409S.BP	Y		Y
409S.BQ	Y		
409S.BR	Y		
409S.BS	Y		
409S.BT	Y	Y	
409 S.F. RP	Y		
409 S.F.ss.1	Y		
409 S.F.ss.2	Y		
409 S.F.ss.3	Y		
409 S.F.ss.4	Y		
409 S.F.ss.5	Y		
409 S.F.ss.6	Y		
409 S.F.ss.7	Y		
409 S.F.ss.8	Y		
409 S.F.ss.9	Y		
409 S.F.ss.10	Y		
409 S.F.ss.11	Y		
409 S.F.ss.12	Y		
409 S.F.ss.13	Y		
409 S.F.ss.14	Y		
409 S.F.ss.15	Y		

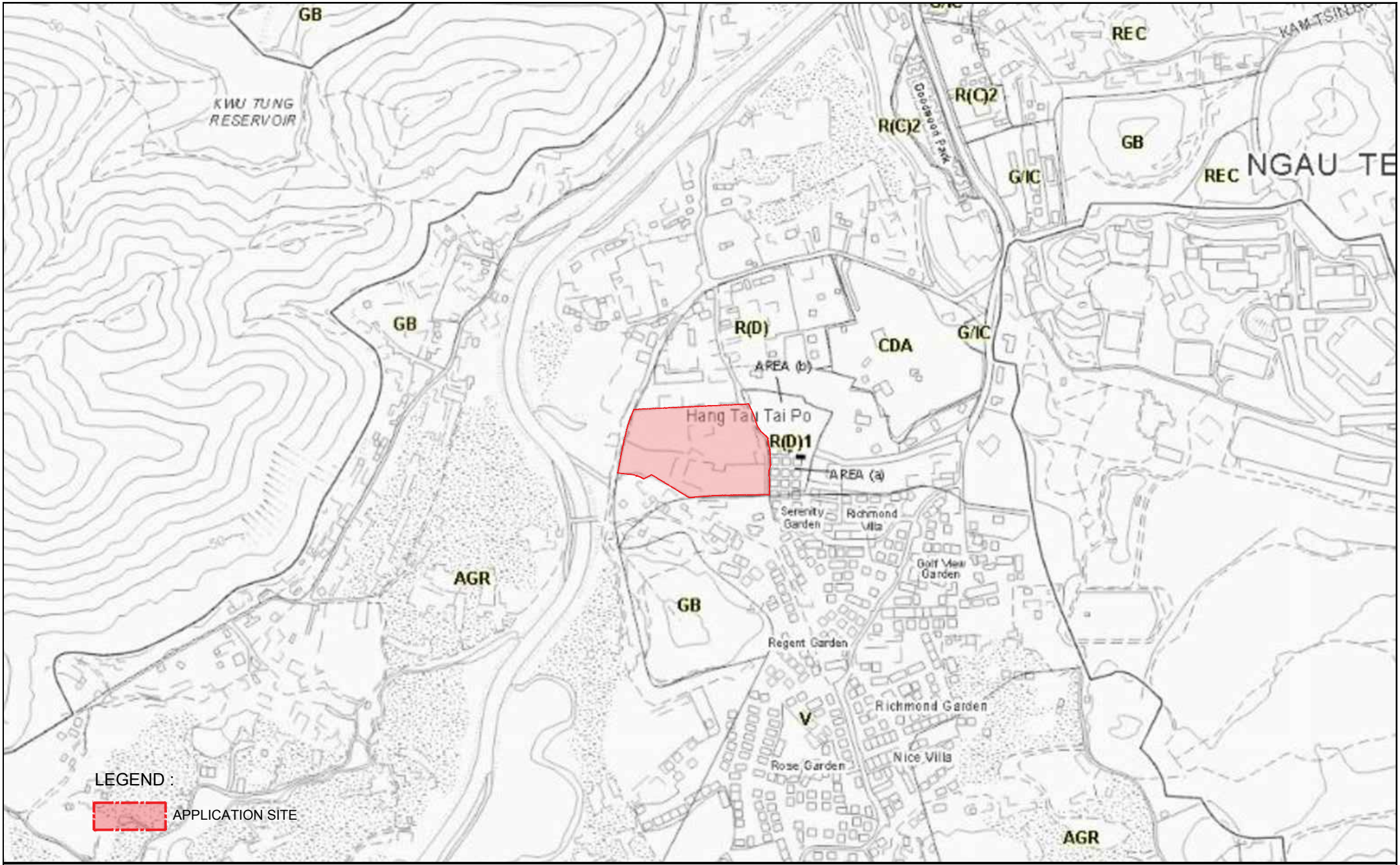
Lot no.	R(D)-Zone	AGR-Zone	V-Zone
409 S.F.ss.16	Y		
409 S.F.ss.17	Y		
409 S.F.ss.18	Y		
409 S.F.ss.19	Y	Y	
409 S.F.ss.20	Y		
409 S.F.ss.21	Y		
409S.G	Y		
409S.H	Y		
409S.I	Y		
409S.J	Y		
409S.K	Y		
409S.L	Y		
409S.M	Y		
409S.N	Y		
409S.O	Y		
409S.P	Y		
409S.Q	Y		
409S.R	Y		
409S.S	Y		
409S.T	Y		
409S.U	Y		
409S.V	Y		
409S.W	Y		
409S.X	Y		
409S.Y	Y		
409S.Z	Y		

Legend:

Lot falls within R(D) zone

Lot falls within R(D) & (V) zone

Lot falls within R(D) & (AGR) zone



PLAN 1 SITE LOCATION PLAN

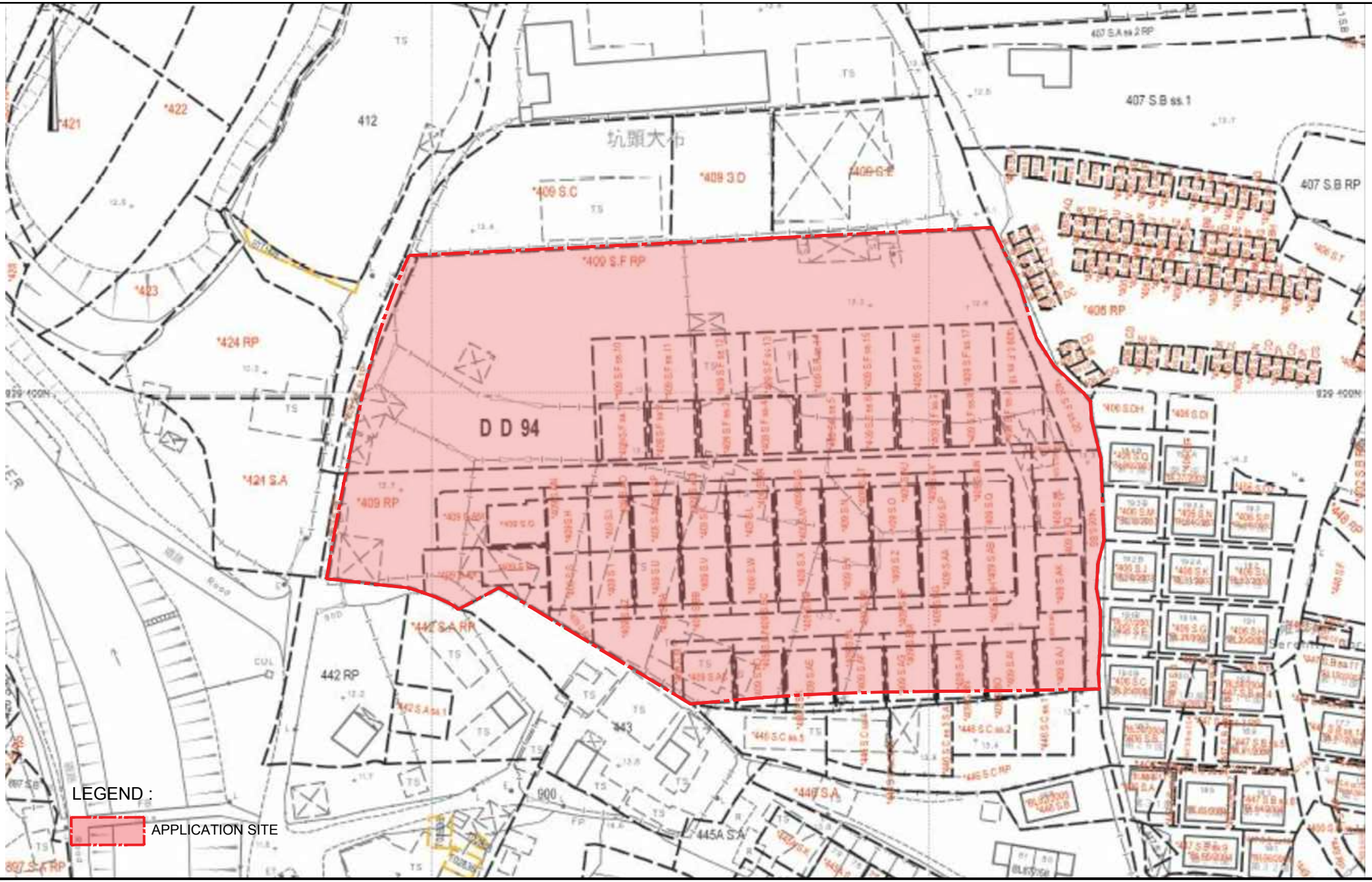
Extract from Approved KWU TUNG SOUTH Outline Zoning Plan No. S/NE-KTS/18

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at

Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:5000 @ A4



PLAN 2 SUBJECT SITE

Extract from Lot Index Plan No. ags_S00000105419_0001 DATED 29 DEC 2022

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at

Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:1000 @ A4



PLAN 3 AERIAL VIEW OF THE SUBJECT SITE AND SURROUNDINGS

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at

Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : N.A.



PLAN 4 LOTS PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd
JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:750 @A4

ADJOINING TEMPORARY STRUCTURE

VEHICULAR ENTRANCE

ADJOINING PRIVATE OPEN-AIR CARPARK

SETBACK FOR PEDESTRIAN WALKWAY

1 STOREY PODIUM

HOUSE 1
HOUSE 2
HOUSE 3
HOUSE 4
HOUSE 5
HOUSE 6
HOUSE 7
HOUSE 8
HOUSE 9
HOUSE 10
HOUSE 11
HOUSE 12
HOUSE 13
HOUSE 14
HOUSE 15
HOUSE 16
HOUSE 17
HOUSE 18
HOUSE 19
HOUSE 20
HOUSE 21
HOUSE 22
HOUSE 23
HOUSE 24
HOUSE 25
HOUSE 26
HOUSE 27
HOUSE 28
HOUSE 29
HOUSE 30
HOUSE 31
HOUSE 32
HOUSE 33
HOUSE 34
HOUSE 35
HOUSE 36
HOUSE 37
HOUSE 38
HOUSE 39
HOUSE 40
HOUSE 41
HOUSE 42

6000

EVA (6m WIDE ACCESS ROAD)

EXISTING TRACK

PARTIAL LOT AREA FALLS WITHIN AGRICULTURE ZONE (NOT FORMING PART OF THIS APPLICATION)

ADJOINING EXISTING RESIDENTIAL HOUSING ESTATE (SERENITY GARDEN)

ADJOINING TEMPORARY STRUCTURE

PARTIAL LOT AREA FALLS WITHIN VILLAGE ZONE (NOT FORMING PART OF THIS APPLICATION)

SITE AREA	: 12,100m²
NO. OF BLOCK	: 42
TOTAL GFA	: 5,808m²
	[90.1 x 7 (FOR HOUSE 36 - 42), 132.4 x16 (FOR HOUSE 1-14 & 27-28) 161 x 19 (FOR HOUSE 15-26 & 29-35)]
SITE COVERAGE	: NOT MORE THAN 33.3%
PLOT RATIO	: 0.48
BUILDING HEIGHT	: 8m (FOR HOUSE 1- 35) 9m (FOR HOUSE 36-42)

LEGEND:

APPLICATION SITE BOUNDARY

PLAN 5 MASTER LAYOUT PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at

Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3

WATER METER FOR 7 HOUSES
ELEC. METER FOR 7 HOUSES
GAS METER FOR 7 HOUSES
36m³ F.S. TANK
F.S. PUMP RM.
TBE RM.
TRANS-FORMER ROOM
SWT. RM.
H.R.
CLUB HOUSE
POR. & FLU. WATER PUMP& TANK
SEWAGE TREATMENT PLANT (EQUALIZATION TANK)
LOADING/UNLOADING
PEDESTRIAN WALKWAY
EVA
Track
TS
CUL
HOUSE 1
HOUSE 2
HOUSE 3
HOUSE 4
HOUSE 5
HOUSE 6
HOUSE 7
HOUSE 8
HOUSE 9
HOUSE 10
HOUSE 11
HOUSE 12
HOUSE 13
HOUSE 14
HOUSE 15
HOUSE 16
HOUSE 17
HOUSE 18
HOUSE 19
HOUSE 20
HOUSE 21
HOUSE 22
HOUSE 23
HOUSE 24
HOUSE 25
HOUSE 26
HOUSE 27
HOUSE 28
HOUSE 29
HOUSE 30
HOUSE 31
HOUSE 32
HOUSE 33
HOUSE 34
HOUSE 35
194B ???
194A ???
193B ???
193A ???
192B ???
192A ???
191B ????
191A ????
190B ????
190A ????
187 ????
186

LEGEND:

E.M.C.	= ELECTRICAL METER CABINET
G.M.&W.M.	= GAS METER & WATER METER
KIT.	= KITCHEN
P.R.	= POWER ROOM
P.W.&F.W. T.&P.	= PORTABLE WATER & FLUSHING WATER TANK & PUMP
T.G.	= TOWN GAS
TBE RM.	= TELECOMMUNICATIONS & BROADCASTING EQUIPMENT ROOM

PLAN 6 GROUND FLOOR PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd
JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3



LEGEND:

BAL.	= BALCONY
BATH	= BATHROOM
BR. 1	= BEDROOM 1
F.R.	= FLAT ROOF
M.BR.	= MASTER BEDROOM
P.R.	= POWER ROOM
S.R.	= STORE ROOM

PLAN 7 FIRST FLOOR PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at

Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3



LEGEND:

BAL.	= BALCONY
BATH	= BATHROOM
BR. 1	= BEDROOM 1
F.R.	= FLAT ROOF
M.BR.	= MASTER BEDROOM
U.P.	= UTILITY PLATFORM

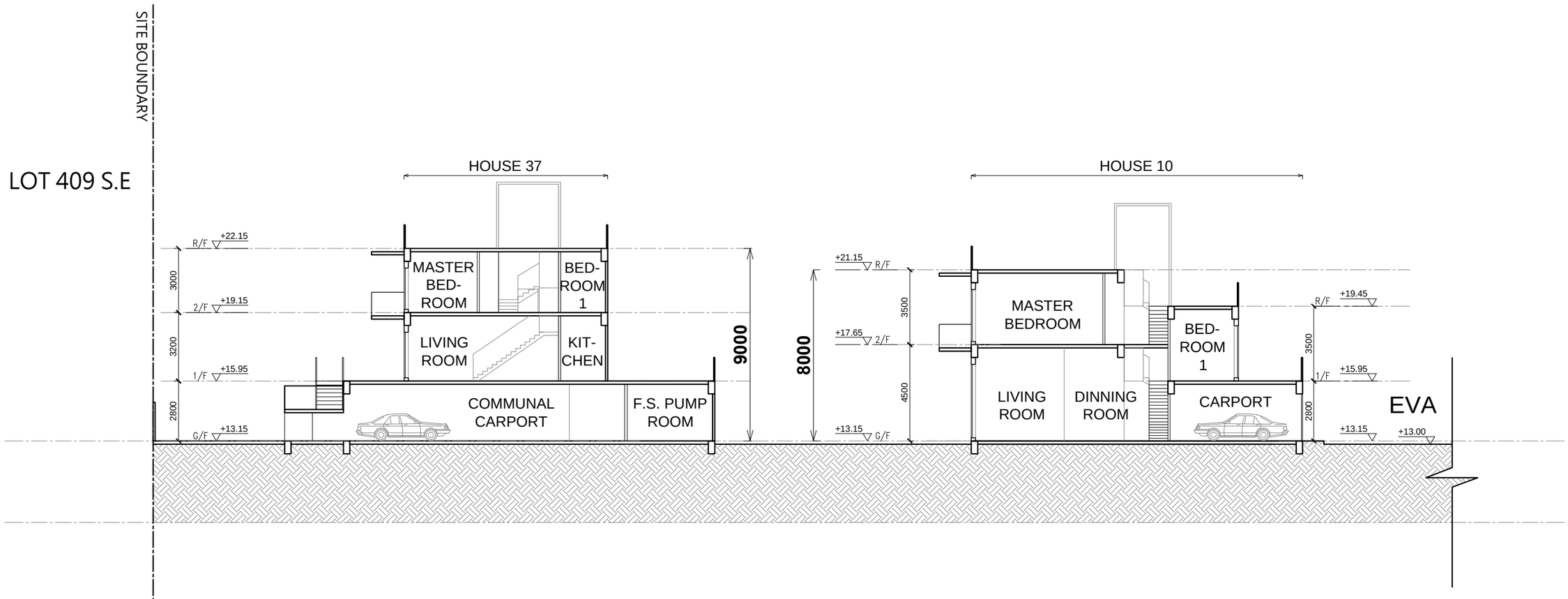
PLAN 8 SECOND FLOOR PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at

Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3



PLAN 9

SECTION AA'

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:200 @A3

- TOTAL 1 NO. OF TREE TO BE RETAINED WITHIN SITE

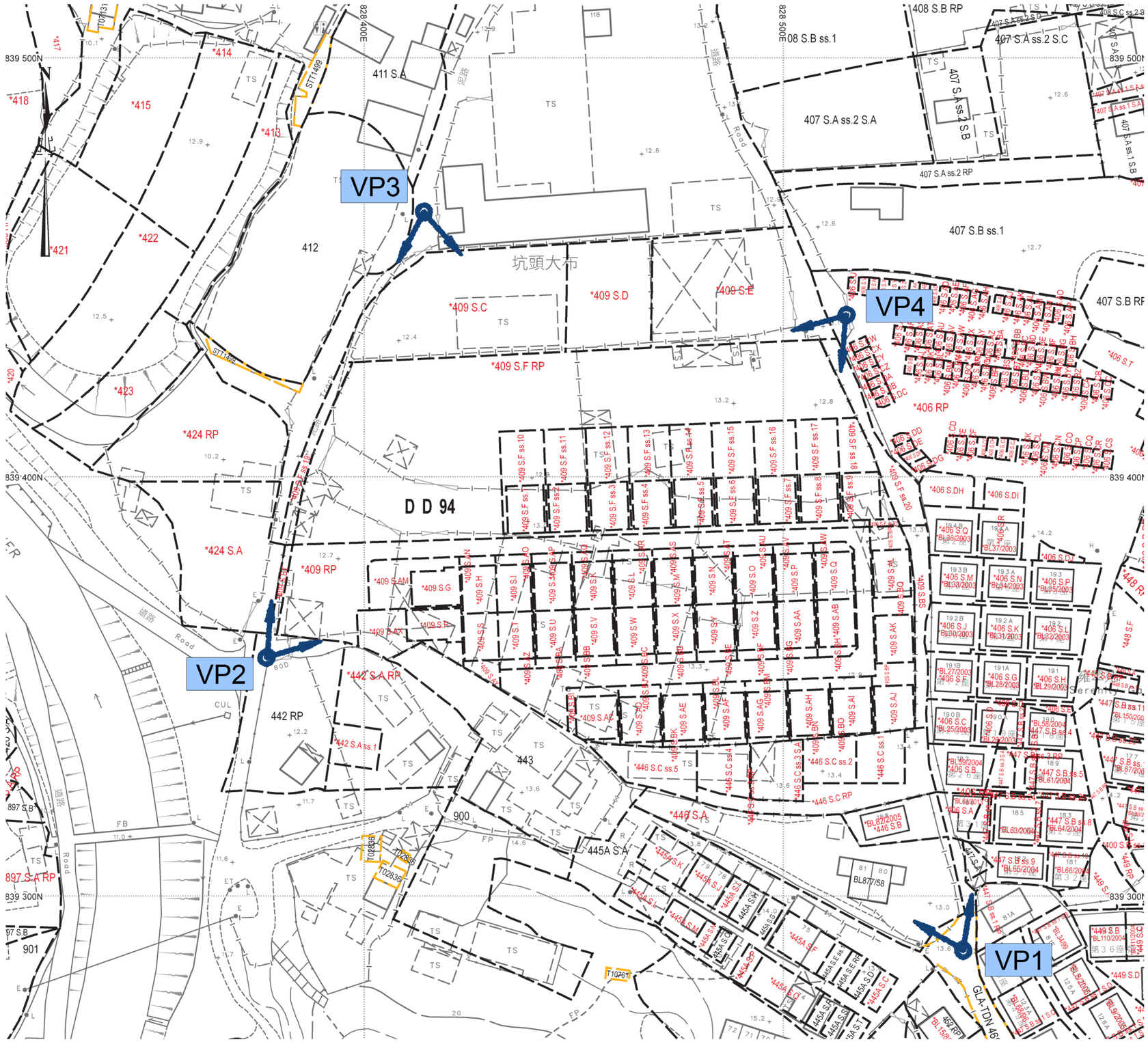
LEGEND:

- APPLICATION SITE BOUNDARY
- PROPOSED NEW TREE PLANTING
- PROPOSED RETAINED TREE
- PROPOSED NEW BUSHES
- PROPOSED PRIVATE GARDEN
- PROPOSED LAWN

PLAN 10 SCHEMATIC LANDSCAPE PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd
JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3



PLAN 11 LOCATION OF PHOTOMONTAGE VANTAGE POINTS

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at

Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:1000@A3



EXISTING SITUATION



PROPOSED SCHEME

PLAN 12 VANTAGE POINT 1

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd
JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : N.A.



EXISTING SITUATION



PROPOSED SCHEME

PLAN 13 VANTAGE POINT 2

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : N.A.



EXISTING SITUATION



PROPOSED SCHEME

PLAN 14 VANTAGE POINT 3

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : N.A.



EXISTING SITUATION



PROPOSED SCHEME

PLAN 15 VANTAGE POINT 4

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : N.A.

18/01/2023

Reference number CHK50682710/CHC/L2300079/sys

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT LOT 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ, 409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI, 409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO, 409S.BP, 409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.SS.1, 409 S.F.SS.2, 409 S.F.SS.3, 409 S.F.SS.4, 409 S.F.SS.5, 409 S.F.SS.6, 409 S.F.SS.7, 409 S.F.SS.8, 409 S.F.SS.9, 409 S.F.SS.10, 409 S.F.SS.11, 409 S.F.SS.12, 409 S.F.SS.13, 409 S.F.SS.14, 409 S.F.SS.15, 409 S.F.SS.16, S409 S.F.SS.17, 409 S.F.SS.18, 409 S.F.SS.19, 409 S.F.SS.20, 409 S.F.SS.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z IN D.D 94, KWU TUNG SOUTH, N.T.

TRAFFIC IMPACT ASSESSMENT

Final Report

SYSTRA MVA

IDENTIFICATION TABLE	
Project	Section 16 Planning Application for Proposed Private Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH, 409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ, 409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI, 409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO, 409S.BP, 409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.
Study	Traffic Impact Assessment
Type of document	Final Report
Date	18/01/2023
File name	L2300079_DD94 S16 Final Report.docx
Reference number	CHK50682710/CHC/L2300079/sys

MVA Hong Kong Limited
22/F Genesis • 33-35 Wong Chuk Hang Road • Hong Kong
T. +852 2529 7037 • F. +852 2527 8490 • E. info@mvaasia.com • www.mvaasia.com

TABLE OF CONTENTS

1.	**INTRODUCTION**	**1**
1.1	BACKGROUND	1
1.2	STUDY OBJECTIVES	1
1.3	STRUCTURE OF THE REPORT	2
2.	**THE PROPOSED DEVELOPMENT**	**3**
2.1	SITE LOCATION	3
2.2	PROPOSED DEVELOPMENT SCHEDULE	3
2.3	INTERNAL TRANSPORT PROVISION	3
2.4	ANTICIPATED DEVELOPMENT TRAFFIC	4
2.5	PROPOSED ACCESS ROAD IMPROVEMENT SCHEME AND ACCESS ARRANGEMENT	5
2.6	PEDESTRIAN ACCESS ARRANGEMENT	5
3.	**EXISTING TRAFFIC CONDITION**	**6**
3.1	EXISTING ROAD NETWORK	6
3.2	EXISTING TRAFFIC CONDITION	6
3.3	EXISTING PUBLIC TRANSPORT SERVICES	7
4.	**TRAFFIC FORECAST**	**8**
4.1	DESIGN YEAR AND FUTURE SCENARIOS TO BE ASSESSED	8
4.2	TRAFFIC FORECASTS	8
5.	**TRAFFIC IMPACT ASSESSMENT**	**12**
5.1	JUNCTION ASSESSMENTS FOR YEAR 2031 REFERENCE AND DESIGN SCENARIOS	12
5.2	ROAD LINK ASSESSMENTS FOR LOCAL ACCESS ROADS IN YEAR 2031 REFERENCE AND DESIGN SCENARIOS	12
6.	**LONG TERM TRAFFIC FORECAST FOR NOISE IMPACT ASSESSMENT (NIA)**	**14**
6.1	DESIGN YEAR FOR NIA STUDY	14
6.2	METHODOLOGY OF TRAFFIC FORECAST FOR NIA STUDY	14
6.3	VEHICLE CLASS	14
7.	**SUMMARY AND CONCLUSION**	**15**
7.1	SUMMARY	15
7.2	CONCLUSION	16

APPENDIX A – SWEPT PATH AND SIGHTLINE ANALYSES

APPENDIX B – JUNCTION ASSESSMENTS

LIST OF DRAWINGS

Drawing No. 1.1 Location Plan

Drawing No. 2.1 Proposed Master Layout Plan
Drawing No. 2.2 Existing Access Road and Traffic Condition
Drawing No. 2.3 Alternative Access Route with Upgrading of the Existing Local Track
Drawing No. 2.4 Proposed Access Road Improvement Scheme (Sheet 1 of 3)
Drawing No. 2.5 Proposed Access Road Improvement Scheme (Sheet 2 of 3)
Drawing No. 2.6 Proposed Access Road Improvement Scheme (Sheet 3 of 3)
Drawing No. 2.7 Pedestrian Route to GMB Stop

Drawing No. 3.1 Year 2022 Observed Traffic Flows
Drawing No. 3.2 Existing Junction Layout of Hang Tau Road / Access Road A (J1)
Drawing No. 3.3 Existing Junction Layout of Hang Tau Road / Access Road B (J2)

Drawing No. 4.1 Planned Future Developments in Close Proximity
Drawing No. 4.2 Year 2031 Reference Traffic Flows
Drawing No. 4.3 Year 2031 Design Traffic Flows

Drawing No. 5.1 Proposed Junction Layout of Hang Tau Road / Access Road B (J2)

Drawing No. 6.1 Year 2043 Peak Hours Traffic Forecast for NIA

LIST OF TABLES

Table 2.1	Development Schedules	3
Table 2.2	Provision of Internal Transport Facilities	3
Table 2.3	Estimated Traffic Generation and Attraction of the Proposed Development	4
Table 2.4	Net Increase of Traffic at the Application Site due to the Proposed Development	4
Table 3.1	Existing Junction Performance	6
Table 3.2	Year 2022 V/C ratio of Access Road A	7
Table 4.1	Average Annual Daily Traffic (A.A.D.T.) Data of ATC Station no. 6602 & 6606	8
Table 4.2	Population and Employment Estimates from TPEDM	9
Table 4.3	Planned Future Developments in Close Proximity of the Application Site	10
Table 4.4	Adopted Trip Rates and Estimated Trips for the Planned Future Developments	10
Table 5.1	Year 2031 Operational Performance of the Key Access Road Junctions	12
Table 5.2	Design Year 2031 V/C ratio of Local Access Road	12
Table 6.1	Population Projections from “Hong Kong Population Projections 2020 – 2069”	14

1. INTRODUCTION

1.1 Background

1.1.1 The Application Site is located at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T. with a total site area of about 12,100m^2. The site location is shown in **Drawing No. 1.1**.

1.1.2 Under the Approved Kwu Tung South Outline Zoning Plan No. S/NE-KTS/18 (the OZP), the Application Site is zoned as "Residential (D)" (R(D) zone) with a maximum allowable plot ratio of 0.4.

1.1.3 The landowner of the Application Site (the Applicant) intends to redevelop the Application Site with the proposed minor relaxation of plot ratio from 0.4. to 0.48 providing 42 nos. of residential houses at an average unit size of about 138.3m^2 (the Proposed Development). To enable the Proposed Development, a Section 16 Planning Application (S16 Application) would be required to obtain permission from Town Planning Board (TPB).

1.1.4 MVA Hong Kong Limited was commissioned by the Applicant as a traffic consultant to carry out a traffic impact assessment in support of the S16 planning application for the Proposed Development.

1.1.5 The purpose of this study is to review the traffic conditions and assess the potential traffic impact on the adjacent local road network caused by the Proposed Development in the design year.

1.2 Study Objectives

1.2.1 The main objectives of this study are:

- To present the details on the Master Layout Plan (MLP) for the Proposed Development such as the proposed development parameters, access arrangements, internal transport provisions as well as the proposed improvement to the existing access road;
- To undertake manual classified count traffic surveys to determine the existing traffic conditions in the vicinity of the Application Site;
- To study and assess the existing travel patterns, road and junction capacities in the local area adjacent to the Application Site;
- To identify the potential traffic generation from the Application Site under the proposed MLP and carry out distribution and assignment of the generated traffic;
- To estimate the future traffic flows for the design year on the surrounding local roads;
- To assess the traffic impact due to the Proposed Development on the surrounding local roads and junctions with the proposed access road improvement scheme for the design year;
- To derive long term traffic forecast for Noise Impact Assessment (NIA) study purpose.

1.3 Structure of the Report

1.3.1 Following this introductory chapter, there are six further chapters.

1.3.2 **Chapter 2** – *The Proposed Development*, which presents the development schedule for the proposed MLP in S16 planning application, the proposed access arrangements and internal transport provision, anticipates the potential traffic generation of the Proposed Development and discusses the proposed access road improvement scheme.

1.3.3 **Chapter 3** – *Existing Traffic Condition*, which describes the existing road network and public transport facilities in the vicinity of the Application Site, presents the summary of traffic count survey and assesses the existing traffic conditions.

1.3.4 **Chapter 4** – *Traffic Forecast*, which discusses the design year and the future scenarios for assessment in this study, summarises the methodology for future traffic forecasts, and presents the traffic forecast for the design year.

1.3.5 **Chapter 5** – *Traffic Impact Assessment*, which presents the findings of the traffic impact assessment in the future design year.

1.3.6 **Chapter 6** – *Long Term Traffic Forecast for Noise Impact Assessment (NIA)*, which describes the forecasting methodology and presents the results of long term traffic forecast for NIA.

1.3.7 **Chapter 7** – *Summary and Conclusion*, which summarises the findings of the study and presents the conclusions regarding the traffic issues associated with the Proposed Development.

2. THE PROPOSED DEVELOPMENT

2.1 Site Location

2.1.1 The Application Site is located in Hang Tau Tai Po and situated to the west of Hang Tau Road. It is surrounded by low-rise village-type houses and temporary structures serving.

2.1.2 Currently, the Application Site is serving storage and parking activities. Under the Approved Kwu Tung South Outline Zoning Plan No. S/NE-KTS/18 (the OZP), the Application Site is zoned as "Residential (D)" (R(D) zone) with a maximum allowable plot ratio of 0.4.

2.2 Proposed Development Schedule

2.2.1 The Proposed Development at the Application Site with the proposed minor relaxation of plot ratio from 0.4. to 0.48 under the proposed MLP will comprise a total of 42nos. of residential detached houses with an average unit size of 138.3m^2. The development schedule is shown in **Table 2.1**.

Table 2.1 Development Schedules

Development Schedule	Proposed Development
Site Area	Approx. 12,100m^2
Plot Ratio	0.48
Total Domestic GFA	Approx. 5,808m^2
Total no. of units	42 houses
Average Unit Size	Approx. 138.3 m^2

2.3 Internal Transport Provision

2.3.1 The provision of internal transport facilities, i.e. car parking spaces and loading/unloading bays, for the proposed development scheme are reviewed with reference to the relevant requirements as stipulated in Hong Kong Planning Standards & Guidelines (HKPSG). The proposed internal transport facilities are presented in **Table 2.2**.

Table 2.2 Provision of Internal Transport Facilities

Transport Facilities	Requirements					Required Provisions Ratio	Proposed Provision
	Unit Size	No. of House	R1	R2[(1)]	R3[(2)]	GPS x R1 x R2 x R3	
Residential Car Parking Space	70 < FS ≤ 100	7	2.4	1	1.3	0.45 – 0.78 spaces per house	6 [0.78 spaces per residential house]
	130 < FS ≤ 160	16	5.5			1.02 – 1.79 spaces per house	29 [1.79 spaces per residential house]
	160 < FS ≤ 220	19	7.0			1.30 – 2.28 spaces per house	44 [2.28 spaces per residential house]
						Total	**79**
Visitor Parking Space	5 nos. of visitor spaces per block for private residential developments with more than 75 units per block					-	5[(3)]
Loading/Unloading Bay	Not specific for private residential development with less than 800 flats					-	1

Notes: (1) R2 = 1 as the site is outside 500m radius of rail station.
(2) R3 = 1.3 for the Proposed Development with plot ratio 0.48 (i.e. 0.00 <PR<1.00).
(3) 2 accessible car parking spaces to be reserved for 51-150 car parking provision in residential development as per HKPSG requirement.

2.3.2 In view of the Application Site with limited access by public transport, it is expected that the travelling of residents would be mainly relied on private cars. To ensure sufficient car parking spaces are provided to serve the residents' need, the upper end requirements of HKPSG is followed.

2.3.3 Although there is no specific requirement of visitor carparking space for private residential house development with less than 75 units in HKPSG, it is proposed to provide 5 nos. of visitor carparking spaces to serve the visitor demand with limited access by public transport. In addition, a loading/unloading bay will be provided to serve the operation need of the development.

2.4 Anticipated Development Traffic

2.4.1 To estimate the potential traffic generation and attraction of the Proposed Development scheme, reference is made to the traffic trip rates for the residential development as stipulated in TPDM. In view of the Application Site with limited access by public transport, the upper limit of TPDM trip rates are adopted in the estimation. The estimated potential traffic generation and attraction of the Proposed Development is shown in **Table 2.3**.

Table 2.3 Estimated Traffic Generation and Attraction of the Proposed Development

	AM Peak Hour		PM Peak Hour	
	Generation	**Attraction**	**Generation**	**Attraction**
Adopted Trip Rates(1) (pcu/hr/unit)	0.3021	0.2234	0.2258	0.2226
42 Houses at Average Unit Size of 138.3m²				
Estimated Trips (pcu/hr)	**13**	**9**	**9**	**9**

Note : (1) TPDM upper trip rates for Private Housing with Ave. Flat Size of 140m² is adopted

2.4.2 As shown in **Table 2.3**, it is estimated that the traffic generation and attraction of the Proposed Development would be minimal with two-way traffic of about 22 pcu/hr and 18 pcu/hr during the AM and PM peak hours respectively.

2.4.3 It should be noted that the Application Site is currently serving storage and parking activities, and the two-way traffic demand of 17 pcu/hr was observed at the Application Site under its current operation. It is expected that this existing 17 veh/hr traffic flow induced by the current use at the Application Site would be omitted upon the development at the Application Site, and the net increase of traffic induced by the Application Site due to the Proposed Development would be negligible as shown in **Table 2.4**.

Table 2.4 Net Increase of Traffic at the Application Site due to the Proposed Development

Scenario	**Traffic Generation and Attraction of the Application Site (pcu/hr)**			
	AM Peak Hour		**PM Peak Hour**	
	Generation	**Attraction**	**Generation**	**Attraction**
Existing Use [a]	10	7	7	10
With Proposed Development [b]	13	9	9	9
Net Difference [b-a]	**+3**	**+2**	**+2**	**-1**

2.4.4 As compared with the existing situation of the Application Site, the additional traffic induced by Proposed Development would be minute with no more than 3 pcu/hr in the traffic generation and attraction during the morning and evening peak hours.

2.5 Proposed Access Road Improvement Scheme and Access Arrangement

2.5.1 Currently, the Application Site is accessible from the local access road (Access Road A) benching-off from Hang Tau Road near the Hang Tau Road Public Toilet. The existing vehicular access route of the Application Site is shown in **Drawing No. 2.2**.

2.5.2 Notwithstanding that the existing Access Road A is substandard with road widths ranging from 3.0m to 7.1m only, the current traffic condition is still found manageable under single track access road arrangement for the very low traffic demand with some passing places available on-site. The existing traffic condition and arrangement at the local access roads is shown in **Drawing No. 2.2**.

2.5.3 As presented in **Table 2.3**, it is estimated that the additional traffic induced by the Proposed Development would be minute, and thus the impact to the current traffic condition due to the Proposed Development would be immaterial. Having said that, the possible improvement to the current access of the Hang Tau Tai Po area is explored for not only facilitating the future access of the Proposed Development but also enhancing the overall traffic condition in the area.

2.5.4 Given that road widening is limited at many sections along the existing Access Road A where are already bounded by the well-developed village houses on both sides, further improvement on this road would not be practical prior to the redevelopments of these existing village houses. In the contrary, it is reviewed feasible to upgrade the existing local track running aside Cheung Yue River into a local access road (Access Road B) for providing an alternative vehicular access from Hang Tau Road near Jockey Club Beas River Lodge to the Hang Tau Tai Po area, as shown in **Drawing No. 2.3**.

2.5.5 To upgrade the existing local track, it is proposed to widen the existing local track to 6m wide together with modification works at its junction with Hang Tau Road. With the constraint of land status, 6m wide carriageway cannot be achieved at few local sections; nevertheless, these local sections can be operated under single track access road arrangement with provision of sufficient space for passing bays. The proposed access road improvement scheme is exhibited in **Drawing Nos. 2.4, 2.5 and 2.6,** the relevant swept path and sightline analyses are also attached in **Appendix A** to demonstrate the feasibility of single track access road arrangement at the local sections.

2.5.6 With the proposed access road improvement scheme to facilitate an alternative access road to/from Hang Tau Road, the future vehicular access of the Proposed Development is proposed at the northeast corner of the Application Site in order to allow a more direct access, as shown in **Drawing No. 2.1**.

2.6 Pedestrian Access Arrangement

2.6.1 Since the Proposed Development will comprise of 42 residential houses only (i.e. 35 detached houses and 7 terraced houses) while sufficient car parking spaces will also be provided, it is anticipated that private car would be the majority of transport mode of the residents in the Proposed Development and the pedestrian demand would be negligible.

2.6.2 Nevertheless, a setback of the development is proposed in the MLP to maintain a pedestrian path in the east to connect the adjacent pathway leading to the existing GMB stop at the Hang Tau Village Office in south. The proposed setback and the pedestrian route from the Proposed Development to the existing GMB stop are shown in **Drawing No. 2.1** and **Drawing No. 2.7** respectively.

3. EXISTING TRAFFIC CONDITION

3.1 Existing Road Network

3.1.1 As discussed **Section 2.5**, the Application Site is accessible from Hang Tau Road via the Access Road A.

3.1.2 Hang Tau Road is a single two-lane local distributor connecting Kam Hang Road at the northern end and provides the vehicular access to and from the Application Site and the Kwu Tung South area. The local access roads branched-off from Hang Tau Road in the south are currently serving the accesses of the scattered low-rise village housing in the Hang Tau Tai Po area.

3.1.3 Notwithstanding that the existing Access Road A is substandard with road widths ranging from 3.0m to 7.1m only, the current traffic condition is still found manageable under single track access road arrangement for the very low traffic demand with some passing places available on-site.

3.2 Existing Traffic Condition

3.2.1 To review the existing traffic condition, site inventory and traffic count surveys were carried out at the existing key access road junction of Hang Tau Road / Access Road A and the adjacent local access roads in the vicinity of the Application Site during the hours of 7:30-9:30am and 5:00-7:00pm on a typical weekday in August 2022.

3.2.2 Since an access road improvement scheme is proposed as discussed in **Section 2.5**, the existing traffic flows at the junction of Hang Tau Road / Access Road B / Access of Jockey Club River Beas Lodge were also observed for assessment.

3.2.3 Observed traffic data indicates that the AM peak hour and PM peak hour are from 7:30am to 8:30am and 5:45pm to 6:45pm respectively and the surveyed traffic flows are shown in **Drawing No. 3.1**. The existing layouts of the junction of Hang Tau Road / Access Road A (Junction J1) and the junction of Hang Tau Road / Access Road B (Junction J2) are shown in **Drawing No. 3.2** and **Drawing No.3.3** respectively.

3.2.4 To evaluate the existing traffic condition in the vicinity of the Application Site, the operational performance of the two surveyed junctions were assessed based on the observed traffic flows and their existing junction layouts and control method. The results are summarised in **Table 3.1**.

Table 3.1 Existing Junction Performance

Junction No.	Junction	Method of Control	2022 DFC(1)	
			AM Peak	PM Peak
J1	Hang Tau Road / Access Road A	Priority	0.05	0.08
J2	Hang Tau Road / Access Road B	Priority	0.06	0.10

Note: (1) DFC = Design flow/ capacity ratio for a priority junction

3.2.5 The results presented in **Table 3.1** indicate that the assessed two junctions are currently operating with ample capacities during the both morning peak and evening peak. The details of junction assessments are attached in **Appendix B**.

3.2.6 Apart from the junction operation assessment for the junctions at Hang Tau Road, road link assessment is conducted to review the existing traffic condition at the local access road under the current single track access road arrangement. The road link assessment results are presented in **Table 3.2**.

Table 3.2 Year 2022 V/C ratio of Access Road A

Road Link	Link Capacity (pcu/hr)	Year 2022			
		Peak Hour Flows[2] (pcu/hr)		Flow/Capacity Ratio (V/C Ratio)	
		AM	PM	AM	PM
Access Road A	100[1]	50	55	0.50	0.55

Notes: (1) Refer to Transport Planning and Design Manual (TPDM) a single track road can accommodate 2-way flows of 100 vehicles per hour. For conservative approach, 100 pcu/hr is adopted as the capacity for assessment.
(2) The highest traffic flow on Access Road A as presented in in **Drawing No. 3.1**.

3.2.7 The assessment results in **Table 3.2** reflected that the traffic condition at Access Road A is still found acceptable under single track access road arrangement for the very low traffic demand.

3.3 Existing Public Transport Services

3.3.1 The Application Site is located in rural area remote from railway station, and the travel distance between the Application Site and the MTR Sheung Shui Station is about 4km. The area in the vicinity of the Application Site is mainly served by one Green Minibus (GMB) service i.e. route no. 50K, providing service between Hang Tau and Sheung Shui MTR station with stops along the local access roads in Hang Tau.

3.3.2 The nearest GMB stop of route no. 50K in the vicinity of the Application Site is indicated in **Drawing No. 2.7**.

4. TRAFFIC FORECAST

4.1 Design Year and Future Scenarios to be Assessed

Design Year

4.1.1 It is anticipated that the Proposed Development will be completed by year 2028. In order to assess the impact of the Proposed Development related traffic on the local road network, year 2031 (i.e. anticipated completion year 2028 + 3 years) is adopted as the design year for traffic impact assessment study.

Future Scenario to be Assessed

4.1.2 To evaluate the effect to the surrounding road junctions due to the Proposed Development, the below future scenarios will be assessed:

- **Reference Scenario in Year 2031** – Future scenario in year 2031 without the Proposed Development at the Application Site; and
- **Design Scenario in Year 2031** – Future scenario in year 2031 with the Proposed Development the Application Site and the proposed access road improvement scheme.

4.2 Traffic Forecasts

Background Traffic Growth

4.2.1 To derive the year 2031 reference traffic flows, the background growth in traffic should be reviewed and identified for the area, which are made reference to the historical growth trend and the population and employment projections.

4.2.2 Castle Peak Road – Kwu Tung and Kwu Tung Road are the two nearest traffic count stations to the Application Site in Transport Department's latest Annual Traffic Census (ATC). The average annual daily traffic (A.A.D.T) data from year 2011 to 2021 as reported in the latest ATC are summarized in **Table 4.1**.

Table 4.1 Average Annual Daily Traffic (A.A.D.T.) Data of ATC Station no. 6602 & 6606

ATC Stn. No.	Road	AADT (Vehicle/Day)											Derived Growth Rate (% p.a.)
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2019/ 2009
6602	Castle Peak Rd - Kwu Tung	10,440	10,090	10,670	11,120	10,560	10,690	11,540	10,800	10,660	11,000	11,000	0.3%
6606	Kwu Tung Rd	2,810	3,030	2,980	3,290	3,670	4,070	4,450	4,630	4,610	4,050	4,290	2.1%
Total		**13,250**	**13,120**	**13,650**	**14,410**	**14,230**	**14,760**	**15,990**	**15,430**	**15,270**	**15,050**	**15,290**	**+1.4%**

Source: The Annual Traffic Census 2011 – 2021 as available on TD's website

4.2.3 The A.A.D.T. flows in **Table 4.1** show that the overall average traffic growth on the road sections in the vicinity of the application site increased at the rate of 1.4% per annum for year 2011 to 2021.

4.2.4 Other than the historical trend, the population and employment estimates from Territorial Population and Employment Data Matrix (TPEDM) as available on Planning Department's website are also referred for the review on the background traffic growth. The population and employment estimates for the Rural Northeast New Territories (NENT (Other Area)) and Fanling / Sheung Shui District in year 2019, 2026 and 2031 are presented in **Table 4.2**.

Table 4.2 Population and Employment Estimates from TPEDM

Planning Data District	Population			Growth Rate (% p.a.)	
	2019	2021	2026	2026/2019	2031/2026
NENT (Other Area)	105,400	143,050	240,600	4.5%	11.0%
Fanling / Sheung Shui	258,300	274,100	352,350	0.9%	5.2%
Total	**363,700**	**417,150**	**592,950**	**2.0%**	**7.3%**
Planning Data District	**Employment**			**Growth Rate (% p.a.)**	
	2019	**2021**	**2026**	**2026/2019**	**2031/2026**
NENT (Other Area)	36,050	38,300	65,550	0.9%	11.3%
Fanling / Sheung Shui	64,100	66,650	79,400	0.6%	3.6%
Total	**100,150**	**104,950**	**144,950**	**0.7%**	**6.7%**
Planning Data District	**Population + Employment**			**Growth Rate (% p.a.)**	
	2019	**2021**	**2026**	**2026/2019**	**2031/2026**
NENT (Other Area)	141,450	181,350	306,150	3.6%	11.0%
Fanling / Sheung Shui	322,400	340,750	431,750	0.8%	4.8%
Total	**463,850**	**522,100**	**737,900**	**1.7%**	**7.2%**

Source: 2016 - based Territorial Population and Employment Data Matrix as available on Planning Department's website

4.2.5 As presented in **Table 4.2**, the growth rates as derived from the TPEDM estimates for the Rural NENT and Fanling / Sheung Shui District from year 2016 to 2026 are ranged from +1.7% to +7.2% p.a.

4.2.6 By considering the extensive coverage by the NENT district in TPEDM, it can be seen that the increment in population and employment between 2019-2031 have been accounted by the intakes of Kwu Tung North New Development Area (KTN NDA) and Fanling North New Development Area (FLN NDA).

4.2.7 Whilst the application site is situated near the southern fringe of Kwu Tung South, the major access routes and road network for the application site would be substantially different from those by the development traffic of FLN NDA and KTN NDA.

4.2.8 Therefore, the TPEDM growth rate may not be representative to reflect the background traffic growth for the local road network in the vicinity of the Kwu Tung South area.

4.2.9 In view of the above, the traffic growth rate of +1.4% per annum as derived with reference to the rounded growth rate from ATC is adopted for this study to reflect the background traffic growth in the area from year 2022 to 2031.

Planned Future Developments in Close Proximity

4.2.10 It is noted that there are three future residential developments planned in the close proximity of the Application Site at Hang Tau Road. The locations and details of these three future residential developments are indicated in **Drawing No. 4.1** and summarised in **Table 4.3** respectively**.**

Table 4.3 Planned Future Developments in Close Proximity of the Application Site

Site	Planned Future Developments [1]	Details
A	Private Residential Development at Various Lots in D.D.92 and D.D.94 and Adjoining Government Land, Hang Tau Tai Po, Kwu Tung South (Y/NE-KTS/13)	• Domestic Plot ratio 1.23 • A total Domestic GFA of 22,987m^2 with 320 residential units[2]
B	Private Residential Development at Various Lots in D.D.94 and Adjoining Government Land, Hang Tau Tai Po, Sheung Shui (A/NE-KTS/466)	• Plot ratio 0.48 • A total GFA of 2,700 m^2 with 19 houses[3]
C	Private Residential Houses at No. 106 Hang Tau Road, Kwu Tung South (A/NE-KTS/460)	• Plot ratio not more than 0.4 • A total GFA of 471.2 m^2 with 2 houses[4]

Notes : (1) Locations are indicated in **Drawing No. 4.1**
(2) Refer to information on the approved application no. Y/NE-KTS/13 as available from the Statutory Planning Portal 2 by Town Planning Board.
(3) Refer to information on the approved application no. A/NE-KTS/466 as available from the Statutory Planning Portal 2 by Town Planning Board.
(4) Refer to information on the approved application no. A/NE-KTS/460 as available from the Statutory Planning Portal 2 by Town Planning Board.

4.2.11 It is anticipated that the three planned future residential developments on Hang Tau Road would also be completed in or before year 2031, they will be taken into account in the traffic forecast.

4.2.12 To evaluate the potential traffic induced by the three planned future residential developments in close proximity, the traffic trip rates for the residential development as stipulated in Transport Planning & Design Manual (TPDM) are referred. The adopted TPDM trip rates and the estimated potential traffic generation and attraction of the three planned future residential house development are presented and summarized in **Table 4.4**.

Table 4.4 Adopted Trip Rates and Estimated Trips for the Planned Future Developments

	AM Peak Hour		PM Peak Hour	
	Generation	**Attraction**	**Generation**	**Attraction**
Site A – 320 Flats at avg. size of 71.8m^2				
Adopted Trip Rates[1] (pcu/hr/flat)	0.0888	0.0515	0.0356	0.0480
Estimated Trips (pcu/hr)	**28**	**16**	**11**	**15**
Site B – 19 Houses at avg. size of 142m^2				
Adopted Trip Rates[3] (pcu/hr/flat)	0.3021	0.2234	0.2258	0.2226
Estimated Trips (pcu/hr)	**6**	**4**	**4**	**4**
Site C – 2 House at avg. size of 235.6 m^2				
Adopted Trip Rates[2] (pcu/hr/flat)	0.3524	0.2837	0.2842	0.3948
Estimated Trips (pcu/hr)	**1**	**1**	**1**	**1**

Notes: (1) TPDM mean trip rates for private housing with average flat size of 70m^2 adopted for medium rise residential development
(2) TPDM upper trip rates for private housing with average flat size of 140m^2 adopted for house development
(3) TPDM upper trip rates for private housing with average flat size of 240m^2 adopted for house development

Year 2031 Reference Traffic Flows

4.2.13 The 2031 reference traffic flows are derived by:

(i) Applying a growth rate of 1% p.a. on the 2022 observed flows upto the design year 2031; and

(ii) Superimposing the potential traffic as induced by the planned future residential developments at Hang Tau Road in close proximity (**Table 4.4**) onto the traffic flows in (i);

4.2.14 The year 2031 reference traffic flows are presented in **Drawing No. 4.2**.

Year 2031 Design Traffic Flows

4.2.15 Having formulated the year 2031 reference traffic flows, the year 2031 design flows are then derived by:

(iii) re-distributing the year 2031 reference traffic flows (**Drawing No. 4.2**) by taking into account the proposed access road improvement scheme; and

(iv) superimposing the net increases in development traffic of the Application Site due to the Proposed Development as presented in **Table 2.3** onto the re-distributed traffic flows in (iii);

4.2.16 The year 2031 design traffic flows are presented in **Drawing No. 4.3**.

5. TRAFFIC IMPACT ASSESSMENT

5.1 Junction Assessments for Year 2031 Reference and Design Scenarios

5.1.1 The operational performances of the Junction J1 are assessed with the derived 2031 reference and design traffic flows under their existing layouts and method of control.

5.1.2 Since the access road improvement scheme with modification works at Junction J2 was proposed under this application, the operational performances of the junctions in the Design Scenario are assessed with the derived 2031 design traffic flows under the proposed junction layout and arrangement as shown in **Drawing No. 5.1**.

5.1.3 The assessment results for reference and design year of 2031 are summarised in **Table 5.1**, and the details of junction assessments are attached in **Appendix B**.

Table 5.1 Year 2031 Operational Performance of the Key Access Road Junctions

Junction No.	Location	Method of Control	Year 2031 DFC[1]			
			Reference Scenario		Design Scenario (With Proposed Development & Access Road Improvement Scheme)	
			AM	PM	AM	PM
J1	Hang Tau Road / Access Road A	Priority	0.07	0.10	0.07	0.10
J2	Hang Tau Road / Access Road B[2]	Priority	0.08	0.12	0.08	0.12

Notes: (1) DFC = Design flow/ capacity ratio for a priority junction
(2) The modification works at the junction under the proposed access road improvement scheme are taken into account.

5.1.4 The assessment results in **Table 5.1** show that the two accessed junctions on Hang Tau Road will still be operating ample capacities during both morning and evening peak hours in the Design Scenario of year 2031.

5.2 Road Link Assessments for Local Access Roads in Year 2031 Reference and Design Scenarios

5.2.1 Road link capacity assessments are also conducted to assess the flow/capacity ratio (i.e. V/C ratio) of the local access roads in the design year 2031. The assessment results are summarized in **Table 5.2**.

Table 5.2 Design Year 2031 V/C ratio of Local Access Road

Road Link	Link Capacity (pcu/hr)	Year 2031 Reference Scenario				Year 2031 Design Scenario			
		Peak Hour Flows[2] (pcu/hr)		Flow/Capacity Ratio (V/C Ratio)		Peak Hour Flows[3] (pcu/hr)		Flow/Capacity Ratio (V/C Ratio)	
		AM	PM	AM	PM	AM	PM	AM	PM
Access Road A	100[1]	55	65	0.55	0.65	20	35	0.20	0.35
Access Road B	100[1]	-	-	-	-	55	45	0.55	0.45

Notes: (1) Refer to Transport Planning and Design Manual (TPDM) a single track road can accommodate 2-way flows of 100 vehicles per hour. For conservative approach, 100 pcu/hr is adopted as the capacity for assessment.
(2) The highest traffic flows on Access Road A as presented in **Drawing No. 4.2**.
(3) The highest traffic flows on Access Road A and Access Road B as presented in **Drawing No. 4.3**.

5.2.2 The assessment results in **Table 5.2** show that the traffic condition at both the Local Access Roads A and B would be operating with acceptable V/C ratios under the single track access road arrangement during the peak hours in both Reference and Design Scenarios of year 2031.

5.2.3 In addition, the assessment results also reflected that the proposed road access road improvement scheme would also help on sharing the traffic demand with the current Access Road A.

6. LONG TERM TRAFFIC FORECAST FOR NOISE IMPACT ASSESSMENT (NIA)

6.1 Design Year for NIA Study

6.1.1 Taking into consideration that the proposed residential development are tentatively scheduled to be completed by year 2028, design year of 2043 (completion year of the proposed Development + 15 years) have been adopted for NIA study. The year 2043 peak hour traffic forecasts under reference and design scenarios (solely used for NIA study of this project) together with the vehicle composition breakdown are summarized in **Drawing No. 6.1**.

6.2 Methodology of Traffic Forecast for NIA Study

6.2.1 To derive the year 2043 long term traffic forecast data for the NIA study, the year 2031 reference and design peak hour traffic flows are firstly derived by the observed traffic flows of the road network with adopting the same traffic forecast methodology, the same estimated trip generation of the planned/committed future developments and the same road network assumption under reference and design scenarios as discussed in **Chapter 4**.

6.2.2 For the long-term traffic growth from year 2031 to 2043, reference was made to (i) the population projections from "Hong Kong Population Projections 2020 – 2069" as published by Census and Statistics Department; and (ii) the growth rate as derived from ATC in **Table 4.1** of **Section 4.2**.

6.2.3 Based on the population projections as presented in **Table 6.1**, it is derived that the annual growth rate of population from year 2031 to 2043 is +0.17% p.a.

Table 6.1 Population Projections from "Hong Kong Population Projections 2020 – 2069"

Projected Population (thousand persons)		Growth Rate (% p.a.)
2031	**2043**	**2043/2031**
7945.8	8106.1	0.17%

6.2.4 Since the growth rate of +0.17% p.a. as derived from population projections is much lower than the growth rate of 1.4% p.a. as derived by AADT, the latter is adopted for background traffic growth from year 2031 to 2043 for conservative assessment.

6.2.5 The 2043 long term traffic forecasted flows under reference and design scenarios are derived by applying a growth rate of 1.4% p.a. onto the year 2031 reference and design traffic flows respectively upto the design year 2043.

6.3 Vehicle Class

6.3.1 The types of vehicles in the traffic forecast were firstly sectored into 12-class according to surveyed vehicle distribution.

6.3.2 For NIA purpose, it is understood that vehicles with an unladen weight of 1,525kg should be categorized as heavy vehicles (HV). Therefore, HV percentage including the category of goods vehicle (GV) (comprise with light goods vehicle (LGV), medium/heavy goods vehicle (MGV/HGV) and container trucks) and the category of public transport (PT) (comprise with public light bus (PLB), non-franchised buses (SPB) and franchised buses (FB)) are adopted in accordance with the traffic noise impact assessment requirement.

7. SUMMARY AND CONCLUSION

7.1 Summary

7.1.1 The Application Site is located at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ, 409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI, 409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO, 409S.BP, 409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T. in D.D. 94 of Kwu Tung South with a total site area of about 12,100m^2. Under the OZP, the Application Site is zoned as R(D) zone with a maximum allowable plot ratio of 0.4.

7.1.2 The Applicant intends to redevelop the Application Site with the proposed minor relaxation of plot ratio from 0.4. to 0.48 providing 42 nos. of residential houses at an average unit size of about 138.3m^2. To enable the Proposed Development, a S16 Application would be required to obtain permission from TPB.

7.1.3 MVA Hong Kong Limited was commissioned by the Applicant as a traffic consultant to carry out a traffic impact assessment in support of the S16 planning application for the Proposed Development.

7.1.4 The provision of internal transport facilities for the proposed development scheme were reviewed with reference to the relevant requirements as stipulated in HKPSG. In view of the Application Site with limited access by public transport, the upper end requirements of HKPSG was followed to ensure sufficient car parking spaces would be provided to serve the residents' need.

7.1.5 The potential traffic generation and attraction of the Proposed Development were estimated with reference to the traffic trip rates as stipulated in TPDM. Since the Application Site is currently serving storage and parking activities, its existing traffic demand would be omitted after the redevelopment at the site, and thus the net increase of traffic induced by the Application Site due to the Proposed Development would be negligible.

7.1.6 The Application Site is accessible from the local access road (Access Road A) benching-off from Hang Tau Road where the traffic on the road is being operated under the single track access road arrangement due to the substandard road widths. The current traffic condition is still found manageable for the very low traffic demand with some passing places available on-site.

7.1.7 Notwithstanding that the additional traffic induced by the Proposed Development would be minute and its impact to the traffic condition would be immaterial, the possible improvement to the current access of the Hang Tau Tai Po area was explored for not only facilitating the future access of the Proposed Development but also enhancing the overall traffic condition in the area.

7.1.8 It was reviewed feasible to upgrade the existing local track running aside Cheung Yue River into a local access road (Access Road B) for providing an alternative vehicular access from Hang Tau Road near Jockey Club Beas River Lodge to the Hang Tau Tai Po area. To upgrade the existing local track, it is proposed to widen the existing local track to 6m wide together

with modification works at its junction with Hang Tau Road. With the constraint of land status, 6m wide carriageway cannot be achieved at few local sections; nevertheless, these local sections can be operated under single track access road arrangement with provision of sufficient space for passing bays.

7.1.9 A setback of the development was proposed in the MLP to maintain a pedestrian path in the east to connect the adjacent pathway leading to the existing GMB stop at the Hang Tau Village Office in south.

7.1.10 To review the existing traffic condition, site inventory and traffic count surveys were carried out at the existing key access road junction of Hang Tau Road / Access Road A and the adjacent local access roads in the vicinity of the Application Site in August 2022. The assessment results reflected that the traffic condition at Access Road A is still found acceptable under single track access road arrangement for the very low traffic demand

7.1.11 Taking into consideration the Proposed Development was targeted to be completed by 2028, year 2031 was adopted as the design year for assessment in this study.

7.1.12 Traffic forecasts for Design Scenario, i.e. the future scenario with the Proposed Development at the application site in the design year 2031, are formulated by taking into consideration (i) the background traffic growth as derived from AADT; (ii) the future traffic induced by the planned future developments in the close proximity of the Application Site; (iv) the potential re-routing of traffic with the proposed access road improvement scheme: and (iii) the net increase of traffic generation and attraction due to the Proposed Development.

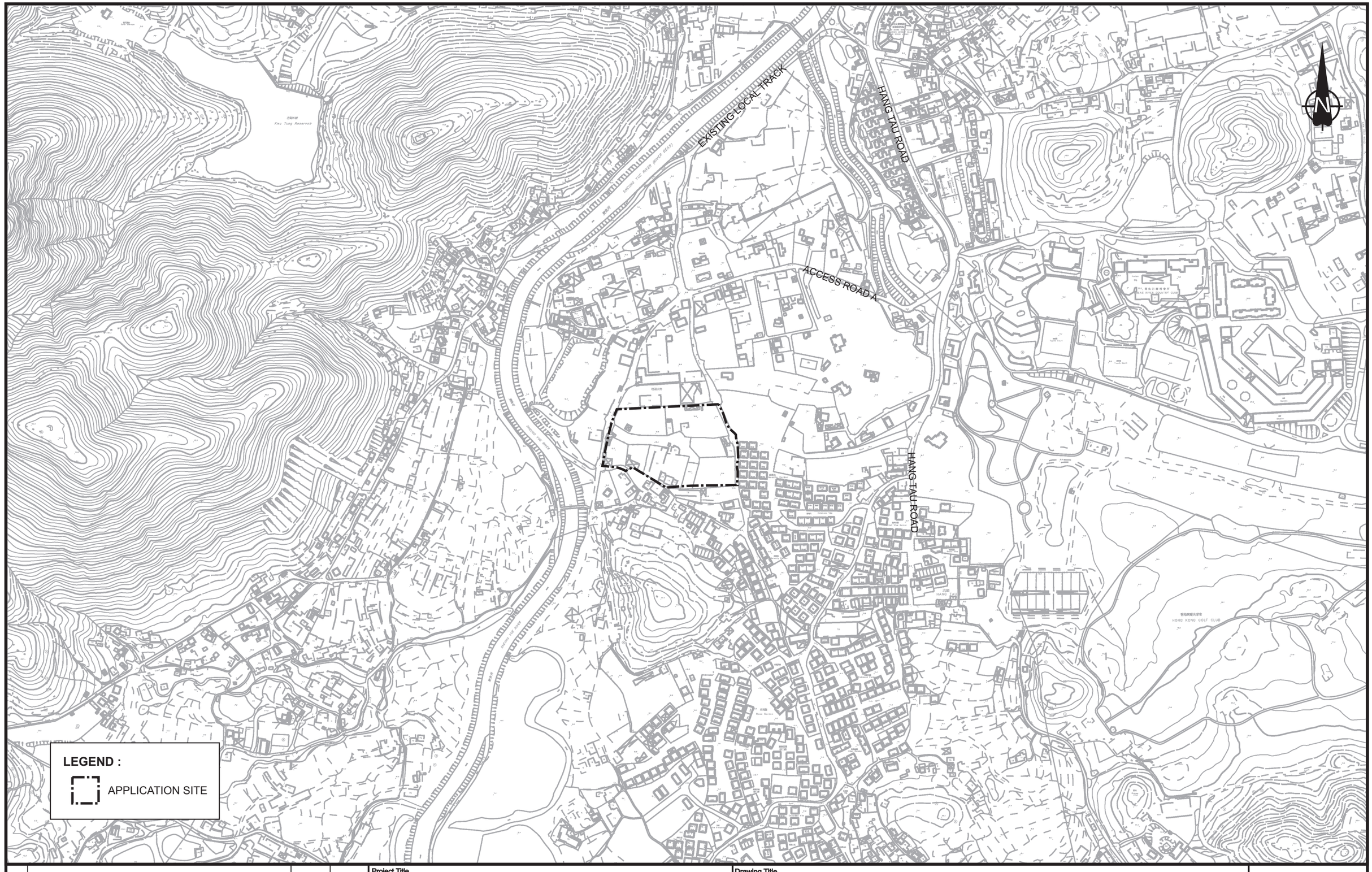
7.1.13 Operational performance of the access junctions and key road links are assessed with the derived future traffic flows in the design year 2031. The results of junction operational assessment indicated that the assessed junctions on Hang Tau Road will be operated with adequate capacities in the Design Scenario of year 2031. The results of road link capacity assessment also showed the traffic condition at both the local access roads would be operating with acceptable V/C ratios under the single track access road arrangement during the peak hours in both Reference and Design Scenarios of year 2031.

7.2 Conclusion

7.2.1 The traffic impact assessment has demonstrated that the future traffic induced by the Proposed Development can be accommodated by the surrounding local roads with the proposed access road improvement scheme.

7.2.2 The arrangement of vehicular access as well as the provisions of internal transport facilities were justified for the Proposed Development, while the proposed access road improvement scheme as proposed in this application would enhance the accessibility of the Hang Tau Tai Po area.

7.2.3 In conclusion, the subject S16 planning application for the Proposed Development is supported from a traffic engineering viewpoint.



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D.94, KWU TUNG SOUTH

Drawing Title

LOCATION PLAN

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	NTS	JAN 2023	1.1	-

SYSTRA MVA

CHK50682710/TIA/F11.CDR/LLH/16JAN23

Original Size : A3

PROPOSED VEHICULAR ACCESS

WATER METER FOR 7 HOUSES
ELEC. METER FOR 7 HOUSES
GAS METER FOR 7 HOUSES

TRANS-FORMER ROOM
SWT. RM.
H.R.
36m³ F.S. TANK
F.S. PUMP RM.
TBE RM.
CLUB HOUSE
POR. & FLU. WATER PUMP& TANK
SEWAGE TREATMENT PLANT (EQUALIZATION TANK)
LOADING/UNLOADING

HOUSE 1
HOUSE 2
HOUSE 3
HOUSE 4
HOUSE 5
HOUSE 6
HOUSE 7
HOUSE 8
HOUSE 9
HOUSE 10
HOUSE 11
HOUSE 12
HOUSE 13
HOUSE 14
HOUSE 15
HOUSE 16
HOUSE 17
HOUSE 18
HOUSE 19
HOUSE 20
HOUSE 21
HOUSE 22
HOUSE 23
HOUSE 24
HOUSE 25
HOUSE 26
HOUSE 27
HOUSE 28
HOUSE 29
HOUSE 30
HOUSE 31
HOUSE 32
HOUSE 33
HOUSE 34
HOUSE 35

EVA
EVA
EVA

194B 第2座
194A 第1座
193B 第6座
193A 第5座
192B 第9座
192A 第8座
191B 第12座
191A 第11座
190B 第20座
190A 第19座
187 第26座

CONNECT TO THE LOCAL TRACK LEADING TO THE EXISTING GMB STOP AT VILLAGE OFFICE

LEGEND:
BOUNDARY OF APPLICATION SITE
PROPOSED SETBACK FOR PEDESTRIAN PATH

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title
SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIONS LOTS IN D.D. 94, KWU TUNG SOUTH

Drawing Title
PROPOSED MASTER LAYOUT PLAN

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	1:500(A3)	NOV 2022	2.1	-

SYSTRA MVA

CHK50682710/TIA/F21.DGN/CKC/18JAN23

Original Size : A3













EXISTING AVAILABLE PASSING PLACE

EXISTING AVAILABLE PASSING PLACE

EXISTING AVAILABLE PASSING PLACE

HANG TAU ROAD PUBLIC TOILET

LOCAL ACCESS ROAD

HANG TAU ROAD

6.2m

4.1m

8m

4.1m

4.5m

7.9m

5.8m

6.3m

3m

7.2m

4.6m

N

LEGEND:

BOUNDARY OF APPLICATION SITE

EXISTING ACCESS ROUTE OF APPLICATION SITE

4.1M EXISTING ROAD WIDTH

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIONS LOTS IN D.D. 94, KWU TUNG SOUTH

Drawing Title

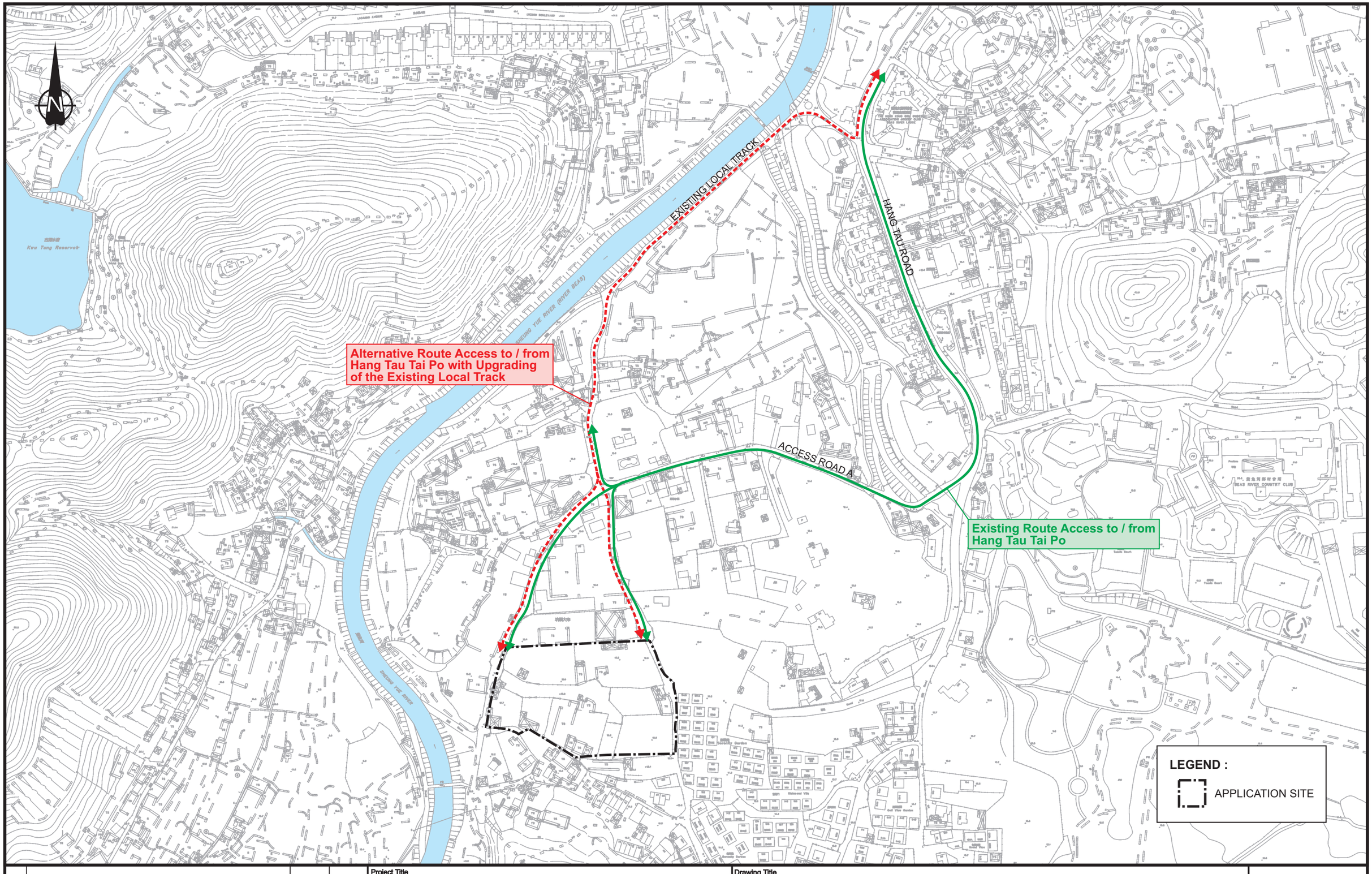
EXISTING ACCESS ROAD AND TRAFFIC CONDITION

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	1:2000(A3)	NOV 2022	2.2	-

SYSTRA MVA

CHK50682710/TIA/F22.DGN/CKC/17JAN23

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D.94, KWU TUNG SOUTH

Drawing Title

ALTERNATIVE ACCESS ROUTE WITH UPGRADING OF THE EXISTING LOCAL TRACK

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	NTS	JAN 2023	2.3	-

SYSTRA MVA

CHK50682710/TIA/F23.CDR/LLH/16JAN23

Original Size : A3

ROAD WIDENING FOR JUNCTION MODIFICATION AT LOT NO. L1118 S.A.R.P. IN DD92 (CONSENT FOR PROPOSING ROAD IMPROVEMENT WORK FROM LOT OWNER HAS BEEN OBTAINED)

ROAD WIDENING ON GOVERNMENT LANDS

SEE DRAWING NO. 2.5

7.3m

7.3m

ROAD WIDENING ON GOVERNMENT LANDS

6.6m

ROAD WIDENING AT THIS SECTION IS CONSTRAINED BY PRIVATE LOTS ON BOTH SIDES

7.3m

WATER METER FOR 7 HOUSES
ELEC. METER FOR 7 HOUSES
GAS METER FOR 7 HOUSES
TRANS-FORMER ROOM
SWIMMING POOL
H.R.
CLUB HOUSE
LOADING/UNLOADING
POR. & FLU. WATER PUMPS TANK
SEWAGE TREATMENT PLANT (EQUALIZATION TANK)
EVA
EVA
EVA

FANLING HIGHWAY

FIGURE 2.4

KEY PLAN

LEGEND:

BOUNDARY OF APPLICATION SITE

PROPOSED SETBACK FOR PEDESTRIAN PATH

PROPOSED RAOD WIDENING

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIONS LOTS IN D.D. 94, KWU TUNG SOUTH

Drawing Title

PROPOSED ACCESS ROAD IMPROVEMENT SCHEME (SHEET 1 OF 3)

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	1:1000(A3)	NOV 2022	2.4	-

SYSTRA MVA

CHK50682710/TIA/F24.DGN/CKC/18JAN23

Original Size : A3

SEE DRAWING NO. 2.6

ROAD WIDENING
ON GOVERNMENT LANDS

ROAD WIDENING
ON GOVERNMENT LANDS

6m MIN.

4.6m

5.3m

6m MIN.

ROAD WIDENING
AT THIS SECTION
IS CONSTRAINED
BY PRIVATE LOTS
ON BOTH SIDES

APPROX. 20M

6m MIN.

4.4m MIN.

7.8m

ROAD WIDENING FOR JUNCTION
MODIFICATION AT LOT NO. L1118
S.A.R.P. IN DD92 (CONSENT FOR
PROPOSING ROAD IMPROVEMENT
WORK FROM LOT OWNER
HAS BEEN OBTAINED)

ROAD WIDENING
ON GOVERNMENT
LANDS

SEE DRAWING NO. 2.4

7.3m

SHEUNG YUE RIVER (RIVER BEAS)

雙魚河

FANLING HIGHWAY

FIGURE 2.5

KEY PLAN

LEGEND:

BOUNDARY OF APPLICATION SITE

PROPOSED RAOD WIDENING

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR
PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT
AT VARIONS LOTS IN D.D. 94, KWU TUNG SOUTH

Drawing Title

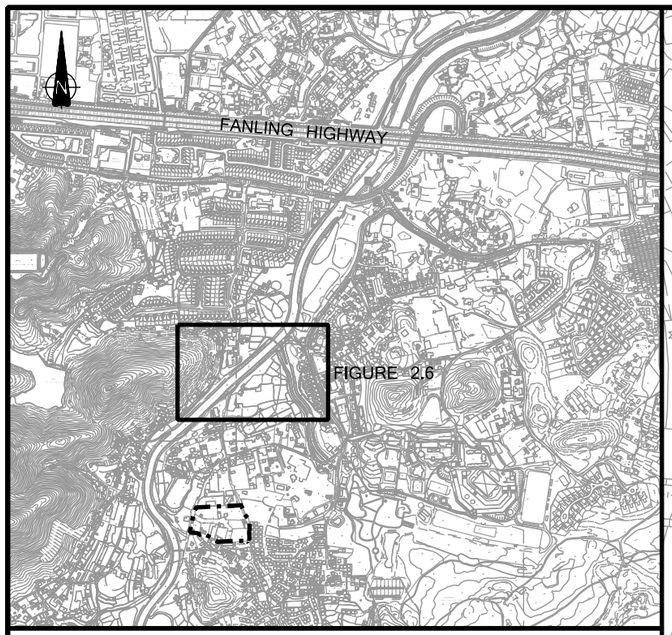
PROPOSED ACCESS ROAD IMPROVEMENT SCHEME (SHEET 2 OF 3)

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	1:1000(A3)	NOV 2022	2.5	-

SYSTRA MVA

CHK50682710/TIA/F25.DGN/CKC/18JAN23

Original Size : A3



KEY PLAN

ROAD WIDENING ON GOVERNMENT LANDS

6m MIN.

3.6m

ROAD WIDENING AT THIS SECTION IS CONSTRAINED BY PRIVATE LOTS ON BOTH SIDES

SEE DRAWING NO. 2.5

ROAD WIDENING ON GOVERNMENT LANDS

ROAD WIDENING ON GOVERNMENT LANDS

6m MIN.

4.6m

5.3m

SHEUNG YUE RIVER (RIVER BEAS)

HANG TAU ROAD

Goodwood Park

香港女童軍總會賽馬會碧溪莊
The Hong Kong Girl Guides Association Jockey Club Beas River Lodge

LEGEND:

BOUNDARY OF APPLICATION SITE

PROPOSED RAOD WIDENING

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIONS LOTS IN D.D. 94, KWU TUNG SOUTH

Drawing Title

PROPOSED ACCESS ROAD IMPROVEMENT SCHEME (SHEET 3 OF 3)

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	1:1000(A3)	NOV 2022	2.6	-

SYSTRA MVA

CHK50682710/TIA/F26.DGN/CKC/17JAN23

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR
PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT
AT VARIONS LOTS IN D.D. 94, KWU TUNG SOUTH

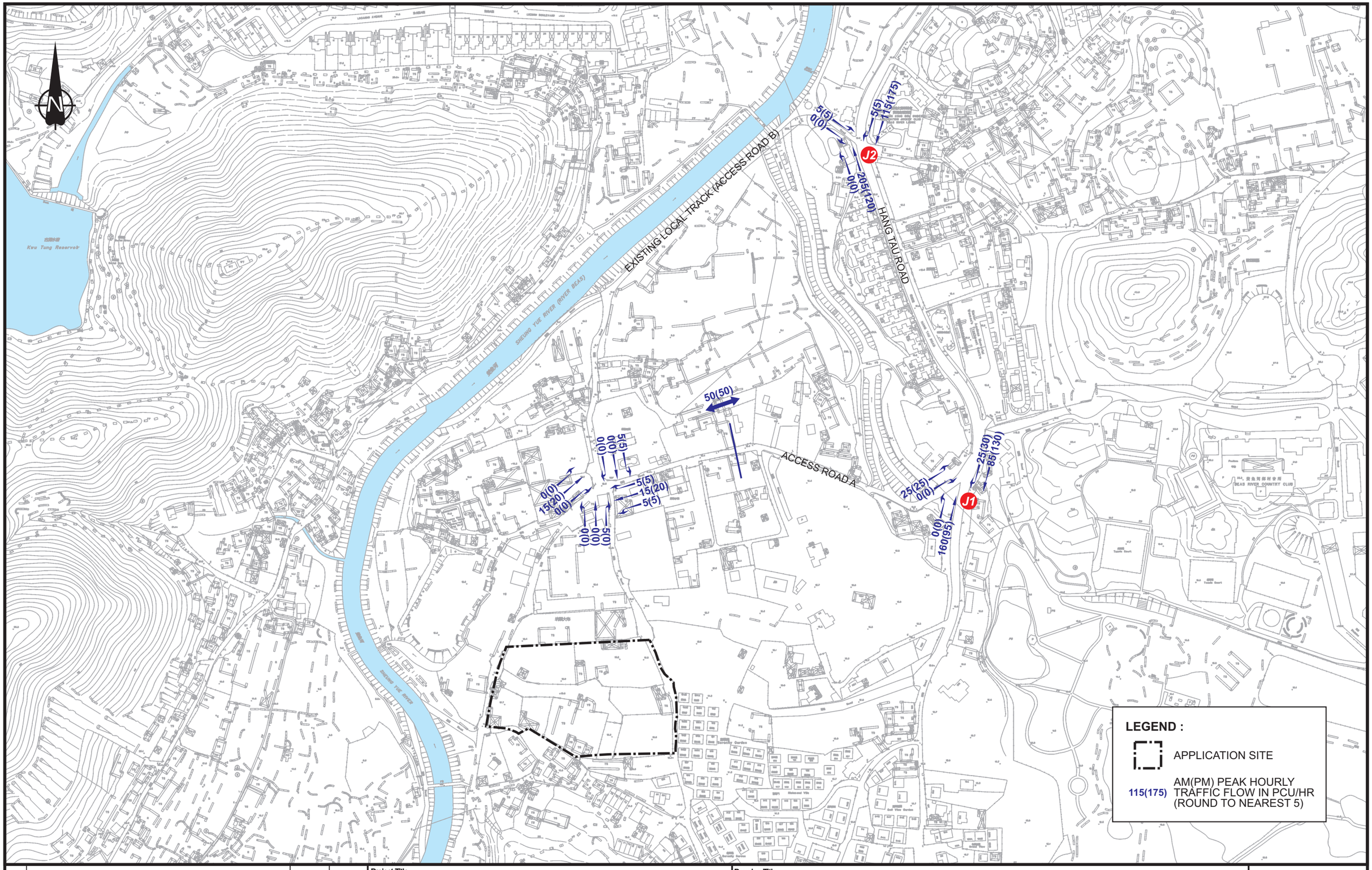
Drawing Title

PEDESTRIAN ROUTE TO GMB STOP

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	N.T.S.(A3)	NOV 2022	**2.7**	-

CHK50682710/TIA/F27.DGN/CKC/18JAN23

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D.94, KWU TUNG SOUTH

Drawing Title

YEAR 2022 OBSERVED TRAFFIC FLOWS

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	NTS	JAN 2023	3.1	-

SYSTRA MVA

CHK50682710/TIA/F31.CDR/LLH/16JAN23

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR
PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT
AT VARIONS LOTS IN D.D. 94, KWU TUNG SOUTH

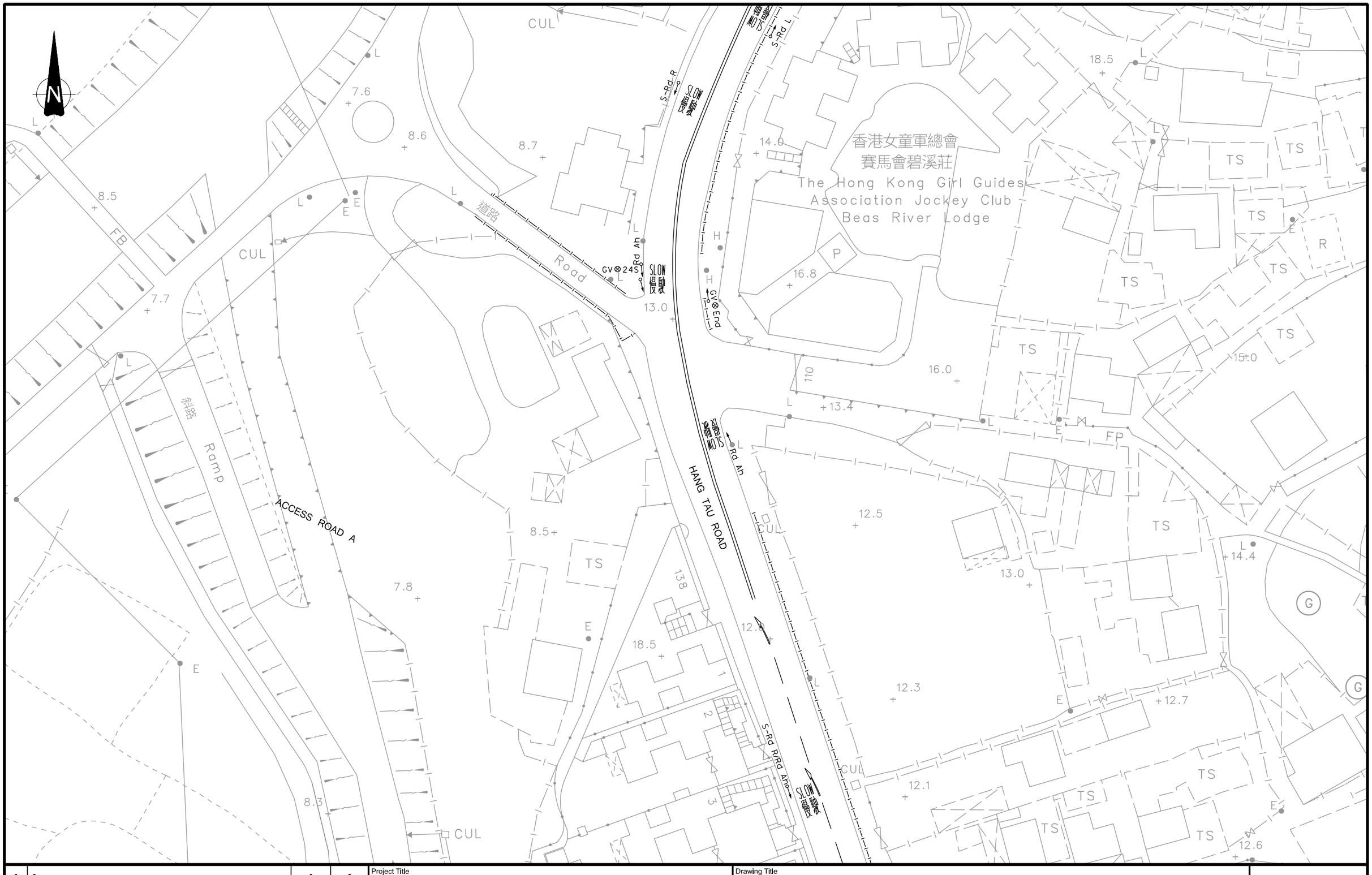
Drawing Title

EXISTING JUNCTION LAYOUT OF HANG TAU ROAD / ACCESS ROAD A (J1)

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	1:500(A3)	NOV 2022	**3.2**	-

SYSTRA MVA

CHK50682710/TIA/F32.DGN/CKC/17JAN23



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR
PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT
AT VARIONS LOTS IN D.D. 94, KWU TUNG SOUTH

Drawing Title

EXISTING JUNCTION LAYOUT OF HANG TAU ROAD / ACCESS ROAD B (J2)

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	1:500(A3)	NOV 2022	**3.3**	-

SYSTRA MVA

CHK50682710/TIA/F33.DGN/CKC/17JAN23

Site	Key Future Development Sites
Ⓐ	Private Residential Development at Various Lots in D.D.92 and D.D.94 and Adjoining Government Land, Hang Tau Tai Po, Kwu Tung South (Y/NE-KTS/13)
Ⓑ	Private Residential Development at Various Lots in D.D.94 and Adjoining Government Land, Hang Tau Tai Po, Sheung Shui (A/NE-KTS/466)
Ⓒ	Private Residential Houses at No. 106 Hang Tau Road, Kwu Tung South (A/NE-KTS/460)

N

SHEUNG YUE RIVER (RIVER BEAS)

EXISTING LOCAL TRACK (ACCESS ROAD B)

HANG TAU ROAD

ACCESS ROAD A

Ⓐ

Ⓑ

Ⓒ

HANG TAU ROAD

LEGEND :

APPLICATION SITE

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D.94, KWU TUNG SOUTH

Drawing Title

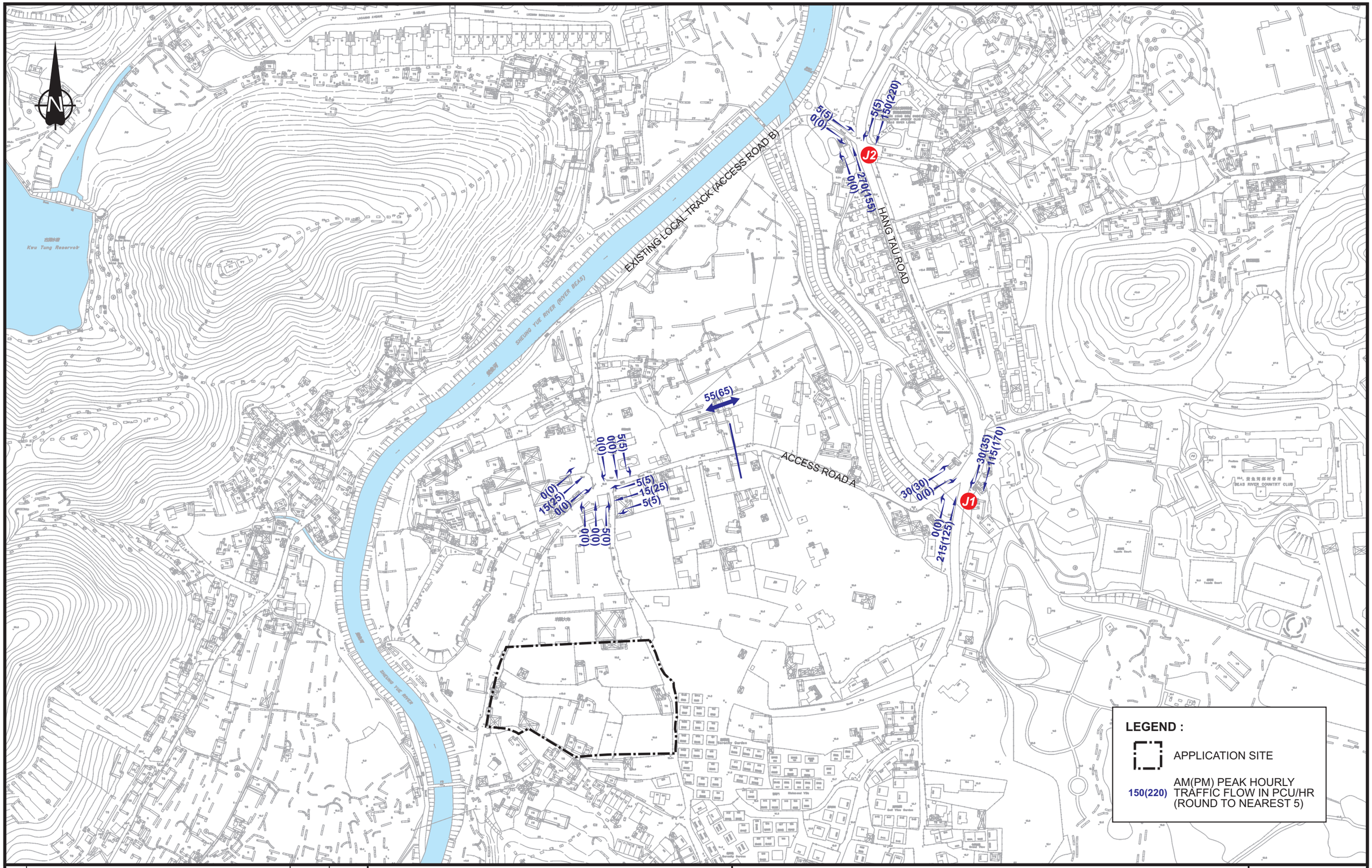
PLANNED FUTURE DEVELOPMENTS IN CLOSE PROXIMITY

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	NTS	JAN 2023	4.1	-

SYSTRA MVA

CHK50682710/TIA/F41.CDR/LLH/16JAN23

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D.94, KWU TUNG SOUTH

Drawing Title

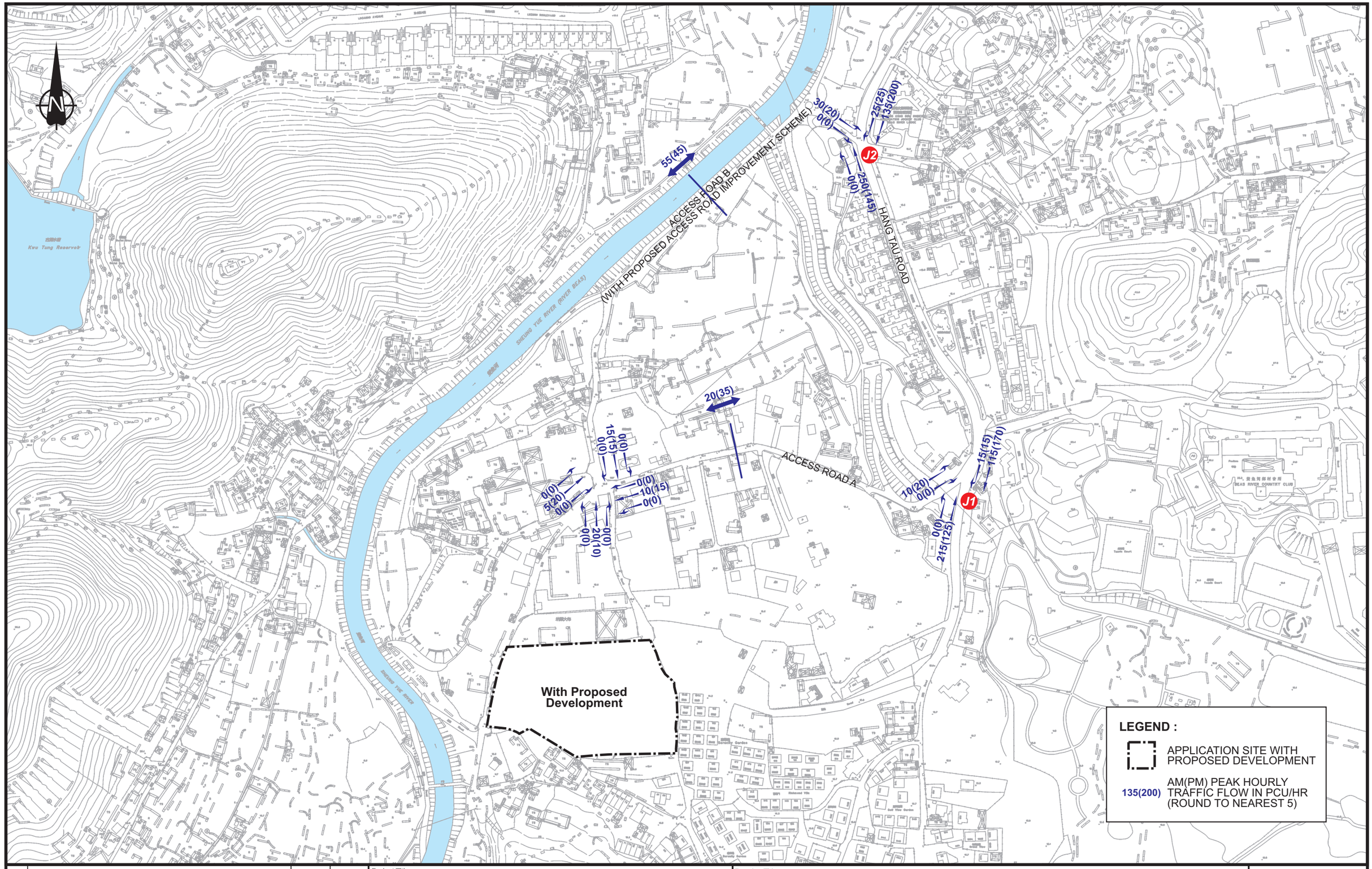
YEAR 2031 REFERENCE TRAFFIC FLOWS

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	NTS	JAN 2023	4.2	-

SYSTRA MVA

CHK50682710/TIA/F42.CDR/LLH/16JAN23

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D.94, KWU TUNG SOUTH

Drawing Title

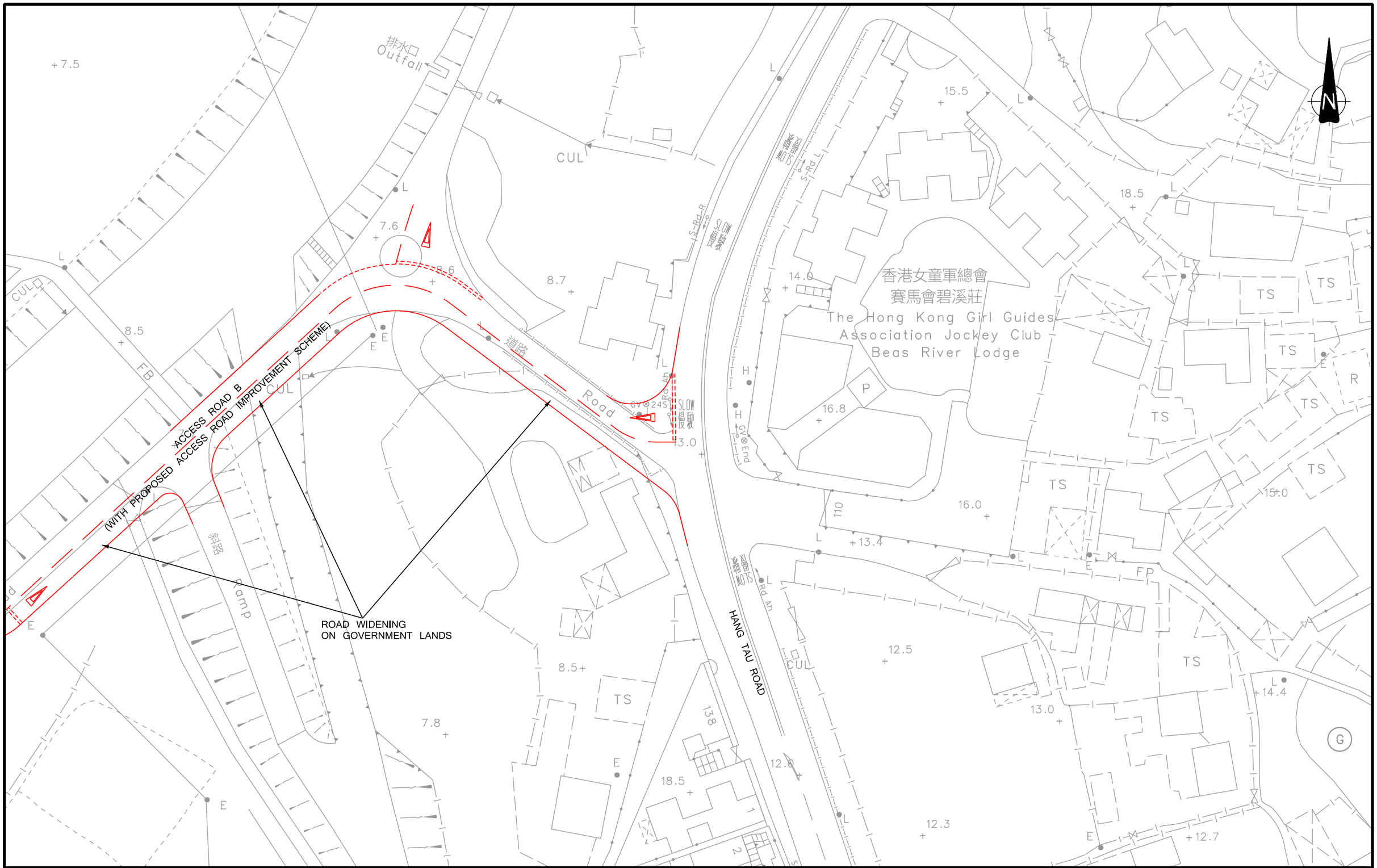
YEAR 2031 DESIGN TRAFFIC FLOWS

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	NTS	JAN 2023	4.3	-

SYSTRA MVA

CHK50682710/TIA/F43.CDR/LLH/16JAN23

Original Size : A3



Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR
PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT
AT VARIONS LOTS IN D.D. 94, KWU TUNG SOUTH

Drawing Title

PROPOSED JUNCTION LAYOUT OF HANG TAU ROAD / ACCESS ROAD B (J2)

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	1:500(A3)	NOV 2022	**5.1**	-

SYSTRA MVA

CHK50682710/TIA/F51.DGN/CKC/17JAN23

Original Size : A3

Year 2043 Traffic Forecast in Reference Scenario - Without Proposed Development and Access Road Improvement Scheme

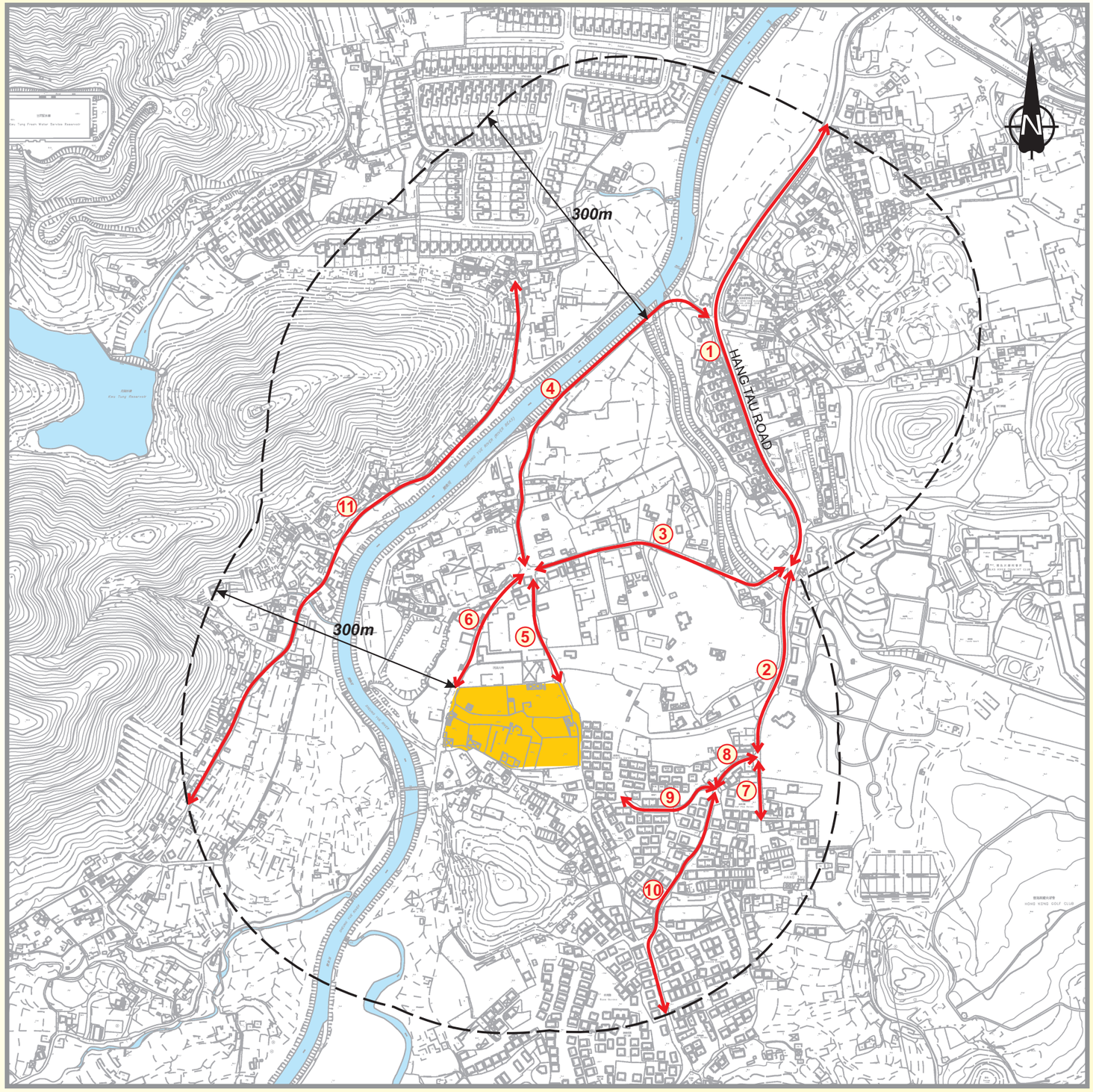
Ref. No. / (Direction)	Road Name	2043 Reference Traffic Flows (veh/hr) (round-up to nearest 10)		HV% (1)	
		AM Peak	PM Peak	AM Peak	PM Peak
1(2-way)	Hang Tau Road (2-way)	450	390	21%	21%
2(2-way)	Hang Tau Road (2-way)	330	300	21%	17%
3(2-way)	Access Road (2-way)	70	80	18%	19%
4(2-way)	Access Road (2-way)	20	20	41%	58%
5(2-way)	Access Road (2-way)	10	10	40%	43%
6(2-way)	Access Road (2-way)	40	60	22%	22%
7(2-way)	Access Road (2-way)	40	40	16%	15%
8(2-way)	Access Road (2-way)	210	220	28%	24%
9(2-way)	Access Road (2-way)	80	60	15%	8%
10(2-way)	Access Road (2-way)	130	160	36%	31%
11(2-way)	Access Road (2-way)	20	20	29%	28%

Year 2043 Traffic Forecast in Design Scenario - With Proposed Development and Access Road Improvement Scheme

Ref. No. / (Direction)	Road Name	2043 Design Traffic Flows (veh/hr) (round-up to nearest 10)		HV% (1)	
		AM Peak	PM Peak	AM Peak	PM Peak
1(2-way)	Hang Tau Road (2-way)	460	390	21%	21%
2(2-way)	Hang Tau Road (2-way)	330	300	21%	17%
3(2-way)	Access Road (2-way)	40	50	32%	33%
4(2-way)	Access Road (2-way)	60	50	12%	15%
5(2-way)	Access Road (2-way)	40	30	12%	11%
6(2-way)	Access Road (2-way)	30	40	37%	30%
7(2-way)	Access Road (2-way)	40	40	16%	15%
8(2-way)	Access Road (2-way)	210	220	28%	24%
9(2-way)	Access Road (2-way)	80	60	15%	8%
10(2-way)	Access Road (2-way)	130	160	36%	31%
11(2-way)	Access Road (2-way)	20	20	29%	28%

Note:

(1) Heavy vehicle (HV) percentage including the category of goods vehicles (GV) (comprise with vans, light goods vehicles (LGV), medium/heavy goods vehicles (MGV/HGV) and container trucks) and the category of public transport (PT) (comprise with public light buses (PLB), non-franchised buses (SPB) (including small coaches and large coaches) and franchised buses (FB))



LEGEND :

- APPLICATION SITE
- ROAD SECTION
- ⑦ ROAD SECTION NO.

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIOUS LOTS IN D.D.94, KWU TUNG SOUTH

Drawing Title

YEAR 2043 PEAK HOURS TRAFFIC FORECAST FOR NIA

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	NTS	JAN 2023	6.1	-

SYSTRA MVA

CHK50682710/TIA/F61.CDR/LLH/16JAN23

Original Size : A3

APPENDIX A – SWEPT PATH AND SIGHTLINE ANALYSES

SEE DRAWING A2

VISIBLE TO EACH OTHER
AT PASSING PLACES

EVA

EVA

EVA

CLUB HOUSE

LOADING/UNLOADING

TRANS-FORMER ROOM

H.R.

WATER METER FOR 7 HOUSES

ELEC. METER FOR 7 HOUSES

GAS METER FOR 7 HOUSES

FANLING HIGHWAY

FIGURE A1

KEY PLAN

LEGEND:

- VEHICLE AT PASSING PLACE
- SWEPT PATH OF PRIVATE CAR
- UNOBSTRUCTED SIGHTLINE
- BOUNDARY OF APPLICATION SITE
- PROPOSED RAOD WIDENING

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIONS LOTS IN D.D. 94, KWU TUNG SOUTH

Drawing Title

SWEPT PATH AND SIGHTLINE ANALYSIS (SHEET 1 OF 3)

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	1:1000(A3)	NOV 2022	A1	-

SYSTRA MVA

CHK50682710/TIA/A1.DGN/CKC/18JAN23

Original Size : A3

LEGEND:

- VEHICLE AT PASSING PLACE
- SWEPT PATH OF PRIVATE CAR
- UNOBSTRUCTED SIGHTLINE

SEE DRAWING NO. A3

VISIBLE TO EACH OTHER AT PASSING PLACES

VISIBLE TO ALL ENTRY ARMS AT PASSING PLACES

SEE DRAWING NO. A1

SHEUNG YUE RIVER (RIVER BEAS)

雙魚河

FANLING HIGHWAY

FIGURE A2

KEY PLAN

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIONS LOTS IN D.D. 94, KWU TUNG SOUTH

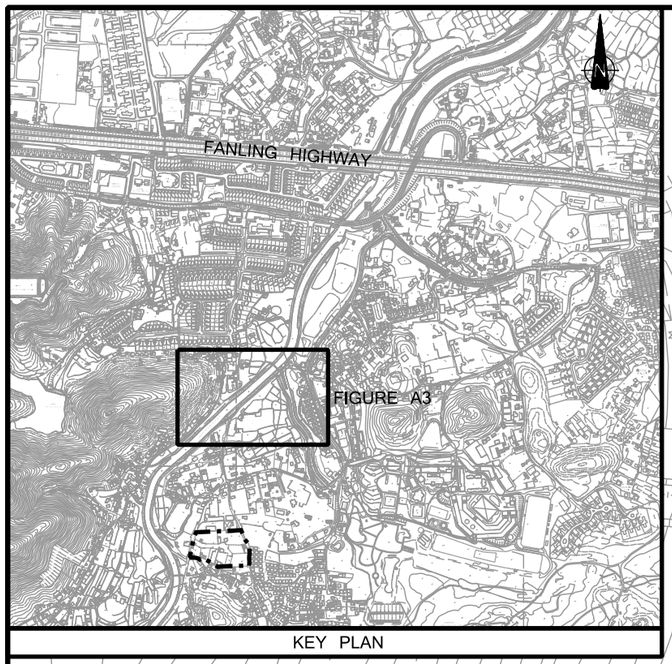
Drawing Title

SWEPT PATH AND SIGHTLINE ANALYSIS (SHEET 2 OF 3)

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	1:1000(A3)	NOV 2022	A2	-

CHK50682710/TIA/A2.DGN/CKC/17JAN23

Original Size : A3



KEY PLAN

LEGEND:

VEHICLE AT PASSING PLACE

SWEPT PATH OF PRIVATE CAR

UNOBSTRUCTED SIGHTLINE

VISIBLE TO EACH OTHER AT PASSING PLACES

SEE DRAWING NO. A2

HANG TAU ROAD

SHEUNG YUE RIVER (RIVER BEAS)

Goodwood Park

香港女童軍總會 賽馬會碧溪莊 The Hong Kong Girl Guides Association Jockey Club Beas River Lodge

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIONS LOTS IN D.D. 94, KWU TUNG SOUTH

Drawing Title

SWEPT PATH AND SIGHTLINE ANALYSIS (SHEET 3 OF 3)

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	1:500(A3)	NOV 2022	**A3**	-

SYSTRA MVA

CHK50682710/TIA/A3.DGN/CKC/17JAN23

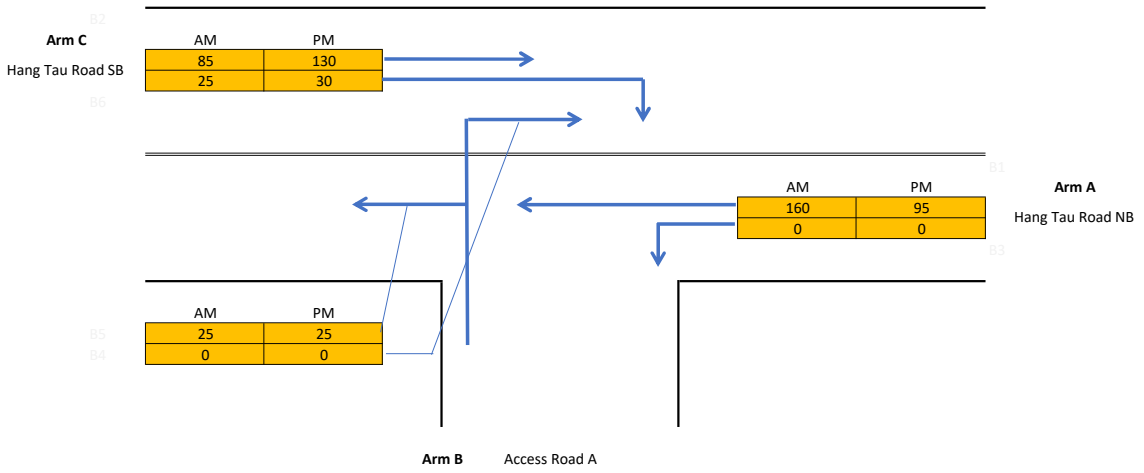
Original Size : A3

APPENDIX B – JUNCTION ASSESSMENTS

Year 2022 Observed

Simplified Priority Junction Capacity Calculation

Job Title:	Section 16 Planning Application for Proposed Residential Development at Kwu Tung South, N.T. Various Lots in D.D.94		
Junction:	(J1) Hang Tau Road / Access Road A	Designed by:	LYK
Scheme:	Observed	Checked by:	CHC
Design Year:	2022	Job No.: CHK50682710	Date: Nov-22
Arm A:	Hang Tau Road NB		
Arm B:	Access Road A		
Arm C:	Hang Tau Road SB		



GEOMETRY

Major Road Width (m)	W	7.00	Lane widths (m)	w(b-a)	0.00
Central Reserve Width (m)	Wcr	4.50		w(b-c)	3.30
Blockage of major road right turn	Y/N?	Y		w(c-b)	3.30
Combined stream on minor arm	Y/N?	Y			
Visibility Distances (m)	Vr(b-a)	30	Calculated	D	0.5573
	Vl(b-a)	22	Parameters	E	0.8888
	Vr(b-c)	30		F	0.8888
	Vr(c-b)	30		Y	0.7585

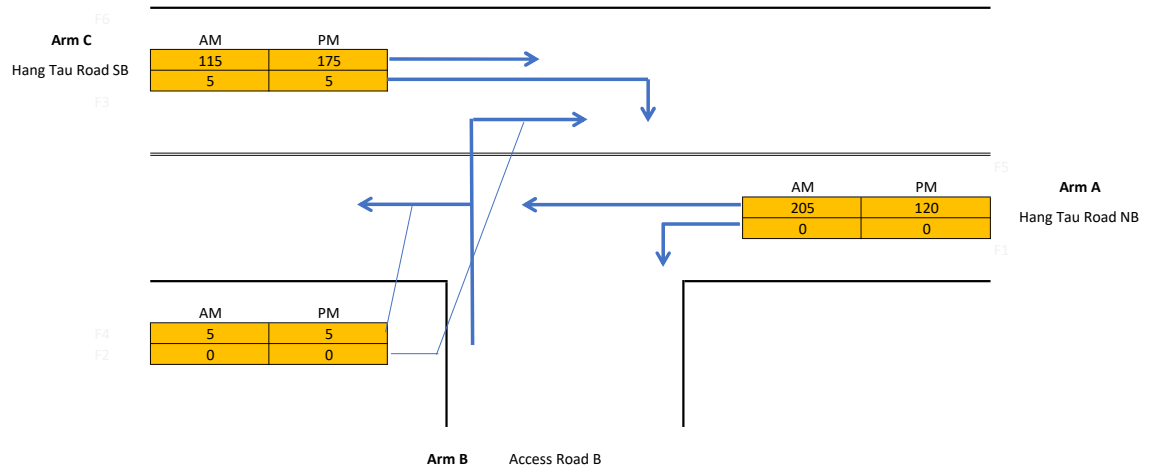
ANALYSIS		**AM PEAK**	**PM PEAK**
TRAFFIC FLOWS (pcu/hr)	q(c-a)	85	130
	q(c-b)	25	30
	q(a-b)	0	0
	q(a-c)	160	95
	q(b-a)	0	0
	q(b-c)	25	25
	f	1.00	1.00
CAPACITIES (pcu/hr)	Q(b-ac)	622.869	638.82
	Q(c-a)	1727.75	1715.5
	Q(c-b)	622.869	638.82
RFC's	c-a	0.05	0.08
	c-b	0.04	0.05
	b-ac	0.04	0.04
RFC		**0.05**	**0.08**

Where Vl and Vr are visibility distances to the left or right of the respective streams
D = (1+0.094(w(b-a)-3.65))(1+0.0009(Vr(b-a)-120))(1+0.0006(Vl(b-a)-150))
E = (1+0.094(w(b-c)-3.65))(1+0.0009(Vr(b-c)-120))
F = (1+0.094(wc-b)-3.65))(1+0.0009(Vr(c-b)-120))
Y = 1-0.0345W
f = proportion of minor traffic turning left
Q(b-ac) = Q(b-c)*Q(b-a)/(1-f)*Q(b-c)+f*Q(b-a) Capacity of combined streams

All the above formulas are in accordance to T.P.D.M. Volume 2 Chapter 4 Appendix 1

Simplified Priority Junction Capacity Calculation

Job Title:	Section 16 Planning Application for Proposed Residential Development at Kwu Tung South, N.T. Various Lots in D.D.94		
Junction:	(J2) Hang Tau Road / Access Road B	Designed by:	LYK
Scheme:	Observed	Checked by:	CHC
Design Year:	2022	Job No.: CHK50682710	Date: Nov-22
Arm A:	Hang Tau Road NB		
Arm B:	Access Road B		
Arm C:	Hang Tau Road SB		



GEOMETRY

Major Road Width (m)	W	7.80	Lane widths (m)	w(b-a)	3.50
Central Reserve Width (m)	Wcr	0.00		w(b-c)	0.00
Blockage of major road right turn	Y/N?	Y		w(c-b)	3.90
Combined stream on minor arm	Y/N?	Y			
Visibility Distances (m)	Vr(b-a)	100	Calculated	D	0.9391
	Vl(b-a)	100	Parameters	E	0.6451
	Vr(b-c)	100		F	0.9867
	Vr(c-b)	80		Y	0.7309

ANALYSIS		**AM PEAK**	**PM PEAK**
TRAFFIC FLOWS (pcu/hr)	q(c-a)	115	175
	q(c-b)	5	5
	q(a-b)	0	0
	q(a-c)	205	120
	q(b-a)	0	0
	q(b-c)	5	5
	f	1.00	1.00
CAPACITIES (pcu/hr)	Q(b-ac)	445.399	459.99
	Q(c-a)	1786.79	1787.2
	Q(c-b)	681.245	703.56
RFC's	c-a	0.06	0.10
	c-b	0.01	0.01
	b-ac	0.01	0.01
RFC		**0.06**	**0.10**

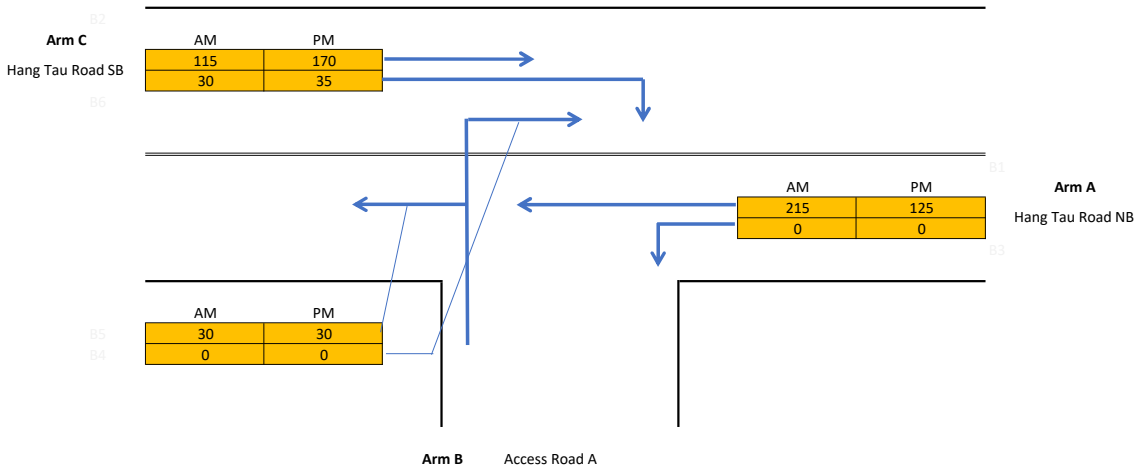
Where Vl and Vr are visibility distances to the left or right of the respective streams
D = (1+0.094(w(b-a)-3.65))(1+0.0009(Vr(b-a)-120))(1+0.0006(Vl(b-a)-150))
E = (1+0.094(w(b-c)-3.65))(1+0.0009(Vr(b-c)-120))
F = (1+0.094(wc-b)-3.65))(1+0.0009(Vr(c-b)-120))
Y = 1-0.0345W
f = proportion of minor traffic turning left
Q(b-ac) = Q(b-c)*Q(b-a)/(1-f)*Q(b-c)+f*Q(b-a) Capacity of combined streams

All the above formulas are in accordance to T.P.D.M. Volume 2 Chapter 4 Appendix 1

Year 2031 Reference

Simplified Priority Junction Capacity Calculation

Job Title:	Section 16 Planning Application for Proposed Residential Development at Kwu Tung South, N.T. Various Lots in D.D.94		
Junction:	(J1) Hang Tau Road / Access Road A	Designed by:	LYK
Scheme:	Reference	Checked by:	CHC
Design Year:	2031	Job No.: CHK50682710	Date: Nov-22
Arm A:	Hang Tau Road NB		
Arm B:	Access Road A		
Arm C:	Hang Tau Road SB		



GEOMETRY

Major Road Width (m)	W	7.00	Lane widths (m)	w(b-a)	0.00
Central Reserve Width (m)	Wcr	4.50		w(b-c)	3.30
Blockage of major road right turn	Y/N?	Y		w(c-b)	3.30
Combined stream on minor arm	Y/N?	Y			
Visibility Distances (m)	Vr(b-a)	30	Calculated	D	0.5573
	Vl(b-a)	22	Parameters	E	0.8888
	Vr(b-c)	30		F	0.8888
	Vr(c-b)	30		Y	0.7585

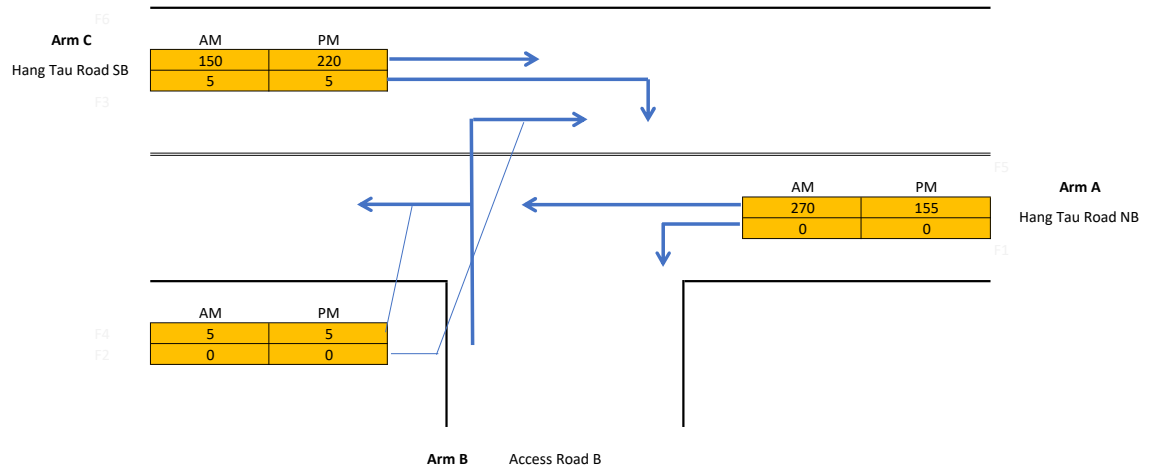
ANALYSIS		**AM PEAK**	**PM PEAK**
TRAFFIC FLOWS (pcu/hr)	q(c-a)	115	170
	q(c-b)	30	35
	q(a-b)	0	0
	q(a-c)	215	125
	q(b-a)	0	0
	q(b-c)	30	30
	f	1.00	1.00
CAPACITIES (pcu/hr)	Q(b-ac)	609.373	631.46
	Q(c-a)	1711.38	1700.2
	Q(c-b)	609.373	631.46
RFC's	c-a	0.07	0.10
	c-b	0.05	0.06
	b-ac	0.05	0.05
RFC		**0.07**	**0.10**

Where Vl and Vr are visibility distances to the left or right of the respective streams
D = (1+0.094(w(b-a)-3.65))(1+0.0009(Vr(b-a)-120))(1+0.0006(Vl(b-a)-150))
E = (1+0.094(w(b-c)-3.65))(1+0.0009(Vr(b-c)-120))
F = (1+0.094(wc-b)-3.65))(1+0.0009(Vr(c-b)-120))
Y = 1-0.0345W
f = proportion of minor traffic turning left
Q(b-ac) = Q(b-c)*Q(b-a)/(1-f)*Q(b-c)+f*Q(b-a) Capacity of combined streams

All the above formulas are in accordance to T.P.D.M. Volume 2 Chapter 4 Appendix 1

Simplified Priority Junction Capacity Calculation

Job Title:	Section 16 Planning Application for Proposed Residential Development at Kwu Tung South, N.T. Various Lots in D.D.94		
Junction:	(J2) Hang Tau Road / Access Road B	Designed by:	LYK
Scheme:	Reference	Checked by:	CHC
Design Year:	2031	Job No.: CHK50682710	Date: Nov-22
Arm A:	Hang Tau Road NB		
Arm B:	Access Road B		
Arm C:	Hang Tau Road SB		



GEOMETRY

Major Road Width (m)	W	7.80	Lane widths (m)	w(b-a)	3.00
Central Reserve Width (m)	Wcr	0.00		w(b-c)	0.00
Blockage of major road right turn	Y/N?	Y		w(c-b)	3.90
Combined stream on minor arm	Y/N?	Y			
Visibility Distances (m)	Vr(b-a)	100	Calculated	D	0.8943
	Vl(b-a)	100	Parameters	E	0.6451
	Vr(b-c)	100		F	0.9867
	Vr(c-b)	80		Y	0.7309

ANALYSIS		**AM PEAK**	**PM PEAK**
TRAFFIC FLOWS (pcu/hr)	q(c-a)	150	220
	q(c-b)	5	5
	q(a-b)	0	0
	q(a-c)	270	155
	q(b-a)	0	0
	q(b-c)	5	5
	f	1.00	1.00
CAPACITIES (pcu/hr)	Q(b-ac)	434.244	453.98
	Q(c-a)	1786.45	1787
	Q(c-b)	664.183	694.37
RFC's	c-a	0.08	0.12
	c-b	0.01	0.01
	b-ac	0.01	0.01
RFC		**0.08**	**0.12**

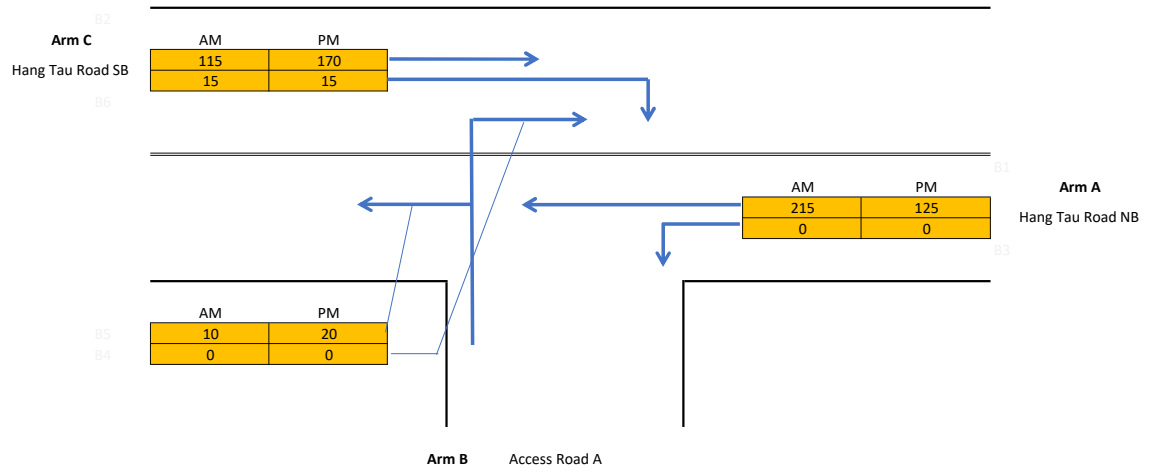
Where Vl and Vr are visibility distances to the left or right of the respective streams
D = (1+0.094(w(b-a)-3.65))(1+0.0009(Vr(b-a)-120))(1+0.0006(Vl(b-a)-150))
E = (1+0.094(w(b-c)-3.65))(1+0.0009(Vr(b-c)-120))
F = (1+0.094(wc-b)-3.65))(1+0.0009(Vr(c-b)-120))
Y = 1-0.0345W
f = proportion of minor traffic turning left
Q(b-ac) = Q(b-c)*Q(b-a)/(1-f)*Q(b-c)+f*Q(b-a) Capacity of combined streams

All the above formulas are in accordance to T.P.D.M. Volume 2 Chapter 4 Appendix 1

Year 2031 Design

Simplified Priority Junction Capacity Calculation

Job Title:	Section 16 Planning Application for Proposed Residential Development at Kwu Tung South, N.T. Various Lots in D.D.94			
Junction:	(J1) Hang Tau Road / Access Road A		Designed by:	LYK
Scheme:	Design		Checked by:	CHC
Design Year:	2031	Job No.: CHK50682710	Date:	Nov-22
Arm A:	Hang Tau Road NB			
Arm B:	Access Road A			
Arm C:	Hang Tau Road SB			



GEOMETRY

Major Road Width (m)	W	7.00	Lane widths (m)	w(b-a)	0.00
Central Reserve Width (m)	Wcr	4.50		w(b-c)	3.30
Blockage of major road right turn	Y/N?	Y		w(c-b)	3.30
Combined stream on minor arm	Y/N?	Y			
Visibility Distances (m)	Vr(b-a)	30	Calculated	D	0.5573
	Vl(b-a)	22	Parameters	E	0.8888
	Vr(b-c)	30		F	0.8888
	Vr(c-b)	30		Y	0.7585

ANALYSIS		**AM PEAK**	**PM PEAK**
TRAFFIC FLOWS (pcu/hr)	q(c-a)	115	170
	q(c-b)	15	15
	q(a-b)	0	0
	q(a-c)	215	125
	q(b-a)	0	0
	q(b-c)	10	20
	f	1.00	1.00
CAPACITIES (pcu/hr)	Q(b-ac)	609.373	631.46
	Q(c-a)	1755.69	1757.2
	Q(c-b)	609.373	631.46
RFC's	c-a	0.07	0.10
	c-b	0.02	0.02
	b-ac	0.02	0.03
RFC		**0.07**	**0.10**

Where Vl and Vr are visibility distances to the left or right of the respective streams

D = (1+0.094(w(b-a)-3.65))(1+0.0009(Vr(b-a)-120))(1+0.0006(Vl(b-a)-150))

E = (1+0.094(w(b-c)-3.65))(1+0.0009(Vr(b-c)-120))

F = (1+0.094(wc-b)-3.65))(1+0.0009(Vr(c-b)-120))

Y = 1-0.0345W

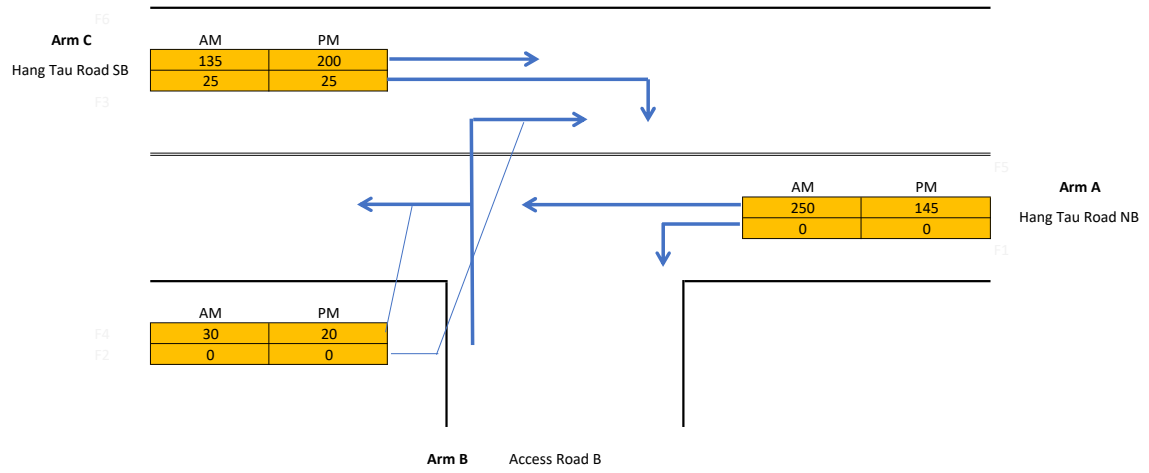
f = proportion of minor traffic turning left

Q(b-ac) = Q(b-c)*Q(b-a)/(1-f)*Q(b-c)+f*Q(b-a) Capacity of combined streams

All the above formulas are in accordance to T.P.D.M. Volume 2 Chapter 4 Appendix 1

Simplified Priority Junction Capacity Calculation

Job Title:	Section 16 Planning Application for Proposed Residential Development at Kwu Tung South, N.T. Various Lots in D.D.94		
Junction:	(J2) Hang Tau Road / Access Road B	Designed by:	LYK
Scheme:	Design	Checked by:	CHC
Design Year:	2031	Job No.: CHK50682710	Date: Nov-22
Arm A:	Hang Tau Road NB		
Arm B:	Access Road B		
Arm C:	Hang Tau Road SB		



GEOMETRY

Major Road Width (m)	W	7.80	Lane widths (m)	w(b-a)	3.00
Central Reserve Width (m)	Wcr	0.00		w(b-c)	0.00
Blockage of major road right turn	Y/N?	Y		w(c-b)	3.90
Combined stream on minor arm	Y/N?	Y			
Visibility Distances (m)	Vr(b-a)	100	Calculated	D	0.8943
	Vl(b-a)	100	Parameters	E	0.6451
	Vr(b-c)	100		F	0.9867
	Vr(c-b)	80		Y	0.7309

ANALYSIS		**AM PEAK**	**PM PEAK**
TRAFFIC FLOWS (pcu/hr)	q(c-a)	135	200
	q(c-b)	25	25
	q(a-b)	0	0
	q(a-c)	250	145
	q(b-a)	0	0
	q(b-c)	30	20
	f	1.00	1.00
CAPACITIES (pcu/hr)	Q(b-ac)	437.676	455.7
	Q(c-a)	1732.78	1735.4
	Q(c-b)	669.433	697
RFC's	c-a	0.08	0.12
	c-b	0.04	0.04
	b-ac	0.07	0.04
RFC		**0.08**	**0.12**

Where Vl and Vr are visibility distances to the left or right of the respective streams
D = (1+0.094(w(b-a)-3.65))(1+0.0009(Vr(b-a)-120))(1+0.0006(Vl(b-a)-150))
E = (1+0.094(w(b-c)-3.65))(1+0.0009(Vr(b-c)-120))
F = (1+0.094(wc-b)-3.65))(1+0.0009(Vr(c-b)-120))
Y = 1-0.0345W
f = proportion of minor traffic turning left
Q(b-ac) = Q(b-c)*Q(b-a)/(1-f)*Q(b-c)+f*Q(b-a) Capacity of combined streams

All the above formulas are in accordance to T.P.D.M. Volume 2 Chapter 4 Appendix 1

Prepared for

Great Huge Limited

Prepared by

Ramboll Hong Kong Limited

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT LOT 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.SS.1, 409 S.F.SS.2, 409 S.F.SS.3, 409 S.F.SS.4, 409 S.F.SS.5, 409 S.F.SS.6, 409 S.F.SS.7, 409 S.F.SS.8, 409 S.F.SS.9, 409 S.F.SS.10, 409 S.F.SS.11, 409 S.F.SS.12, 409 S.F.SS.13, 409 S.F.SS.14, 409 S.F.SS.15, 409 S.F.SS.16, 409 S.F.SS.17, 409 S.F.SS.18, 409 S.F.SS.19, 409 S.F.SS.20, 409 S.F.SS.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z IN D.D 94, KWU TUNG SOUTH, N.T.

SEWERAGE AND DRAINAGE IMPACT ASSESSMENT

RAMBOLL

Date	**January 2023**
Prepared by	**Miko Wan** **Assistant Environmental Consultant**
Signed	
Approved by	**Calvin Chiu** **Senior Manager**
Signed	
Project Reference	**CHIKTS94EI00**
Document No.	**R8752_v1.0**

No part of this document may be reproduced or transmitted, in any form or by any means electronic, mechanical, photographic, recording or otherwise, or stored in a retrieval system of any nature without the written permission of Ramboll Hong Kong Ltd, application for which shall be made to Ramboll Hong Kong Ltd, 21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong.

Disclaimer: This report is made on behalf of Ramboll Hong Kong Ltd. No individual is personally liable in connection with the preparation of this report. By receiving this report and acting on it, the client or any third party relying on it accepts that no individual is personally liable in contract, tort or breach of statutory duty (including negligence).

Ramboll Hong Kong Limited

21/F, BEA Harbour View Centre
56 Gloucester Road, Wan Chai, Hong Kong

Tel: (852) 3465 2888
Fax: (852) 3465 2899
Email: hkinfo@ramboll.com

\\aphkfps3\Drive Q\Projects\CHIKTS94EI00\04 Deliverables\02 DSIA Report\R8752_v1.0.docx

CHAPTERS

Page

1. INTRODUCTION 3

1.1 Background and Objectives 3
1.2 Subject Site and its Environs 3
1.3 Proposed Development Scheme 3

2. SEWERAGE IMPACT ASSESSMENT 4

2.1 Scope of Work 4
2.2 Assessment Criteria and Methodology 4
2.3 Existing Sewerage System 4
2.4 Wastewater Generated by the Proposed Development 4
2.5 Sewerage Impact 5
2.6 Conclusion 6

3. DRAINAGE IMPACT ASSESSMENT 7

3.1 Scope of Work 7
3.2 Assessment Criteria and Methodology 7
3.3 Site Condition 7
3.4 Proposed Development 7
3.5 Discussion 8

4. OVERALL CONCLUSION 9

4.1 Conclusion 9

TABLES

Table 1 Estimated Peak Flow for Application Site (onsite STP) 4
Table 2 Summary of Surface Runoff under Proposed Conditions 8

FIGURES

Figure 1 Location of the Application Site and its Environs
Figure 2 Proposed Drainage System

APPENDICES

Appendix 1 Master Layout Plan
Appendix 2 Detailed Sewerage Analysis
Appendix 3 Detailed Drainage Analysis

1. INTRODUCTION

1.1 Background and Objectives

1.1.1 A residential development (the Proposed Development) has been proposed at Kwu Tung South, New Territories (the Application Site).

1.1.2 The Application Site falls within the "Residential (Group D)" ("R(D)") zone under the Approved Kwu Tung South Outline Zoning Plan (OZP) No. S/NE-KTS/18.

1.1.3 Ramboll Hong Kong Limited is commissioned by the Applicant to provide consultancy services to prepare this drainage and sewerage impact assessment (DSIA) report with respect to the Application Site.

1.1.4 The design of the master layout plan (MLP) and other technical information on the Proposed Development are provided by the Project Architect (CHIH Design Ltd).

1.2 Subject Site and its Environs

1.2.1 The Application Site is approximately 12,100 m^2. It is bounded by a village access road on the west in Hang Tau Village.

1.2.2 To the immediate east and southeast of the Application Site is existing village houses development (Serenity Garden and Richmond Villa). To the immediate south and north are scattered village houses. To the further west of the site is Sheung Yue River.

1.2.3 The Application Site is currently used as warehouse, open storage and machinery storage & repair.

1.2.4 **Figure 1** shows the location of the Application Site and its environ.

1.3 Proposed Development Scheme

1.3.1 The Proposed Development consists of 42 houses (i.e. House 1 to House 42). E&M rooms, clubhouse, onsite sewage treatment plant are proposed underneath House 36 to House 42, which are located at the northwest corner of the Application Site.

1.3.2 The tentative occupation year is 2028.

1.3.3 The MLP, floor plans and sections of the Proposed Development are shown in **Appendix 1**.

2. SEWERAGE IMPACT ASSESSMENT

2.1 Scope of Work

2.1.1 The aim of this sewerage impact assessment (SIA) is to assess whether sewage generation from the Proposed Development would impose any significant impact and whether the capacity of the existing sewerage network serving the Application Site, if any, is sufficient to cope with the sewage flow from the Proposed Development.

2.2 Assessment Criteria and Methodology

2.2.1 Environmental Protection Department's (EPD's) Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning, Version 1 (GESF) has been referred to for the purposes of estimating the quantity of the sewage generated from the Proposed Development and the existing catchment area. Sewage flow parameters and global peaking factors in this document have been adopted for this SIA.

2.2.2 Based on the building type in the area, the following unit flow factor is used in the SIA calculation:

- Private Domestic R4: 0.37 m^3/day

2.3 Existing Sewerage System

2.3.1 There is no existing sewerage system serving the Application Site. The nearest manhole is around 415m away from the Application Site and various private lots are situated in between. Therefore, it is considered not practicable to connect with the existing sewerage system.

2.4 Wastewater Generated by the Proposed Development

2.4.1 Wastewater arising from the Proposed Development will be primarily contributed by the residents.

2.4.2 Based on the constraints as mentioned in **Section 2.3**, onsite sewage treatment plant (STP) is proposed. The treated effluent will be discharged to the stormwater system.

2.4.3 Detailed calculation for the Proposed Development is given in **Table 1** below and **Appendix 2**.

Table 1 Estimated Peak Flow for Application Site (onsite STP)

Development Parameters	Proposed Development	
	Residential	Clubhouse
Area (m^2)	-	232
Units	42	-
Assumed Population	118 (1)	8 (2)
Design Flow (m^3/person/day)	0.37 (3)	0.28 (4)
Flow Rate (m^3/day)	**43.7**	**2.1**
Total Flow Rate (m^3/day)	**45.8**	
Peak Flow (L/s)	**3.2**	

(1) Refer to 2021 Population Census: Average Household Size of 2.8 in Sheung Shui Rural District
(2) Based on Table 8 of CIFSUS – Community, Social & Personal Services - 30m^2 per worker
(3) Refer to Table T-1 of GESF – Private R4
(4) Refer to Table T-2 of GESF – J11

2.5 Sewerage Impact

2.5.1 It is currently technically infeasible to discharge wastewater generated from the Proposed Development to public sewerage system. Therefore, onsite STP is proposed to cater for sewage discharge based on design capacity of 3.2 L/s.

2.5.2 The exact treatment process would be subject to later detailed design and submissions. It will be necessary for the treatment facilities to achieve the necessary discharge standards, as set out in EPD's Technical Memorandum – Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters.

2.5.3 Membrane bioreactor (MBR) is recommended to achieve required effluent discharge standard and sludge dewatering system will be provided and designed in accordance with the requirement in the "Guidelines for the Design of Small Sewage Treatments Plants" issued by EPD. Sludge storage tank with deodorisation facilities will be provided. The sludge after having been dewatered and thickened will be tanked away to the landfill for disposal subject to confirmation with future licensed collector/contractor. As good practice for sewage treatment facilities, measures will be incorporated into the design to minimize the risk of emergency overflow from the treatment plant. These measures will include standby pumps, secure power supplies and appropriate alarms, as well as comprehensive Operation and Maintenance procedures, to keep the facilities in good working order. Holding tank for emergency storage/retention will be included with adequate capacity (e.g. to store 6-hours of ADWF discharge) to minimise need of emergency discharge. In the event of any emergency overflow, on-call crews will follow the overflow emergency response plan and proceed with the best response to correct the problem immediately. For example, the alarm system will be activated once overflow occurs. The on-call crews will provide instant response by acknowledging the alarm, to investigate the cause of overflow and correct the problem. The alarm system will repeat until it is acknowledged. In addition, the on-call crews will ensure the standby pump is switched on and contain the overflowed sewage using temporary weirs or vacuum trucks, where applicable.

2.5.4 The STP will also be subject to regular maintenance to ensure that it functions in designed condition and optimal performance, and can minimise any emergency situation. In addition, regular self-monitoring will be conducted to ensure the quality of the treated effluent shall meet the applicable standard before discharge. Monitoring programme will be devised for T&C of the system. A discharge licence will be applied prior the development commencement and monitoring requirement under the licence would be strictly followed as per Water Pollution Control Ordinance (WPCO). Necessary discharge standards, as set out in EPD's Technical Memorandum – Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters will be adopted.

2.5.5 The treated effluent will be discharged to the terminal stormwater manhole onsite and discharged to Sheung Yue River eventually (see next Chapter). Discharge from STP is also accounted in the Drainage Impact Assessment. No unacceptable impacts are expected from the proposed discharge of the treated effluent. With the proposed onsite STP in place, there is no sewerage connection to the public sewerage system.

2.6 Conclusion

2.6.1 A Sewerage Impact Assessment (SIA) has been conducted to evaluate the potential impacts due to the sewage generation from the Proposed Development.

2.6.2 The estimated sewage generations from the Proposed Development will be approximately 3.2L/s.

2.6.3 The nearest public foulwater manhole is located 415m from the Application Site, while various private lots are situated in between. Therefore, onsite STP is proposed to treat effluent before discharge to public drain. Details of the proposed STP including emergency discharge, emergency storage/retention arrangement and the sludge disposal arrangement will be provided after specialist contractor and licensed collector are engaged. The proposal will be submitted to relevant departments for approval.

3. DRAINAGE IMPACT ASSESSMENT

3.1 Scope of Work

3.1.1 The aim of this Drainage Impact Assessment (DIA) is to assess whether there is any unacceptable impact on existing drainage network serving the Application Site after development.

3.2 Assessment Criteria and Methodology

3.2.1 The assessment standard complies with Drainage Services Department (DSD) Stormwater Drainage Manual (SDM) (2018 Edition). The Application Site is situated in rural area, therefore, a 1 in 50 year return storm has been adopted for the DIA.

3.2.2 The catchment runoff has been calculated using the "Rational Method", as outlined in the DSD SDM:

$$Q = 0.278\ C\ i\ A$$

Where	Q	=	peak runoff in m^3/s
	C	=	runoff coefficient (dimensionless)
	i	=	rainfall intensity in mm/hr
	A	=	catchment area in km

3.2.3 The Proposed Development will be for residential use. An overall runoff coefficient of 0.95 is adopted for the future paved areas, and 0.20 for the greenery areas.

3.2.4 The rainfall intensity parameter "i" is dependent on the return period, rainfall duration and the time of concentration of the catchment under consideration. For the future upstream catchment containing the Site, there is no significant change to the flow path and the same time of concentration has been adopted as for the existing scenario. Runoff calculations are included in **Appendix 3**.

3.3 Site Condition

3.3.1 Based on site observations, the Application Site consists of warehouse, open storage and machinery storage & repair. The area is generally paved.

3.3.2 There are no existing flooding blackspots or known drainage problems in the vicinity of the Application Site.

3.4 Proposed Development

3.4.1 It is recommended that the drainage system of the Proposed Development to be discharged through the proposed drainage system (T1 to Outfall) as shown in **Figure 2**. The new underground pipes (525mm in diameter) connecting to the site's terminal manhole and the proposed outfall are proposed to discharge the surface runoff from the Application Site. The surface runoff from the Application Site have been estimated and presented in **Appendix 3**.

3.4.2 After development, the proposed green coverage of the Proposed Development will be no less than 20%. In other words, the surface runoff will decrease.

3.4.3 The surface runoff after development is summarized below in **Table 2**.

Table 2 Summary of Surface Runoff under Proposed Conditions

Catchment	Area (m^2)	Runoff (m^3/s) under 1 in 50 years scenario
Site	12,100	0.609
	Total	**0.609**

3.4.4 The treated effluent from the STP of 3.2 L/s (i.e. 0.00032m^3/s) has been considered in this DIA. The total discharge volume (i.e. future surface runoff + effluent from STP) is considered to be 0.612m^3/s.

3.5 Discussion

3.5.1 A DIA has been conducted to evaluate the potential impacts due to the surface runoff from the Proposed Development.

3.5.2 It is noted that the Proposed Development will be equipped with onsite sewage treatment plant (STP) to treat the effluent before discharging to the proposed drainage system. The estimated flow from the STP would have a peak discharge rate of 3.2 L/s (i.e. 0.0032m^3/s).

3.5.3 Hence, the total discharge volume (i.e. future surface runoff + effluent from STP) after development is 0.612m^3/s.

3.5.4 The surface runoff and treated effluent will discharge to the proposed connection via the site terminal manhole and new 525mm diameter drainage pipes to the proposed outfall of Sheung Yue River. Detailed capacity calculations of the proposed pipes are included in **Appendix 3**.

4. OVERALL CONCLUSION

4.1 Conclusion

4.1.1 A residential development is proposed at the Application Site at Kwu Tung South, N.T. The potential sewerage and drainage impact have been assessed.

4.1.2 Given that the long separation distance and inaccessible private lots between the Application Site and public foulwater manholes, it is considered not practicable to connect the Application Site with existing sewerage network. Therefore, onsite sewage treatment plant (STP) is proposed and the treated effluent (i.e. 3.2L/s) will be discharged through the proposed drainage system.

4.1.3 The STP will be subject to later detailed design and the proposal will be submitted to relevant departments for approval. The project proponent will be responsible to apply for the discharge license.

4.1.4 According to the findings in DIA, the total discharge volume will be 0.63m^3/s (with the treated effluent from the STP included). With the proposed 525mm diameter drainage pipes in place, no adverse sewerage and drainage impact due to the Proposed Development is anticipated.

Figures

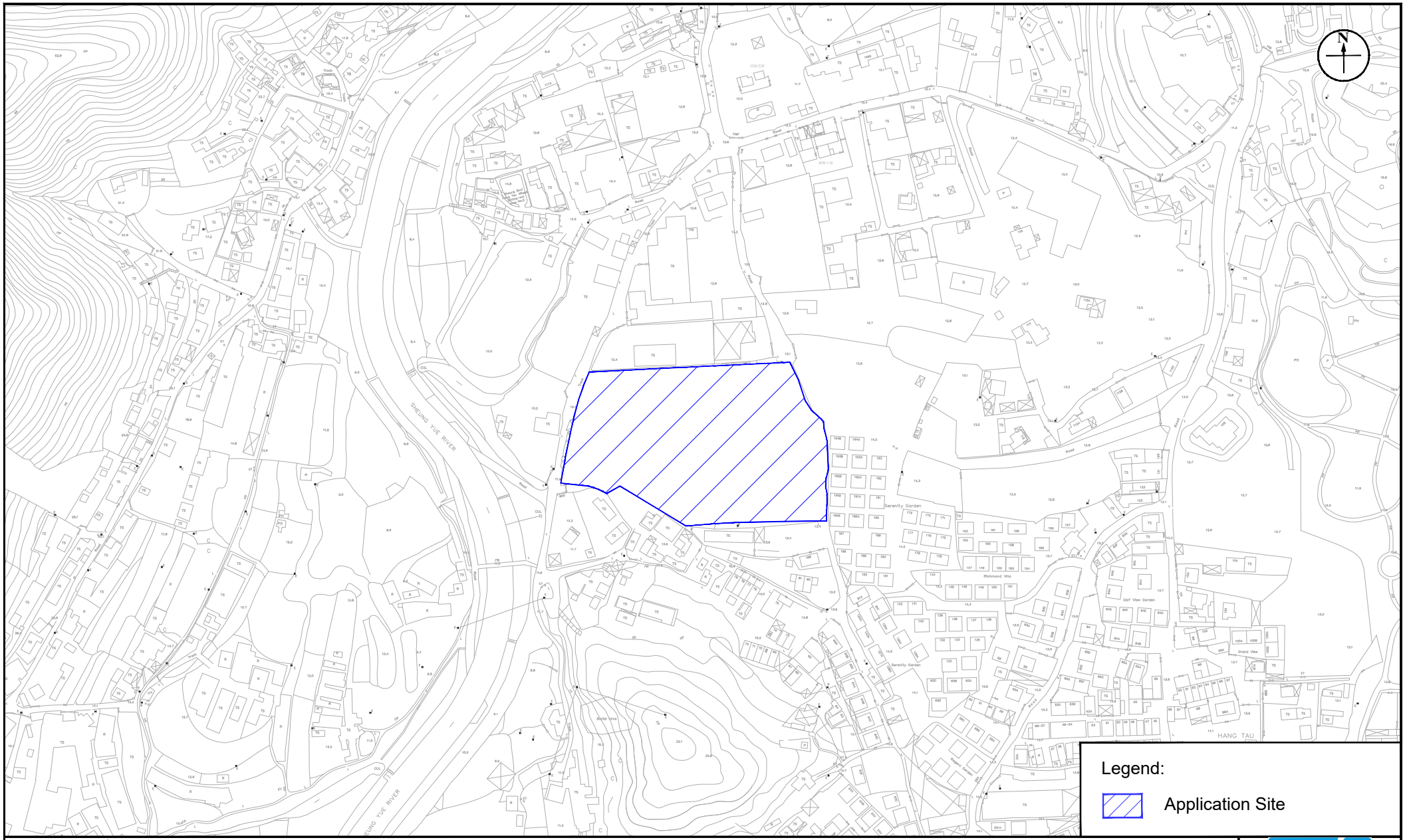


Figure: 1	RAMBOLL
Title: Location of the Application Site and its Environs	Drawn by: MW
Project: Proposed Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.	Checked by: CC
	Rev.: 1.0
	Date: Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\05 Drainage\V1.0\DIA_221117.dwg

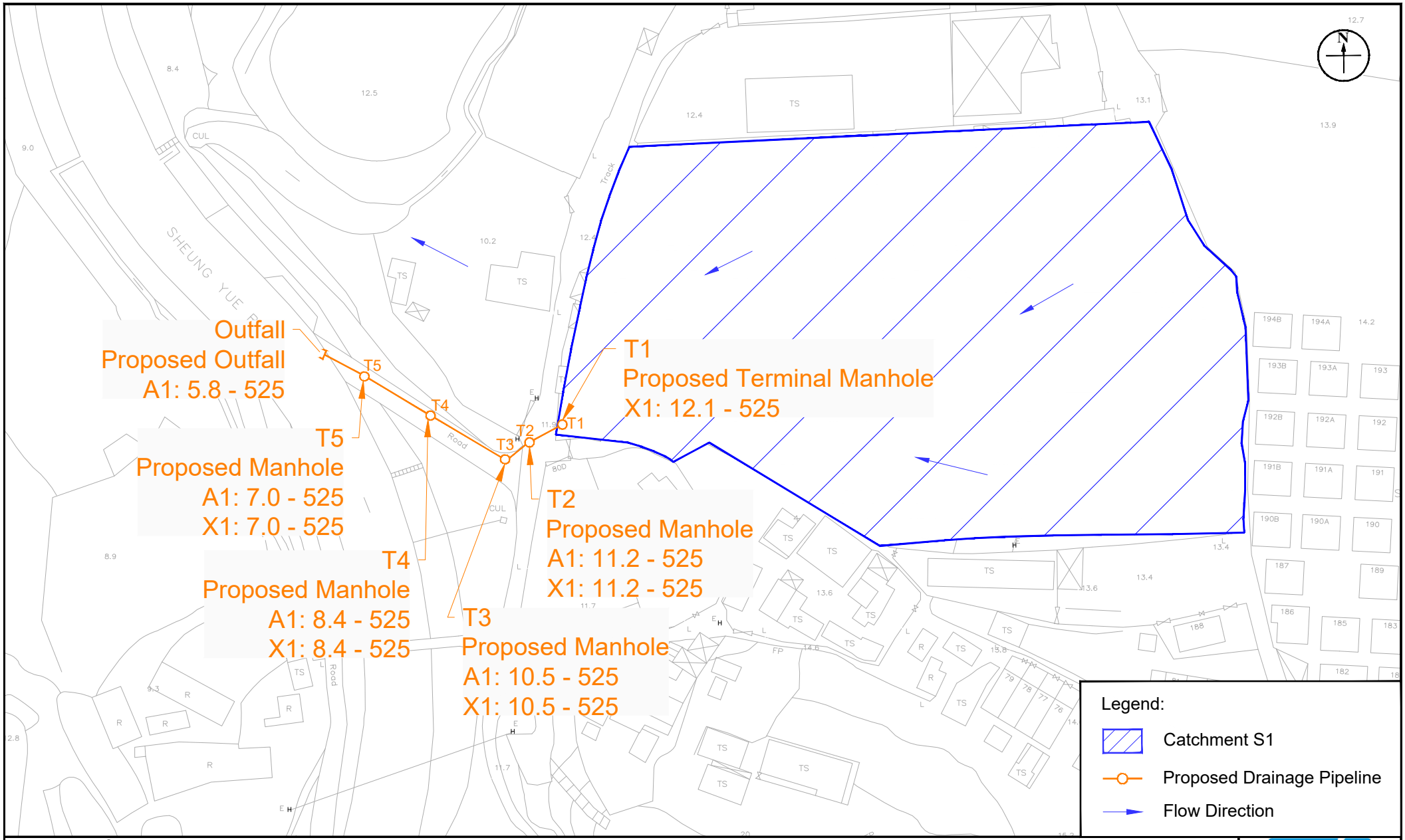


Figure:	2
Title:	Proposed Drainage System
Project:	Proposed Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.0
Date:	Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\05 Drainage\V1.0\DIA_221117.dwg

Appendix 1 Master Layout Plan



PLAN 5 MASTER LAYOUT PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd
JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3



LEGEND:

E.M.C.	= ELECTRICAL METER CABINET
G.M.&W.M.	= GAS METER & WATER METER
KIT.	= KITCHEN
P.R.	= POWER ROOM
P.W.&F.W. T.&P.	= PORTABLE WATER & FLUSHING WATER TANK & PUMP
T.G.	= TOWN GAS
TBE RM.	= TELECOMMUNICATIONS & BROADCASTING EQUIPMENT ROOM

PLAN 6 GROUND FLOOR PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3



PLAN 7 FIRST FLOOR PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3



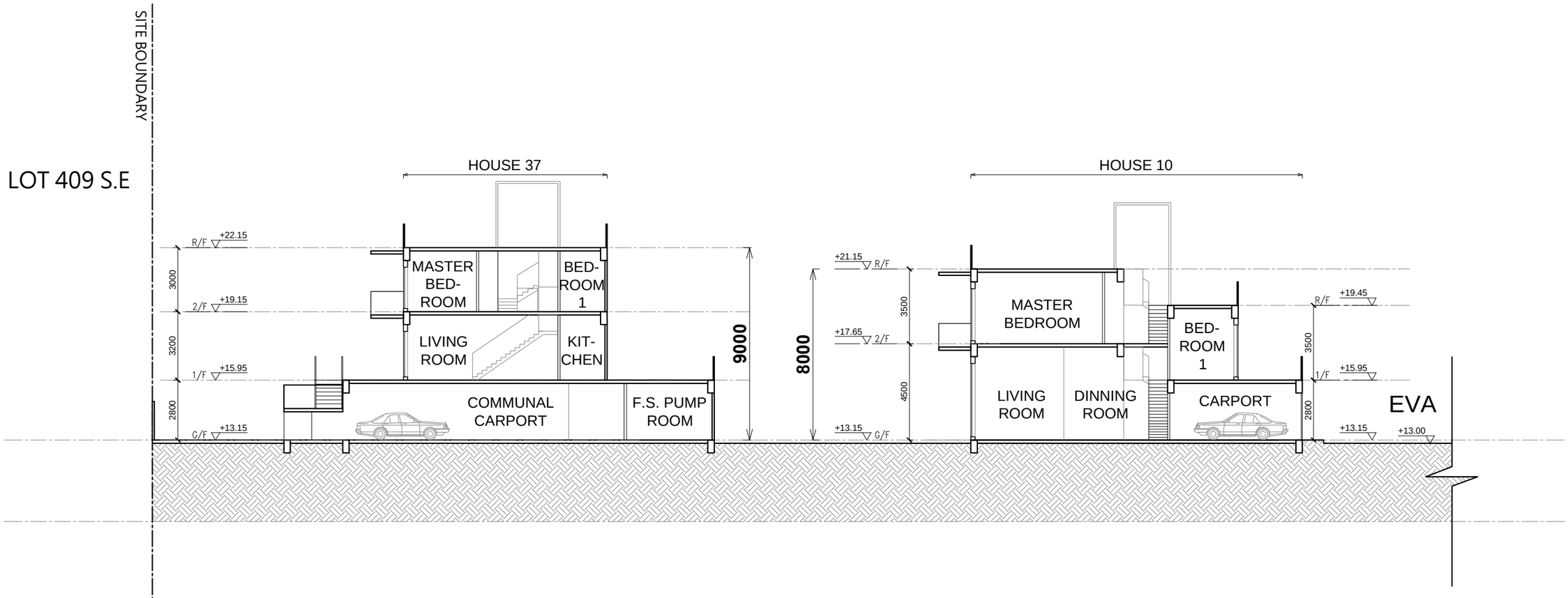
PLAN 8 SECOND FLOOR PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at

Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3



PLAN 9

SECTION AA'

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:200 @A3

Appendix 2 Detailed Sewerage Analysis

Table 1 Calculation for Sewage Generation Rate of the Proposed Development at the Application Site

1. Residential Tower

1a. Total number of residential units	=	42 units
1b. Total number of residents	=	118 people -- (2021 Population Census: Average Household Size of 2.8 in Sheung Shui Rural District)
1c. Design flow	=	0.37 m^3/person/day -- (Private R4 in Table T-1 of GESF)
1d. Sewage Generation rate	=	**43.7** m^3/day

2. Clubhouse

2a. Assumed Area	=	232 m^2
2b. Assumed floor area per employee	=	30.3 m^2 per worker -- (refer to Table 8 of CIFSUS - Community, Social & Personal Services)
2c. Total number of employees	=	8 employees
2d. Design flow for commercial activities	=	0.28 m^3/employee/day -- (refer to Table T-2 of GESF - J11)
2e. Sewage Generation rate	=	**2.1** m^3/day

Total Flow from Proposed Development

Flow Rate (without Catchmnet Inflow Factor)	=	**45.8** m^3/day
Contributing Population	=	170 people
Peaking factor	=	6 Refer to Guidelines for the Design of Small Sewage Treatment Plants
Peak Flow	=	**3.2** litre/sec

Appendix 3 Detailed Drainage Analysis

Kwu Tung South, Various Lots D.D. 94
Table 1 - Proposed Catchment Areas and Run-off (1 in 50 year)

$$Q_p = 0.278\ C\ i\ A$$

where Q_p = peak runoff in m^3/s
C = runoff coefficient (dimensionless)
i = rainfall intensity in mm/hr
A = catchment area in km^2

Notes:

Site Area 12,100 m^2

Catchments are small, so Rational Method is appropriate

1 in 50-year (according to Table 3 of DSD Manual)
a= 451.3
b= 2.46
c= 0.337

Surface Characteristics	*Runoff coefficient, C**
Asphalt	0.70 - 0.95
Concrete	0.80 - 0.95
Brick	0.70 - 0.85
Grassland (heavy soil**)	
Flat	0.13 - 0.25
Steep	0.25 - 0.35
Grassland (sandy soil)	
Flat	0.05 - 0.15
Steep	0.15 - 0.20

	Catchment	Discharge Manhole	Paved	Unpaved	Run-off at	Area	Levels (mPD)		Fall	Overland, L	Fall, H	Overland t_c	t_0	Total t_f[1]	Total t_c[2]	Intensity	Weighted Runoff Coefficient	Run-off
						(m^2)	Upstream	Downstream	(m)	(m)	(m/100m)	(min)	(min)	(min)	(min)	(mm/h)		(m^3/s)
Future	**Application Site**																	
	S1	T1	80%	20%	T1	12,100							5.0	0.00	5.00	229	0.79	0.609
					T2									0.09	5.09	228	0.79	0.607
					T3									0.07	5.07	229	0.79	0.607
					T4									0.00	5.07	229	0.79	0.607
					T5									0.00	5.07	229	0.79	0.607
					Outfall									0.00	5.07	229	0.79	0.607

Remarks:
1. Assumed Time of Concentration through stream flow
2. Assumed Time of Concentration

Kwu Tung South, Various Lots D.D. 94
Hydraulic Calculations of Existing and Proposed Drainage System

Table 2a - 1 in 50 year Runoff of Future Catchments (m^3/s)

Runoff at	Catchment	
	S1	Total
T1	0.609	**0.61**
T2	0.607	**0.61**
T3	0.607	**0.61**
T4	0.607	**0.61**
T5	0.607	**0.61**

Table 2b - Treated Effluent from the proposed on-site STP

Estimated Peak Sewage Generation Rate, m^3/s	Estimated Peak Effluent from Proposed On-Site STP, m^3/s
0.003	0.003

Table 3 - Hydraulic Capacities for Proposed Drainage System

Segment	Manhole Reference	Manhole Reference	Type of Channel	Pipe Dia.	Pipe Length	Invert Level 1	Invert Level 2	g	k_s	s	Gradient	v	V	Area	Q	Q_{silt} [1]
				mm	m	mPD	mPD	m/s^2	m		1 in	m^2/s	m/s	m^2	m^3/s	m^3/s
T1 - T2	-	-	Circular	525	8.4	12.10	11.20	9.81	0.0030	0.107	9	0.000001	5.89	0.22	1.28	1.21
T2 - T3	-	-	Circular	525	6.7	11.20	10.50	9.81	0.0030	0.105	10	0.000001	5.83	0.22	1.26	1.20
T3 - T4	-	-	Circular	525	19.5	10.50	8.40	9.81	0.0030	0.108	9	0.000001	5.92	0.22	1.28	1.22
T4 - T5	-	-	Circular	525	17.3	8.40	7.00	9.81	0.0030	0.081	12	0.000001	5.13	0.22	1.11	1.05
T5 - Outfall	-	Outfall	Circular	525	10.2	7.00	5.80	9.81	0.0030	0.117	9	0.000001	6.17	0.22	1.34	1.27

Table 4 - Comparison of Runoff from Proposed Catchments and Hydraulic Capacities of Existing Drainage System

Segment	Manhole Reference	Manhole Reference	Pipe Dia.	Q_{silt} [1]	Catchment Involved	Runoff	Occupancy	Sufficient Capacity?	Runoff [2]	Occupancy	Sufficient Capacity?	Runoff [3]	Occupancy	Sufficient Capacity?
			mm	m^3/s		m^3/s			m^3/s			m^3/s		
T1 - T2	-	-	525	1.21	S1	0.612	50.5%	YES	0.68	56.1%	YES	0.71	58.6%	YES
T2 - T3	-	-	525	1.20	S1	0.610	50.8%	YES	0.68	56.5%	YES	0.71	59.0%	YES
T3 - T4	-	-	525	1.22	S1	0.610	50.1%	YES	0.68	55.7%	YES	0.71	58.2%	YES
T4 - T5	-	-	525	1.05	S1	0.610	57.9%	YES	0.68	64.3%	YES	0.71	67.2%	YES
T5 - Outfall	-	Outfall	525	1.27	S1	0.610	48.1%	YES	0.68	53.4%	YES	0.71	55.8%	YES

Remarks:

1. Qsilt: 10% reduction in flow for gradient is not greater than 1 in 25, 5% reduction in flow for gradient greater than 1 in 25.
2. Cross Section Area of Circular Pipe: D^2 × PI / 4
3. Perimeter of Circular Pipe: (D × 2 × PI) / 2

Runoff [2] represents the situation in Mid 21st Century
Runoff [3] represents the situation in Late 21st Century

Prepared for

Great Huge Limited

Prepared by

Ramboll Hong Kong Limited

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT LOT 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.SS.1, 409 S.F.SS.2, 409 S.F.SS.3, 409 S.F.SS.4, 409 S.F.SS.5, 409 S.F.SS.6, 409 S.F.SS.7, 409 S.F.SS.8, 409 S.F.SS.9, 409 S.F.SS.10, 409 S.F.SS.11, 409 S.F.SS.12, 409 S.F.SS.13, 409 S.F.SS.14, 409 S.F.SS.15, 409 S.F.SS.16, 409 S.F.SS.17, 409 S.F.SS.18, 409 S.F.SS.19, 409 S.F.SS.20, 409 S.F.SS.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z IN D.D 94, KWU TUNG SOUTH, N.T.

ENVIRONMENTAL ASSESSMENT

Date	**January 2023**
Prepared by	**Miko WAN** **Assistant Environmental Consultant**
Signed	
Approved by	**Calvin CHIU** **Senior Manager**
Signed	
Project Reference	**CHIKTS94EI00**
Document No.	**R8726_V1.0**

No part of this document may be reproduced or transmitted, in any form or by any means electronic, mechanical, photographic, recording or otherwise, or stored in a retrieval system of any nature without the written permission of Ramboll Hong Kong Ltd, application for which shall be made to Ramboll Hong Kong Ltd, 21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong.

Disclaimer: This report is made on behalf of Ramboll Hong Kong Ltd. No individual is personally liable in connection with the preparation of this report. By receiving this report and acting on it, the client or any third party relying on it accepts that no individual is personally liable in contract, tort or breach of statutory duty (including negligence).

Ramboll Hong Kong Limited

21/F, BEA Harbour View Centre
56 Gloucester Road, Wan Chai, Hong Kong

Tel: (852) 3465 2888
Fax: (852) 3465 2899
Email: hkinfo@ramboll.com

Q:\Projects\CHIKTS94EI00\04 Deliverables\01 EA Report\R8726_V1.0.docx

CHAPTERS

Page

1. INTRODUCTION 1-1

1.1 Background 1-1
1.2 The Application Site and Its Environs 1-1
1.3 The Proposed Development 1-1
1.4 Appraisal of Environmental Impact 1-1

2. NOISE IMPACT ASSESSMENT 2-1

2.1 Introduction 2-1
2.2 Appraisal of Noise Environment 2-1
2.3 Road Traffic Noise Impact Assessment 2-1
2.4 Conclusion 2-4

3. AIR QUALITY IMPACT ASSESSMENT 3-1

3.1 Introduction 3-1
3.2 Industrial Emission Impact 3-1
3.3 Vehicular Emission Impact 3-1
3.4 Conclusion 3-1

4. CONSTRUCTION PHASE IMPACTS 4-3

4.1 Introduction 4-3
4.2 Fugitive Dust Emission 4-3
4.3 Construction Noise Impact 4-4
4.4 Water Quality and Construction Wastewater Impact 4-6
4.5 Construction Waste Disposal 4-8
4.6 Land Contamination Review 4-10

5. OVERALL CONCLUSION 5-1

TABLES

Table 4.1 Noise Limit for Daytime Construction Activities 4-5
Table 4.2 Summary Table of Estimated Waste during Construction Phase 4-9
Table 4.3 Land Use Summary on the Application Site 4-10
Table 4.4 Enquires and Responses on Land Contamination Related Records in the Application Site 4-12

FIGURES

Figure 1.1 Location of the Application Site and Its Environs
Figure 1.2 Location of Water Sensitive Receivers
Figure 2.1 Location of Noise Sensitive Receivers for Road Traffic Noise Impact Assessment
Figure 2.2 Location of Noise Sensitive Receivers Nearby the Associated Road Improvement Works
Figure 3.1 HKPSG Vehicular Emission Buffer Distance for Nearby Road Network

APPENDICES

Appendix 1.1 Master Layout Plan, Floor Plans and Sections of the Proposed Development
Appendix 2.1 Traffic Forecast for Year 2043
Appendix 2.2 Results of Road Traffic Noise Impact Assessment of the Proposed Development
Appendix 2.3 Results of Road Traffic Noise Impact Assessment of the Associated Road Improvement Work
Appendix 4.1 Historic Aerial Photo
Appendix 4.2 Correspondence with Various Departments
Appendix 4.3 Screen Capture of BRAVO
Appendix 4.4 Site Survey Record Plan

1. INTRODUCTION

1.1 Background

1.1.1 A residential development (the Proposed Development) has been proposed at various lots in D.D. 94 in Kwu Tung South, New Territories (the Application Site).

1.1.2 The Application Site falls within the "Residential (Group D)" ("R(D)") zone under the Approved Kwu Tung South Outline Zoning Plan (OZP) No. S/NE-KTS/18.

1.1.3 Ramboll Hong Kong Limited is commissioned to provide consultancy service to prepare this environmental assessment (EA) report as a technical supporting document to demonstrate that the Proposed Development is environmentally acceptable. This report addresses potential environmental noise, air, water quality impact, and discussion of waste management & potential land contamination issue.

1.1.4 The design of the master layout plan (MLP) and other technical information on the Proposed Development are provided by the Project Architect (CHIH Design Ltd), whereas the traffic forecast is provided by the Project Traffic Consultant (MVA Hong Kong Ltd).

1.2 The Application Site and Its Environs

1.2.1 The Application Site is approximately 12,100m^2. It is located in in Hang Tau Village and bounded by village access roads on west and east sides.

1.2.2 To the immediate east and southeast of the Application Site is existing village houses development (Serenity Garden and Richmond Villa). To the immediate south and north are scattered temporary structures. To the further west of the site is Sheung Yue River.

1.2.3 The Application Site is currently used as warehouse, open storage and machinery carpark & repair.

1.2.4 There are occasional crowd, vehicle passing-by and dog barking noise, which are typical of village environment. No industrial premises and related environmental impact can be observed in the surroundings.

1.2.5 **Figure 1.1** shows the location of the Application Site and its environment.

1.3 The Proposed Development

1.3.1 The Proposed Development consists of 42 houses (i.e. House 1 to House 42). The first residential floor for House 1 to House 35 elevates at 13.15mPD (3 storeys), while House 36 to 42 erect atop the clubhouse at 15.95mPD (2 storeys).

1.3.2 The tentative occupation year is 2028.

1.3.3 The MLP, floor plans and sections of the Proposed Development are shown in **Appendix 1.1**.

1.4 Appraisal of Environmental Impact

Water Quality Impact (Operational Phase)

1.4.1 The project is land-based in nature. Nearest waste sensitive receiver is Sheung Yue River on west side (**Figure 1.2**).

1.4.2 It is noted that a separate Drainage and sewerage impact assessment (DSIA) has been prepared to address potential drainage and sewerage impact during operation of the

Proposed Development. Please refer to the separate DSIA report under this application for details.

1.4.3 Onsite sewage treatment plant (STP) is proposed due to the long separation distance and inaccessible private lots between the Application Site and public foulwater manholes. Membrane bioreactor (MBR) or equivalent is recommended to achieve required effluent discharge standard. The treated effluent will be discharged to the proposed drainage system.

1.4.4 The onsite STP will be subject to later detailed design and submissions. The STP will also be subject to regular maintenance to ensure that it functions in designed condition and optimal performance, and can minimise any emergency situation. In addition, regular self-monitoring will be conducted to ensure the quality of the treated effluent shall meet the applicable standard before discharge. Monitoring programme will be devised for T&C of the system. A discharge licence will be applied prior the development commencement and monitoring requirement under the licence would be strictly followed as per Water Pollution Control Ordinance (WPCO). Necessary discharge standards, as set out in EPD's Technical Memorandum – Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters will be adopted.

1.4.5 Future surface runoff will be collected by onsite drainage system with facilities such as sand trap/oil interceptor to properly screen/filter surface runoff before discharge to public drainage system (i.e. Sheung Yue River). The design of the drainage system will make reference to the ProPECC PN 5/93 "Drainage Plans Subject to Comment by Environmental Protection Department". For example, drainage outlets provided in open areas and in covered areas are respectively connected/discharged to stormwater drains and onsite STP. Silt removal facilities should be provided where necessary.

1.4.6 The aforementioned connection/discharge will be implemented before operation of the Proposed Development. There will not be any wastewater or untreated surface runoff discharge to nearby water sensitive receivers during its operation. No unacceptable water quality impact is anticipated during the operation of the Proposed Development.

1.4.7 Besides, other environmental impact including noise and air quality during operation of the Proposed Development, and construction phase environmental impacts have been qualitatively or quantitatively addressed in subsequent sections.

2. NOISE IMPACT ASSESSMENT

2.1 Introduction

2.1.1 This noise impact assessment is prepared to quantitatively evaluate the potential environmental noise impact on the noise sensitive uses of the Proposed Development and to recommend mitigation measures where practicable to attenuate the impact. It also includes evaluation of other potential environmental impact in relation to the proposed development.

2.2 Appraisal of Noise Environment

Railway Noise

2.2.1 There is no railway or light transit railway line within 300m from the Application Site so that railway noise is not a concern.

Industrial/Fixed Source Noise

2.2.2 The Application Site is situated in Hang Tau Tai Po (Kwu Tong South) dominated by village houses, green belt and agriculture uses. The site itself is currently used for different storage purposes (i.e. construction material and equipment, recycling workshop, warehouse and machinery carpark & repair)

2.2.3 There is no industrial zone or industrial district in the vicinity. According to desktop and onsite survey in July and December 2022, two existing warehouses (GGGreen Antipollution & Recycler and Sun Ngai Steel Furniture Factory) are located ~15m to the northwest to west site boundary. The warehouses are used for recycling material storage or steel furniture storage instead of manufacturing. There is no night-time operation as told by the operator. Only some manual loading/unloading operations are observed during site survey. There is no noticeable noise observed at the main gate of the warehouses. Noise impact from these identified warehouses is considered negligible.

2.2.4 Other than the above, there is no substation and similar potentially noisy installation in the vicinity. Fixed/industrial noise impact is not considered as a concern.

2.2.5 While it is in early stage of the project, it is anticipated that there will be potentially noisy installation such as ventilation fan/system for plant rooms in future as well as air conditioning system for clubhouse subject to detailed design. The future system will be designed and installed to meet the HKPSG noise standard (i.e. Table 4.1 of Chapter 9 in HKPSG).

Road Traffic Noise

2.2.6 Occasional road traffic noise is observed when vehicles pass by. The Application Site is bounded by access road on west and east sides and with limited traffic flow (see **Appendix 2.1**). The following sub-sections contains result of road traffic noise impact assessment.

2.3 Road Traffic Noise Impact Assessment

2.3.1 There is absence of any major road in the surrounding. The nearest major road, Hang Tau Road, is approximately 300m apart on northeast side.

2.3.2 To support the Proposed Development, widening works of Access Road to Hang Tau Road, construction of roundabout and realignment of Access Road (i.e. Road 04 and 05 in **Appendix 2.1**) should be implemented.

2.3.3 Noise from local carriageway is considered dominant with respect to the Proposed Development and the surrounding village type developments. Accordingly, road traffic noise impact has been assessed in this context.

2.3.4 Improvement works are proposed for Access Road 04 and 05. Access Road 04 is substandard and will need to be stretched (from existing minimum around 3.5m) to 6m for two-way (one lane for each direction) road. The total length is around 420m, connecting from the roundabout at the north of the Application Site to Hang Tau Road, Realignment of Access Road 05 is proposed from the Proposed Development to the roundabout, with total length of around 120m.

2.3.5 Existing developments along the section of Access Road 04 and 05 to be improved include some open storage areas and multiple village houses. Road traffic noise impact due to the improvement works on the existing/planned developments along has been assessed.

Road Traffic Noise Impact Assessment Criteria

2.3.6 Noise standards are recommended in the Hong Kong Planning Standards and Guidelines (HKPSG) for planning against noise impact from sources such as road traffic, railway and aircraft. Under HKPSG, the criterion for road traffic noise impact on domestic premises (habitable rooms) is $L_{10(1\text{-hour})}$ 70dB(A). The criterion applies to uses which rely on opened windows for ventilation, including proposed house development and surrounding village houses.

2.3.7 Clubhouse will be provided with centralised air conditioning system and will not rely on openable window for ventilation. The recommended criterion for road traffic noise assessment only applies to uses which rely on opened windows for ventilation.

2.3.8 In addition, while this is a submission under Town Planning Application, for prediction of road traffic noise impact due to road improvement works of Access Road 04 and Access Road 05, EIAO Guidance Note No. 12/2010 "Road Traffic Noise Impact Assessment under the Environmental Impact Assessment Ordinance" is referenced. In general, works such as improvement of road auxiliaries, addition of a lay-by and improvement of a road junction would not be considered to cause significant change of noise impact as it would not affect the design capacity.

2.3.9 Moreover, the traffic noise impact would be considered significant if the traffic noise level with the road project would be greater than that without the road project by 1.0dB(A) or more. As such, for assessment of road traffic noise impact due to Access Road 04 and Access Road 05 after road improvement work, in case the cumulative noise impact after roadwork exceeds relevant standard described above, it will be further evaluated whether the traffic noise level with the road project would be greater than that without the road project by 1.0dB(A) or more.

Road Traffic Noise Impact Assessment Methodology

2.3.10 In this assessment, the potential noise impact arising from nearby existing and future road carriageways on the development has been assessed based on the proposed MLP. 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. Calculation of predicted road traffic noise was based on the worst case peak hour traffic flows projected within a 15-year period from the tentative completion date (Year 2028) of the Proposed Development.

2.3.11 For worst-case scenario evaluation, the assessment year was chosen to be Year 2043, which has the maximum forecasted traffic flow within the 15-year period. The Year 2043 traffic forecast data is prepared by project traffic consultant and attached in

Appendix 2.1. Endorsement of the traffic forecast data from Transport Department (TD) will be provided when available.

2.3.12 The U.K. Department of Transport's procedure "Calculation of Road Traffic Noise" (CRTN) was used to predict the hourly $L_{10(1\text{-hour})}$ noise levels generated from road traffic at selected representative NSRs. The predicted noise levels were compared with the relevant HKPSG noise standards (i.e. $L_{10(1\text{-hour})}$ 70dB(A)).

Noise Sensitive Receivers

2.3.13 A number of Noise Sensitive Receivers (i.e. Assessment Points) within the Application Site were selected for the assessment at those locations that rely on opened windows for ventilation. All assessment points were taken at 1.2m above the floor and 1m away from the façade of openable windows (which would be for ventilation purpose) of rooms of sensitive use (living rooms and bedrooms).

2.3.14 **Figure 2.1** illustrates the locations of the selected representative NSRs for road traffic noise impact assessment.

2.3.15 In addition, existing and other planned NSRs (if any) adjacent to Access Road 04 and Access Road 05 are also selected for assessment purpose. **Figure 2.2** shows the location of NSRs nearby the associated road improvement works.

Road Traffic Noise Impact Assessment Result (Base Case Scenario)

Impact on the Proposed Development

2.3.16 The predicted road traffic noise levels on the representative NSRs based on the development scheme without any noise mitigation measures at the Application Site were assessed.

2.3.17 The assessment result for dwellings under base case scenario is presented in **Appendix 2.2**. The maximum predicted noise level at the NSRs facing road is up to $L_{10(1\text{-hour})}$ 57dB(A). Full compliance with the relevant HKPSG noise standards is achieved for the Proposed Development.

Impact due to the Road Improvement Works of Access Road 04 and 05

2.3.18 The predicted road traffic noise level with respect to two scenarios (Existing Road and Project Road) in Year 2043 are studied to evaluate the noise impact arising from the road improvement works.

- Existing Road – the existing open roads within 300m of the Application Site and the proposed improvement roads' boundary (Access Road 04 and 05 themselves are excluded, see **Appendix 2.1** for the assessment boundary); and
- Project Road – the proposed access road improvements (Access Road 04 and 05)

2.3.19 If the cumulative noise impact is within the acceptable standard of $L_{10(1hr)}$ 70dB(A) or the increase in noise level not greater than 1.0dB(A) even standard is exceeded, the noise impact due to the proposed improvement works would not be considered significant.

2.3.20 The predicted road traffic noise level ($L_{10(1\text{-hr})}$) due to the improvement of Access Road 04 and 05 to existing/planned NSRs is presented in **Appendix 2.3**. According to the predicted result, no adverse road traffic noise impact is anticipated due to the proposed road improvement works.

2.4 Conclusion

2.4.1 According to the observation, there is absence of any railway noise or fixed/industrial noise source in the vicinity. Future noisy facilities, if any, will be designed to meet relevant noise standard under HKPSG.

2.4.2 Road traffic noise impact assessment has been carried out for the Proposed Development. The result demonstrated that there is no adverse road traffic noise impact on the Proposed Development. The road improvement works of Access Road 04 and Access Road 05 arising from the Proposed Development will not result in any significant adverse road traffic noise impact on existing and planned NSRs in the surrounding.

2.4.3 Therefore, the Proposed Development would not subject to any adverse noise impact. No adverse noise impact is anticipated arising from the Proposed Development as well.

3. AIR QUALITY IMPACT ASSESSMENT

3.1 Introduction

3.1.1 This section evaluates the air quality impact during operation of the Proposed Development. Table 3.1 in Chapter 9 of the HKPSG has been referenced for provision of buffer separation from identified air pollution sources in the vicinity.

3.2 Industrial Emission Impact

3.2.1 The Application Site is surrounded by uses mainly including village type developments, recreational, green belt, agriculture, and rural landscape. Site survey was conducted in July and December 2022 to identify any environmental nuisance and focus on area within 200m from the Application Site (see **Figure 1.1**).

3.2.2 There is no emission source such as chimney stack or any other emission like fluff, odour, smoke, identified within 200m from the Application Site.

3.2.3 Regarding the Proposed Development comprising house and ancillary facilities (clubhouse), it is not considered environmental polluting in nature. There is no chimney stack and basement carpark (and in turn fan exhaust) proposed in the Application Site.

3.3 Vehicular Emission Impact

3.3.1 The Application Site is bounded by village access roads to its immediate east and west. As advised by the Project Traffic Consultant, these unnamed access roads (not covered in Annual Traffic Census) are considered as feeder road. Given that there is no specific requirement for the feeder road under HKPSG, 5m buffer distance will be provided as the traffic volume of the access roads are minimal.

3.3.2 **Figure 3.1** shows the separation distance provided. There is no air sensitive use within the buffer zone. Therefore, no significant vehicular emission impact is anticipated.

3.4 Conclusion

3.4.1 There is absence of chimney stack in the surrounding area (within 200m) and adequate building setback has been provided as recommended in Table 3.1, Chapter 9 of the HKPSG.

3.4.2 Buffer zones are defined with respect to adjacent feeder roads. There will be no air sensitive uses, including openable windows of domestic premises located within the buffer zones as stipulated in the HKPSG.

3.4.3 It is considered that no significant air quality impact on the Proposed Development is anticipated.

4. CONSTRUCTION PHASE IMPACTS

4.1 Introduction

4.1.1 During the construction phase of the proposed development, there may be potential dust, noise and water quality impacts upon the nearby sensitive receivers such as villages. Waste generation (including possible land contamination) is another consideration. Practicable environmental mitigation measures are recommended to reduce these impacts to acceptable ranges.

4.2 Fugitive Dust Emission

4.2.1 The major air quality impact of concern during the construction phase will be the potential fugitive dust emission. The major dust emission sources during the construction phase of the Proposed Development are expected to arise from construction activities during site formation stage such as:

- Excavation resulting in exposed ground vulnerable to air erosion;
- Earth moving, loading and unloading of excavated material;
- Wind effect on material stockpiling; and
- Vehicle movements on haul roads and over the construction site.

4.2.2 There will be potential impacts from the criteria pollutants (e.g. nitrogen oxides (NOx), sulphur dioxide (SO_2), and carbon monoxide (CO)). Emission from diesel trucks for the haulage of materials and construction plants will contain high percentage of smoke particulate and unburned hydrocarbons in comparison with petrol driven vehicles. Ultra-low sulphur diesel (ULSD) with sulphur content not exceeding 0.005% by weight will be used as fuel to minimize SO_2 emission. In all circumstances, the contractor will be required to observe all relevant regulations and maintain all equipment in good condition to avoid any excessive emission. Under the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, only approved or exempted non-road mobile machineries (including mobile generator, air compressor, excavator, crawler crane, bulldozer and etc.) with a proper label are allowed to be used in the construction site. In addition, availability of electricity supply during construction of the project will be explored and such requirement will be specified in future contract. If available, contractor should maximise use of electricity and with least reliance of diesel fuelled equipment (e.g. for electricity powered stationary equipment such as pump instead of using generator).

4.2.3 Fugitive dust emission arising from construction activities can be effectively suppressed by incorporating proper mitigation measures into work procedures through contractual clauses with reference to EPD's Recommended Pollution Control Clauses for Construction Contracts, where applicable, good site management, and close monitoring by the resident engineers. The contractor shall be required to follow the requirements of the Air Pollution Control (Construction Dust) Regulations. With the adaptation of good practices, it is expected that emission of construction dust can be kept at an acceptable level.

Mitigation Measures

General Site Management

4.2.4 Appropriate working methods should be devised and arranged to minimise dust emissions and to ensure any installed control system and/or measures are operated and/or implemented in accordance with their design merits. No free falling of

construction debris should be allowed, which should be let down by hoist or enclosed tunnel to the ground.

4.2.5 A high standard of housekeeping shall be maintained. Any piles of materials accumulated on or around the work areas shall be cleaned up regularly. Cleaning, repair and maintenance of all plant facilities within the work areas shall be carried out in a manner that does not generate fugitive dust emissions. Prior to cleaning, the materials should be handled properly to prevent fugitive dust emission. Any exposed earth shall be properly treated by compacting or hydro seeding, within 6 months after the last construction activity.

4.2.6 Frequent mist/ water spraying should be applied on dusty areas. The frequency of spraying will depend upon local conditions such as rainfall, temperature, wind speed and humidity. The amount of water spraying should be just enough to dampen the material without over-watering which could result in surface water runoff.

Vehicles and Unpaved Site Roads

4.2.7 Dust emission from unpaved roads comes predominantly from travelling of vehicles. Areas within the site where there are regular vehicle movements should have an approved hard surface. Speed controls at an upper limit of 10km/hr should be imposed and their movements should be confined to designed roadways within the site. All dusty vehicle loads should have side and tail boards covered by tarpaulin extending at least 300mm over the edges of the side and tail boards. Wheel-wash troughs and hoses should be provided at exit points of the site.

Material Stockpiling and Handling

4.2.8 The amount of stockpiling should be minimised where possible. Construction material or debris should be covered and stored inside enclosed areas. Other control measures such as enclosed or semi-enclosed windboard should be used, where applicable, to minimise dust emission. Regular watering is needed at areas such as storage piles, where there could be potential dust emission.

4.2.9 Especially, stockpiling should be avoided near to east site boundary immediate to existing village houses.

4.2.10 "Recommended Pollution Control Clauses for Construction Contracts" is available on the EPD website which set out the recommended air pollution control measures to be implemented by the contractor(s) during the construction stage of the Project.

4.2.11 With the adoption of good practices, it is expected that emission of construction fugitive dust can be kept to an acceptable level.

4.3 Construction Noise Impact

4.3.1 During the construction phase of the proposed development, major noise impacts would arise from piling works, operation of Powered Mechanical Equipment (PME), and construction-related traffic.

Construction Noise Criteria

4.3.2 Construction noise is controlled under the Noise Control Ordinance (NCO) which prohibits the use of powered mechanical equipment (PME) during the restricted hours (7 p.m. to 7 a.m. on normal weekdays and any time on a public holiday, including Sunday) without a valid Construction Noise Permit (CNP) from the Authority. The criteria and procedures for issuing such a permit are specified in the "Technical Memorandum on Noise From Construction Works Other than Percussive Piling" (TM1). While there is no planned construction works to be carried out during the restricted

hours, TM1 should be followed in case there is any need to carry out works in such time period in future.

4.3.3 With effect from 1 November 96, the use of specified powered mechanical equipment (SPME) for carrying out construction work other than percussive piling and/ or the carrying out of prescribed construction work (PCW) within a designated area are also brought under control. The relevant technical details are provided in the "Technical Memorandum on Noise from Construction Work in Designated Areas" (TM2).

4.3.4 Percussive pilling is controlled similarly by a construction noise permit system and described in the NCO and the "Technical Memorandum On Noise From Percussive Piling" (TM3) which restrict the number of hours during which piling can be conducted. Percussive piling is prohibited between 7 p.m. and 7 a.m. and on holidays (including Sundays). Percussive piling during the daytime (i.e. between 7 a.m. and 7 p.m. on any day not being a holiday) may be carried out in accordance with the permitted hours and other conditions under a valid construction noise permit.

4.3.5 For construction works other than percussive piling, although TM1 does not provide control over daytime construction activities, noise limits as shown in below table are set out in the "Practice Note for Professional Persons Environmental Consultative Committee" (ProPECC) PN/2 issued in 1993.

Table 4.1 Noise Limit for Daytime Construction Activities

NSR	0700 to 1900 Hours on Any Day Not Being a Sunday or General Holiday, Leq (30 min), dB(A)
Dwelling	75
School	70 (65 during examination)

Notes:

i. The above standards apply to uses which rely on opened windows for ventilation;

ii. The above standards shall be viewed as the maximum permissible noise levels assessed at 1 m from the external façade.

Mitigation Measures

4.3.6 Sufficient noise mitigation measures should be introduced in the development to alleviate potential noise impacts on nearby NSRs. The Contractor(s) will be required under the contract to ensure regular maintenance of all plant and equipment, and that noise generation at source would be minimized and practicable noise mitigation measures would be in use. The Contractor(s) will be required to adopt quiet type construction plants (e.g. EPD's quality powered mechanical equipment (QPME) inventory), wherever practicable. Similarly, quieter method other than percussive piling will be adopted as far as practicable for any piling works subject to ground investigation result (which usually dictates the piling method). Movable noise barriers will also be erected around noisy plants in order to minimize noise generation at source. With these measures in place noise generation due to construction activities would be minimized.

4.3.7 The following general noise mitigation measures are recommended for implementation:

- Application of properly designed silencers, mufflers, acoustically dampened panels and acoustic sheds or shields, etc.;

- Use of electric-powered equipment where applicable instead of diesel-powered or pneumatic-powered equipment;
- Erecting noise enclosures/ movable noise barriers around noisy plants;
- Erecting higher hoarding on east site boundary immediate to village houses;
- Only well-maintained plants should be operated on-site;
- Plants should be serviced regularly during the construction programme;
- Noisy activities can be scheduled to minimize exposure of nearby NSRs to high levels of construction noise. For example, noisy activities can be scheduled for midday or at times coinciding with periods of high background noise;
- Noisy equipment such as emergency generators shall always be sited as far away as possible from noise sensitive receivers;
- Location of noise emitting plants at maximum possible distances from sensitive receivers;
- Contractual clauses for construction works; and
- Schedule of noisy operations during non-restricted hours where possible.

4.3.8 The above-mentioned noise mitigation measures will be included in the contractual clauses for implementation by the contractor(s) during the construction stage. With these measures in place, construction noise due to the Proposed Development can be minimized, and no significant noise impact is anticipated.

4.4 Water Quality and Construction Wastewater Impact

Source of Construction Wastewater

4.4.1 Construction activities would inevitably have the potential to generate wastewater and affect the nearby water quality. Works should be carried out in such a manner so as to minimise significant impacts on local water bodies. Activities that are likely to cause water pollution include:

- Construction runoff and drainage;
- Sewage effluent from the site; and
- Liquid spillage, e.g. oil, diesel, solvents etc.

4.4.2 Construction runoff contains increased loads of sediments, other suspended solids and contaminants. Potential sources of pollution include runoff and erosion from the site surfaces, drainage channels; bentonite slurries and other grouting materials and drainage from dust suppression sprays, fuel, oil and lubricants from construction vehicles and other equipment.

4.4.3 Water sensitive receivers exist in the immediate surrounding of the Application Site (see **Figure 1.2**). Precautionary measures should be incorporated to avoid and minimise potential water quality impact on the water sensitive receivers.

Mitigation Measures

4.4.4 The good practice given in the Practice Notes for Professional Persons on "Construction Site Drainage" (ProPECC PN 1/94) in controlling water pollution at construction site shall be implemented during the construction phase of the Proposed Development. Soil erosion from the construction site can be minimised through good on-site management practices by implementing viable erosion control measures which should be incorporated in contract clauses. The main practices provided in the above-mentioned

document (i.e. ProPECC PN 1/94) are also summarized in the following paragraphs which should be enforced to prevent unacceptable construction stage impacts and for compliance with the statutory criteria.

Construction Site Runoff

- Exposed soil surfaces should be protected from rainfall through, for example, by covering temporarily exposed slope surfaces or stockpiles with tarpaulin and protect temporary access roads by crushed stone or gravel;
- Exposed soil areas should be minimised to reduce the potential for increased siltation and contamination of runoff;
- Minimise the time that soil surfaces are exposed;
- Slow down water run-off flowing across exposed soil surfaces;
- Channels, earth bunds or sand bag barriers should be provided on site to properly direct surface runoff through drainage systems;
- Oil interceptors are also recommended to be provided for stormwater drains near plant maintenance/ repair areas, where necessary.
- Manholes (including newly constructed ones) should be adequately covered or temporarily sealed so as to prevent slit, construction materials or debris from getting into the drainage system;
- Construction works should be programmed to minimise soil excavation works where practicable during rainy conditions (in particular works nearby water body such as offsite pipe laying work alongside river);
- Drainage facilities must be adequate for the controlled release of storm flows;
- Sedimentation basins and sand traps designed in accordance with the requirements of ProPECC Note PN 1/94 should be installed at the construction site for collecting surface runoff. Perimeter channels at site boundaries should be provided where necessary to intercept surface runoff from outside the site. Silt removal facilities, channels and manholes should be maintained and deposited silt and grit should be removed regularly;
- There should be no direct discharge without treatment of construction site runoff into the nearby streams and public drains;
- The Contractor shall prepare a construction site drainage management plan with details of the construction phase drainage system proposed to be constructed; discharge location(s); and screening facilities;
- The Contractor(s) shall apply for a discharge licence under the WPCO and the discharge shall comply with the terms and conditions of the licence throughout the construction phase; and
- Construction works should be arranged so that there should be no disturbance to water quality at the nearby stream. Construction site runoff should be intercepted by drains so that there will be no direct discharge without treatment into the nearby stream and other sensitive areas.
- Apart from works within the Application Site, there will be offsite construction work for laying of pipeline. A section of pipeline will be constructed towards Sheung Yue River and set up a new outfall. Sand bag will be berthed alongside the water body to minimise any construction material/excavated soil/debris from getting into water body.

Wastewater from Construction Site

- Sewage generated from the construction workforce should be contained by chemical toilets before connection to public foul sewer can be provided. The number of chemical toilets required would be subject to the capacity of the chemical toilets, and contractor's practices/ work programme. The Contractor(s) will be required to provide an estimation on the amount of sewage to be generated and to provide sufficient number of chemical toilets for construction workers. The chemical toilets should be serviced and cleaned by a specialist contractor at regular intervals. No discharge of sewage into nearby environment will be allowed during construction stage. Such requirements will be incorporated into relevant contractual clauses of this Proposed Development for proper implementation;
- Foul water from canteens on-site, if any, should also be contained by chemical toilets before connection to public foul sewer can be provided;
- Vehicle wheel washing facilities should be provided at every site exit such that mud, debris, etc. deposited onto the vehicle wheels or body can be washed off before leaving the site area;
- Section of construction road between the wheel washing bay and the public road should be paved with backfill to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains; and
- If bentonite is used, bentonite slurry should be reconditioned and reused as far as practicable. Spent bentonite should be kept in a separate slurry collection system for disposal at a marine spoil grounds subject to obtaining a marine dumping licence from EPD. If used bentonite slurry is to be disposed of through public drainage system, it should be treated to the respective effluent standards applicable to foul sewers, storm drains or the receiving waters as set out in the WPCO Technical Memorandum on Effluent Standards in accordance with ProPECC PN 1/94.

Oils and Solvents

- Spillage of fuel oils or other polluting fluids should be prevented at source. It is recommended that all stocks should be stored inside proper containers and sited on sealed areas, preferably surrounded by berms;
- Regular site inspections to ensure the proper implementation of the above measures shall be carried out.

4.5 Construction Waste Disposal

Legislation and Construction Waste Impact

4.5.1 The principal legislation controlling waste materials in Hong Kong is the Waste Disposal Ordinance (WDO) (Cap. 354) and its subsidiary regulations.

4.5.2 Construction activities for the Proposed Development will generate waste materials requiring appropriate management and disposal. Likely range of waste types includes:

- Excavated C&D materials and site clearance waste;
- Wood from formwork as non-inert C&D materials;
- General refuse generated by the workforce; and
- Chemical and oily wastes due to maintenance of equipment.

4.5.3 The general waste management strategy is to avoid waste generation in the first place. If that is unavoidable, source reduction and segregation should be exercised as far as practicable and at the same time, recycling and reuse should be adopted to salvage as much as possible all the recyclable and reusable materials.

Construction Waste Disposal Measures

4.5.4 Contractor will be required to develop and implement a proper waste management plan (WMP) according to the PNAP ADV-19 to devise proper procedures to segregate, store and delivery/disposal or recyclable/non-recyclable materials.

4.5.5 On-site sorting of construction wastes will be recommended. On-site sorting can be achieved by avoiding the generation of "mixed waste" through good site control.

4.5.6 Waste generated by construction activities should be sorted into inert C&D materials and non-inert C&D materials. The inert C&D materials which comprise soil, rock, concrete, brick, cement plaster/mortar, inert building debris, aggregates and asphalt shall be reused in earth filling, reclamation or site formation works. The non-inert C&D materials which comprises metal, timber, paper, glass, junk and general garbage shall be reused or recycled and, as the last resort, disposal of at landfills.

4.5.7 It is estimated that about 35,160m^3 of inert C&D material and 13,750m^3 of non-inert C&D material will be generated during the course of construction. Adequate areas for sorting and storage of segregated materials should be provided onsite. Construction wastes shall be sorted, with the inert C&D material broken up into small pieces for disposal at public fill reception facility, and the non-inert C&D material should be disposed of at landfill.

4.5.8 To estimate the general refuse generated during construction phase, an assumption of 50 workers per day with 0.65kg per worker per day has been made. **Table 4.2** presents the estimation of waste generated during construction phase.

Table 4.2 Summary Table of Estimated Waste during Construction Phase

Waste Material	Total Quantity Generated	Handling	Disposed offsite/reused and quantity
Inert C&D Material	~35,160 m^3	Sorted into inert C&D material and delivered to public fill reception facilities	~35,160 m^3 to be delivered to public fill reception facility (minimal for reuse onsite)
Non-Inert C&D Material	~13,750 m^3	Collected and segregated where practicable, and collected by/delivered to recycler	~700 m^3 to be collected by/delivered to recycler ~13,050 m^3 to be disposed of at designated landfill site
General Refuse	~33 kg per day	Collected using adequate containers/bins and provide onsite collection point for collection	Collected by refuse collection vehicle and disposed of at designated landfill site
Chemical Waste	Anticipated to be limited (around some hundred litres at most)	Collected by licensed collectors	Chemical Waste Treatment Centre or equivalent

Note: The above estimated quantities are subject to the detailed design stage.

4.5.9 Construction wastes shall be sorted, with the inert C&D materials broken up into small pieces for disposal at public fill reception facility, and the non-inert C&D materials should be disposed of at landfill.

4.5.10 Chemical and oily wastes generated from the construction activities, vehicle and plant maintenance and oil interceptors should be disposed of as chemical waste in strict compliance with the Waste Disposal (Chemical Waste) (General) Regulations.

4.5.11 Waste disposal from construction site is subject to control under the Waste Disposal Ordinance.

Conclusion

4.5.12 With the implementation of the proposed construction waste management measures as aforementioned, all the waste generated on site during construction phase would be well sorted, properly treated and sent to designated waste treatment facilities according to its waste type. Thus, no adverse waste impact is anticipated during construction phase.

4.5.13 Associated waste handling facilities for the Proposed Development would be provided in accordance with statutory guidelines; waste generated would be collected by waste collector and eventually sent to refuse transfer station properly. Therefore, no adverse environmental waste impact is anticipated during operational phase.

4.6 Land Contamination Review

4.6.1 The Application Site is located in Hang Tau Village, Kwu Tung South. It is currently used as warehouse, open storage and machinery carpark & repair.

Historic and Current Land Uses

4.6.2 Historic aerial photos taken in year 1945 to 2022 are shown in **Appendix 4.1** to present the land use status (

4.6.3 **Table** 4.3 also refers). It was a farm land from 1945 to 1986 with some village houses located at the eastern portion of the Application Site. In year 1990, the site was generally paved and access roads was constructed. It was used as open storage since then. In year 1994, the site was further paved and divided into a number of portions for different tenants. The site was mainly used as open storage and carpark. From year 2009, the site was completely paved. Open storage, warehouse, recycling workshop and machinery carpark & repair were observed as onsite activities during site visit.

Table 4.3 Land Use Summary on the Application Site

Period / Year	Land Use/ Description	Owner/ Occupier	Source of Information	Off-site Property Affected?
1945	The Application Site was a farmland.	No information available	Aerial Photos available from Lands Department	No
1963	The Application Site was mainly used as agriculture and some village houses located at the eastern portion of the site.	No information available	Aerial Photos available from Lands Department	No

Period / Year	Land Use/ Description	Owner/ Occupier	Source of Information	Off-site Property Affected?
1986	The Application Site was a farmland.	No information available	Aerial Photos available from Lands Department	No
1990	The Application Site was generally paved and access roads were constructed.	No information available	Aerial Photos available from Lands Department	No
1994	The Application Site mainly consisted of open storage and car park. There was a strip of shrubland located at the eastern site boundary.	No information available	Aerial Photos available from Lands Department	No
2009	The Application Site was fully paved and consisted of open storage and machinery carpark. Construction materials were identified to be stockpiled onsite.	No information available	Aerial Photos available from Lands Department	No
2016	The Application Site consisted of open storage, warehouse, recycling workshop and machinery carpark. Construction materials and scarp metals were identified and stockpiled on the site.	No information available	Aerial Photos available from Lands Department	No
2022	No landuse change for the Application Site.	Applicant	Aerial Photos available from Lands Department	No

Information from Government Departments

4.6.4 Apart from the historic aerial photos, the following Hong Kong Special Administration Region (HKSAR) Government Departments have been enquired on the latest update on the availability of land use status and records of land contamination in **Table 4.4** below. Copy of letters which the Consultant sent to various Government Departments and relevant replies are shown in **Appendix 4.2**.

4.6.5 Building Records Access and Viewing On-line (BRAVO) of Building Departments (BD) was visited in December 2022 to obtain records for completed private buildings. It is observed that there is one (1) entry of Alterations & Additions partly within the site. The captures screen of BRAVO is provided in **Appendix 4.3**.

4.6.6 As advised by Planning Department (PlanD), the Consultant visited the Town Planning Board Statutory Planning Portal 2 to obtain records for land zoning. The website as of 22 December 2022 has confirmed that the Application Site falls within areas zoned "Residential (Group D)" on the approved Kwu Tong South Outline Zoning Plan (OZP) No. S/NE-KTS/18.

4.6.7 As advised by Environmental Protection Department (EPD), the Consultant visited the territory-wide register of chemical waste producers (CWPs) maintained at the Territory Control Office. The register record as of 24 March 2022 has recorded 2 valid CWPs at the Application Site.

4.6.8 As advised by Fire Service Department (FSD), no Dangerous Goods Licence is issued regarding the Application Site. There is also no fire incidents nor incidents of spillage/ leakage of dangerous goods were found.

Table 4.4 Enquires and Responses on Land Contamination Related Records in the Application Site

Consultant's Letter Ref.	Department	Response Letter Ref.	Response Date	Summary
CHIKTS94EI00_0_0001L.22	Environmental Protection Department	Email	05/08/2022	There is no record of chemical spillage or leakage at the Application Site in the past 5 years. A visit to the Territorial Control Office for chemical waste producer registry inspection was performed. According to the register record as of 24/03/2022, 2 valid CWPs are found at the Application Site.
CHIKTS94EI00_0_0002L.22	Fire Service Department	(23) in FSD GR 6-5/4 R Pt. 43	07/09/2022	There is no dangerous goods licence issued in the Application Site. There is also no fire incidents nor incidents of spillage/ leakage of dangerous goods.
CHIKTS94EI00_0_0004L.22	Planning Department	() in PD/FSYLE/6-20-1	02/09/2022	The Application Site falls within areas zoned "Residential (Group D)" on the approved Kwu Tong South Outline Zoning Plan (OZP) No. S/NE-KTS/18

Consultant's Letter Ref.	Department	Response Letter Ref.	Response Date	Summary
-	Lands Department	Topographic Map available from Lands Department was reviewed. The Application Site was a vacant land in record of year 1976. From year 1994 to 2022, the site was generally paved and become open storage, warehouse, recycling workshop and machinery carpark & repair. Topographic Map records generally tally with observation on aerial photos.		

Discussion and Site Observation

4.6.9 Based on the above, the desktop review of historic information indicates that the Application Site is used for agricultural purpose until year 1986. Major change of land use status in the area was observed since year 1990. The Application Site was gradually paved and became open storage and carpark since then.

4.6.10 Based on the record of BRAVO, there is an entry of alterations and additions partly located at the eastern portion of site. Further to historic aerial photos and desktop review, it is found that structure for temporary storage erected from year 1990 to 1994, paved and became carpark since year 2009. Due to the nature of existing carpark use, it is considered that potential land contamination activity is no likely.

4.6.11 In addition, site visit to individual storage areas was conducted in July 2022. Photo record for the Application Site was shown in **Appendix 4.4**. It is observed that the Application Site was used as warehouse, open storage, recycling workshop and machinery carpark & repair. Construction materials and scrap metal were stacked onsite. There is no trace of oil spillage observed. However, by considering the nature of machinery repairing workshops and existence of CWP records, it is considered as potential land contamination area (i.e. likely to be classified as site investigation (SI) area). Therefore, land contamination issues arise within the area would be addressed during the SI and contamination assessment plan (CAP) should be submitted in prior for approval.

Conclusion

4.6.12 Further site appraisal and soil sampling is recommended after site is cleared to determine whether the site is contaminated, and if so, the extent of the potential contamination should be revised. The Contamination Assessment Plan (CAP) will be prepared to cover all potentially land contaminating area within the Application Site in later stage. Subsequently, Contamination Assessment Report (CAR), and Remediation Action Plan (RAP) will be prepared to identify the potential land contamination issues in the Application Site.

4.6.13 Further land contamination assessment and/or remediation works if necessary will be completed before commencement of any construction works for the development, in accordance with relevant guidelines issued by government departments.

5. OVERALL CONCLUSION

5.1.1 The Application Site is proposed to be a residential development with 42 houses and a clubhouse at various lots in D.D. 94 in Hang Tau Village, Kwu Tung South.

5.1.2 Onsite sewage treatment plant (STP) is proposed. The treated effluent will be discharged to the proposed drainage system. Future surface runoff will be collected by onsite drainage system with facilities such as sand trap/oil interceptor to properly screen/filter surface runoff before discharge to public drainage system (i.e. Sheung Yue River). The design of the drainage system will make reference to the ProPECC PN 5/93. The aforementioned connection/discharge will be implemented before operation of the Proposed Development. There will not be any wastewater or untreated surface runoff discharge to nearby water sensitive receivers during its operation. No unacceptable water quality impact is anticipated during the operation of the Proposed Development.

5.1.3 According to desktop review and site survey, there is absence of any rail noise or fixed/ industrial noise sources in the vicinity. However, noisy equipment will possibly be provided onsite. As this is in early stage of the project, there is lack of detail such as type of equipment, location, orientation, etc. Nevertheless, the requirement to meet HKPSG standard (i.e. Table 4.1 of Chapter 9 in HKPSG) is well noted and will be followed.

5.1.4 According to the road traffic noise impact assessment result, there is no exceedance for the Proposed Development. Similarly, the proposed road improvement works will not result in any significant adverse road traffic noise impact.

5.1.5 There is no air pollution source such as chimney stack, fluff and odour emission found in the surrounding. The air sensitive uses of the Proposed Development maintained adequate buffer distance from the kerb side of the nearby carriageways. No unacceptable air quality impact is envisaged.

5.1.6 Potential environmental impacts arising from construction activities of the Proposed Development, including dust emission, construction wastewater, noise and waste impacts have been qualitatively assessed. Potential environmental impacts are anticipated to be insignificant with the implementation of effective environmental mitigation measures.

5.1.7 Based on land contamination appraisal, potential risk of land contamination is present within the Application Site due to machinery repair workshop. Two (2) valid CWPs are observed. Potential Land contamination issues need to be ascertained in later stage according to the findings. A Contamination Assessment Plan (CAP) and subsequently, Contamination Assessment Report (CAR), and Remediation Action Plan (RAP) will be prepared in later stages to identify the potential land contamination issues at the Application Site. Further land contamination assessment and/or remediation works if necessary will be completed before commencement of any construction works for the development, in accordance with relevant guidelines issued by government departments.

5.1.8 Based on the environmental assessment results, it is concluded that the Proposed Development is environmentally acceptable with the recommended measures in place and remediation work (if required) implemented.

Figures

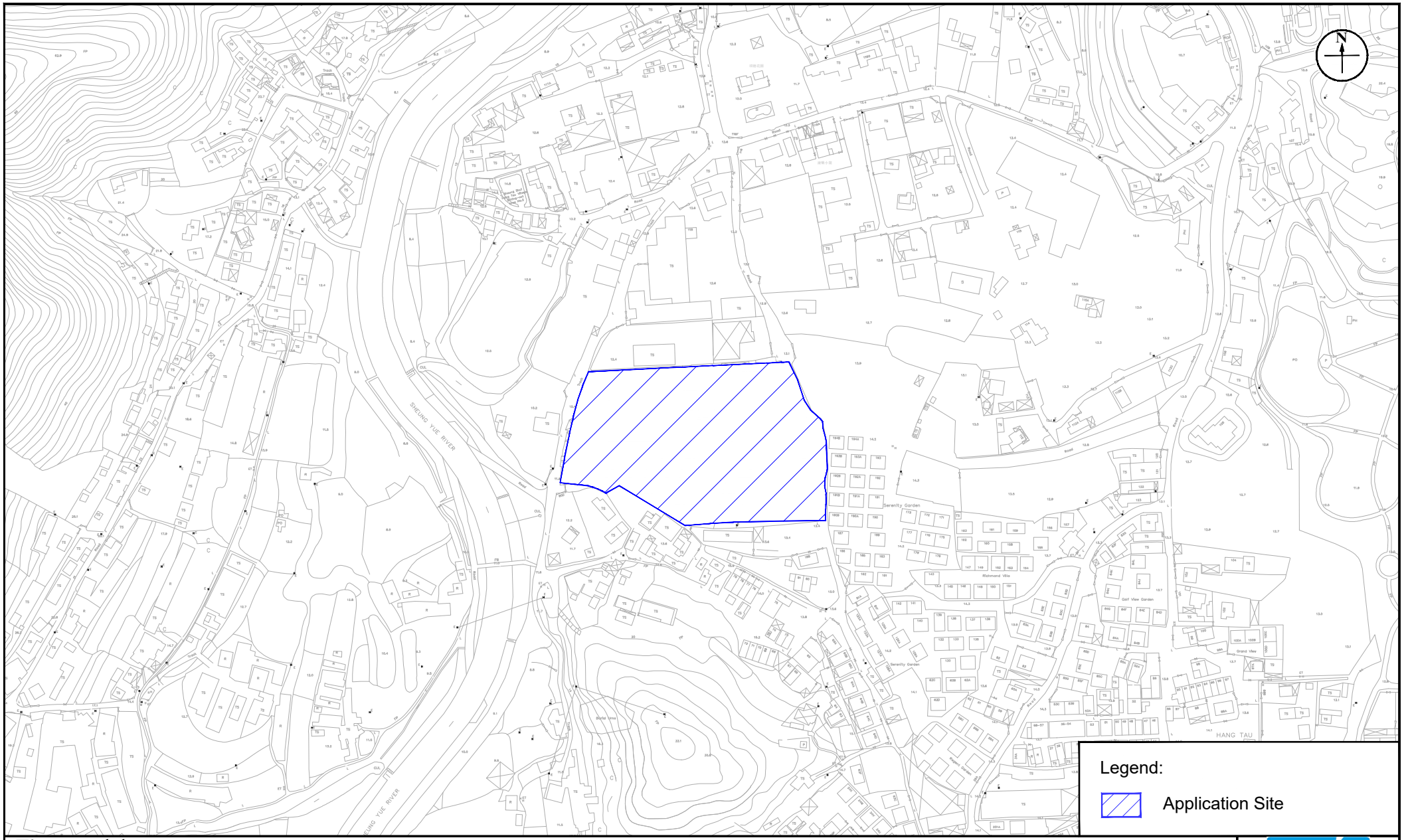


Figure: 1.1	RAMBOLL
Title: Location of the Application Site and its Environs	Drawn by: MW
Project: Proposed Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.	Checked by: CC
	Rev.: 1.0
	Date: Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\05 Drainage\V1.0\DIA_221117.dwg

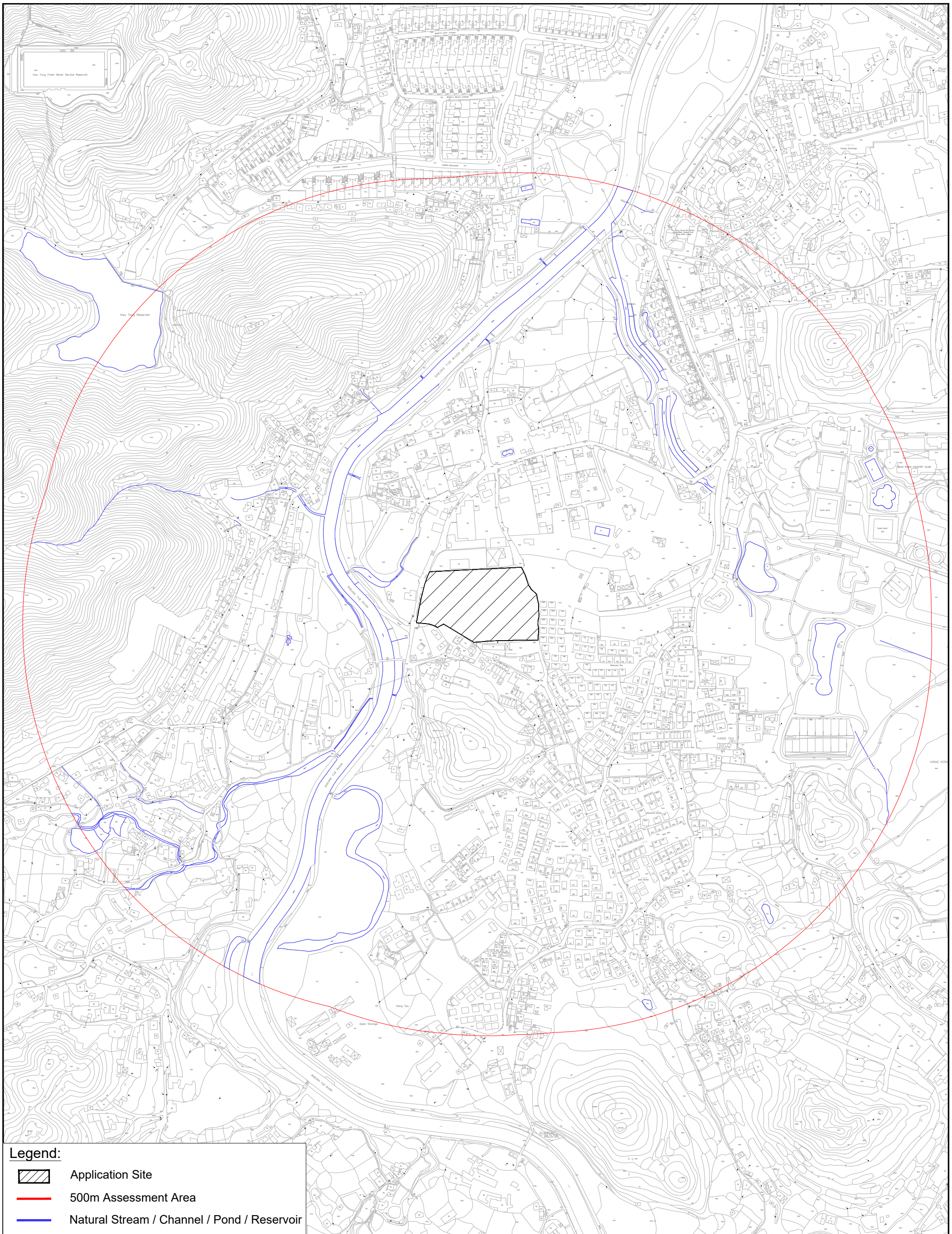


Figure: 1.2

Title: Location of Water Sensitive Receivers

Project: Proposed Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

RAMBOLL

Drawn by: PL

Checked by: CC

Rev.: 1.0

Date: Jan 2023

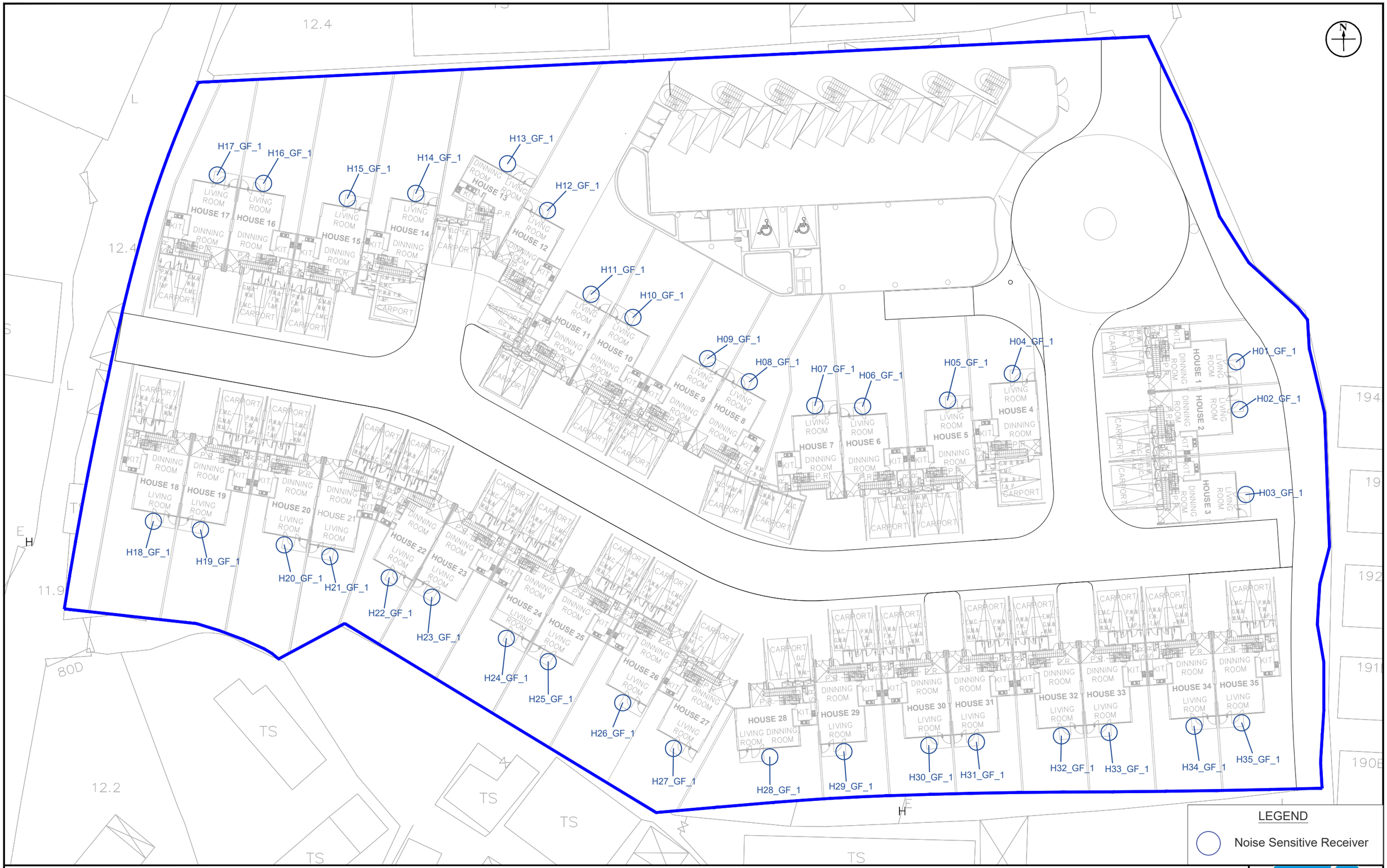


Figure: 2.1a

Title: Location of Noise Sensitive Receivers for Road Traffic Noise Impact Assessment (G/F)

Project: Proposed Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

RAMBOLL

Drawn by:	PT
Checked by:	CC
Rev.:	1.0
Date:	Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\02 Noise\02 Traffic\221117\cad\TNIA_230117_Rec_AFTER.dwg

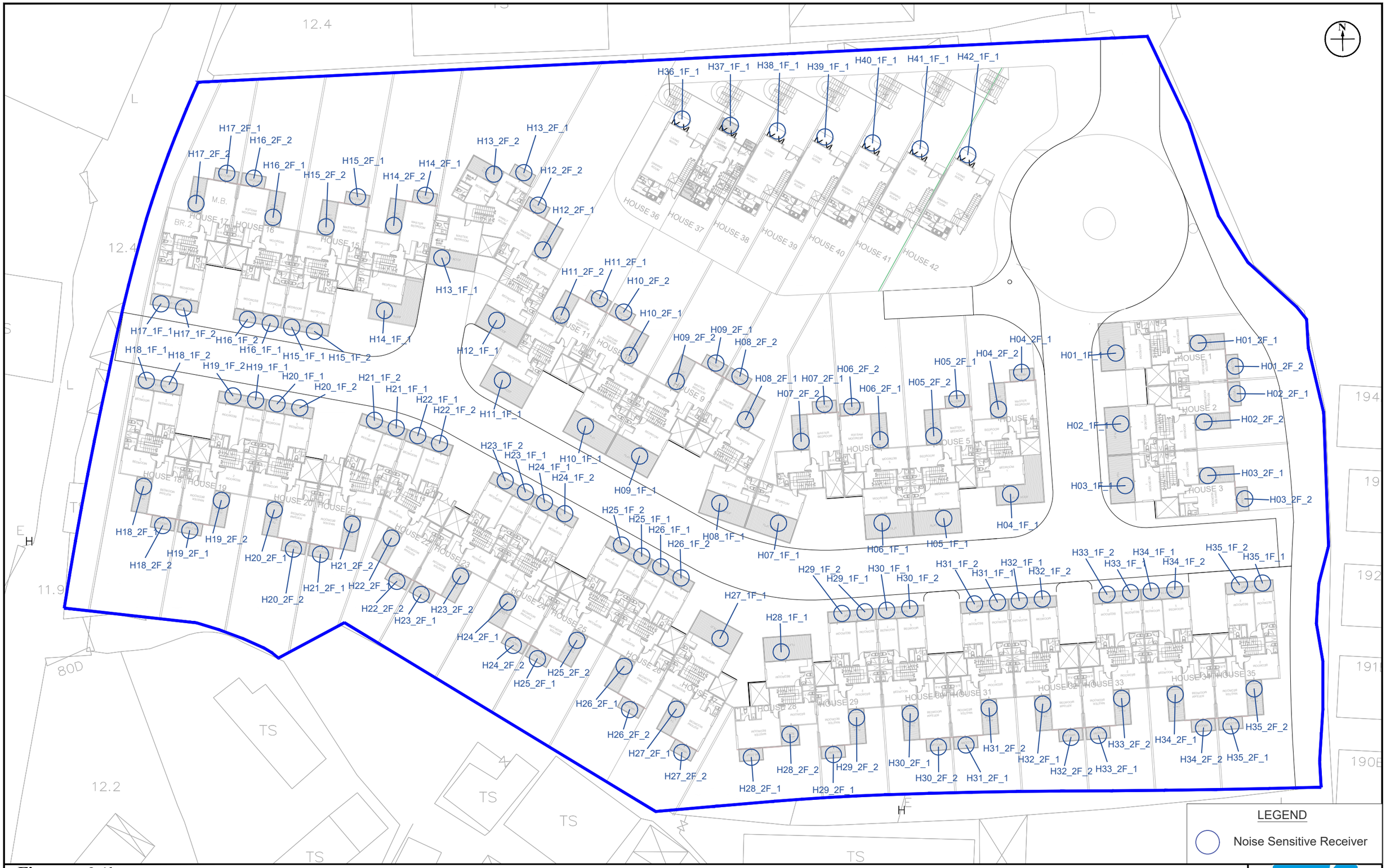


Figure: 2.1b

Title: Location of Noise Sensitive Receivers for Road Traffic Noise Impact Assessment (1/F)

Project: Proposed Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

RAMBOLL

Drawn by:	PT
Checked by:	CC
Rev.:	1.0
Date:	Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\02 Noise\02 Traffic\221117\cad\TNIA_230117_Rec_AFTER.dwg

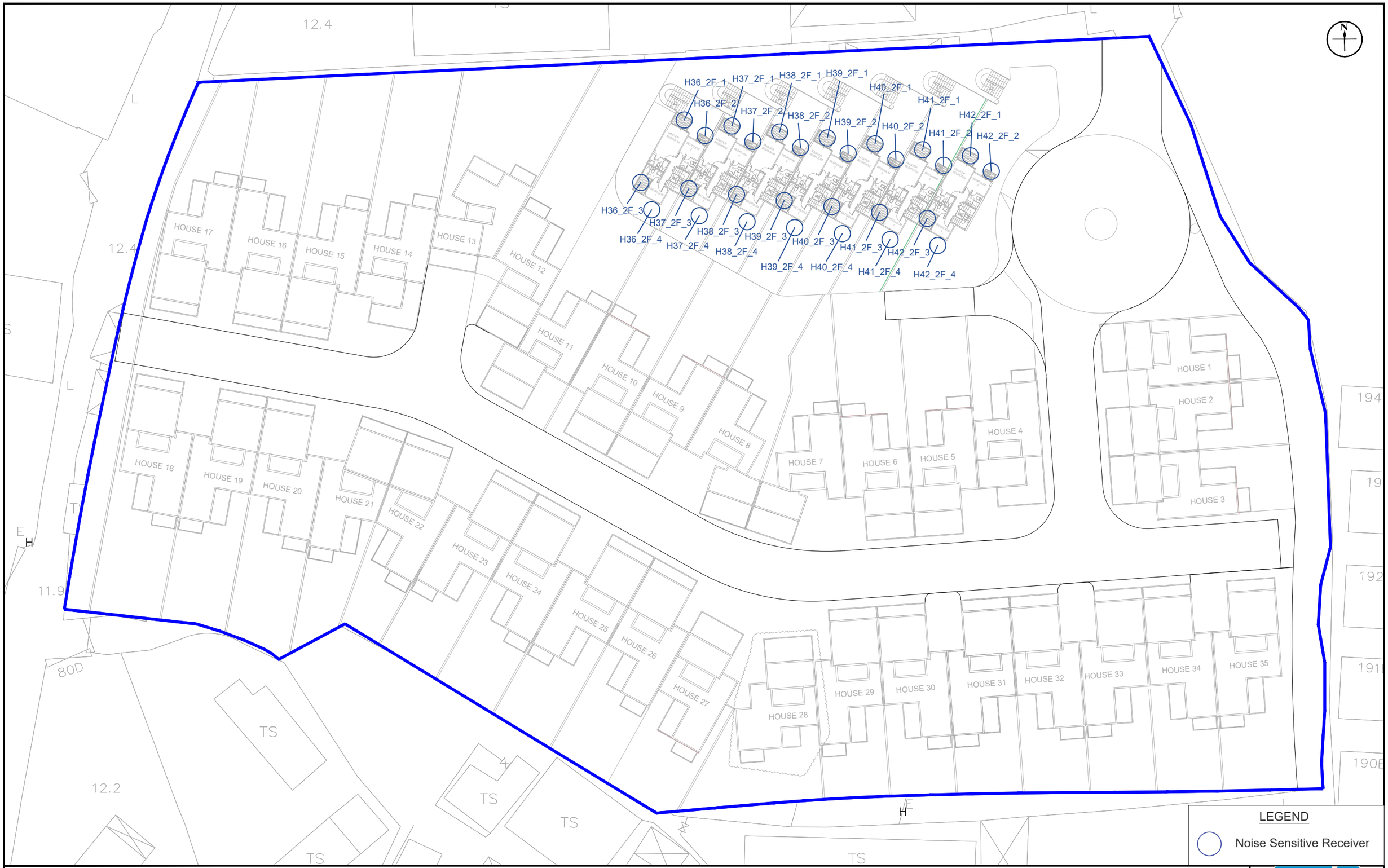


Figure: 2.1c

Title: Location of Noise Sensitive Receivers for Road Traffic Noise Impact Assessment (House 36-42: 2/F)

Project: Proposed Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

RAMBOLL

Drawn by:	PT
Checked by:	CC
Rev.:	1.0
Date:	Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\02 Noise\02 Traffic\221117\cad\TNIA_230117_Rec_AFTER.dwg

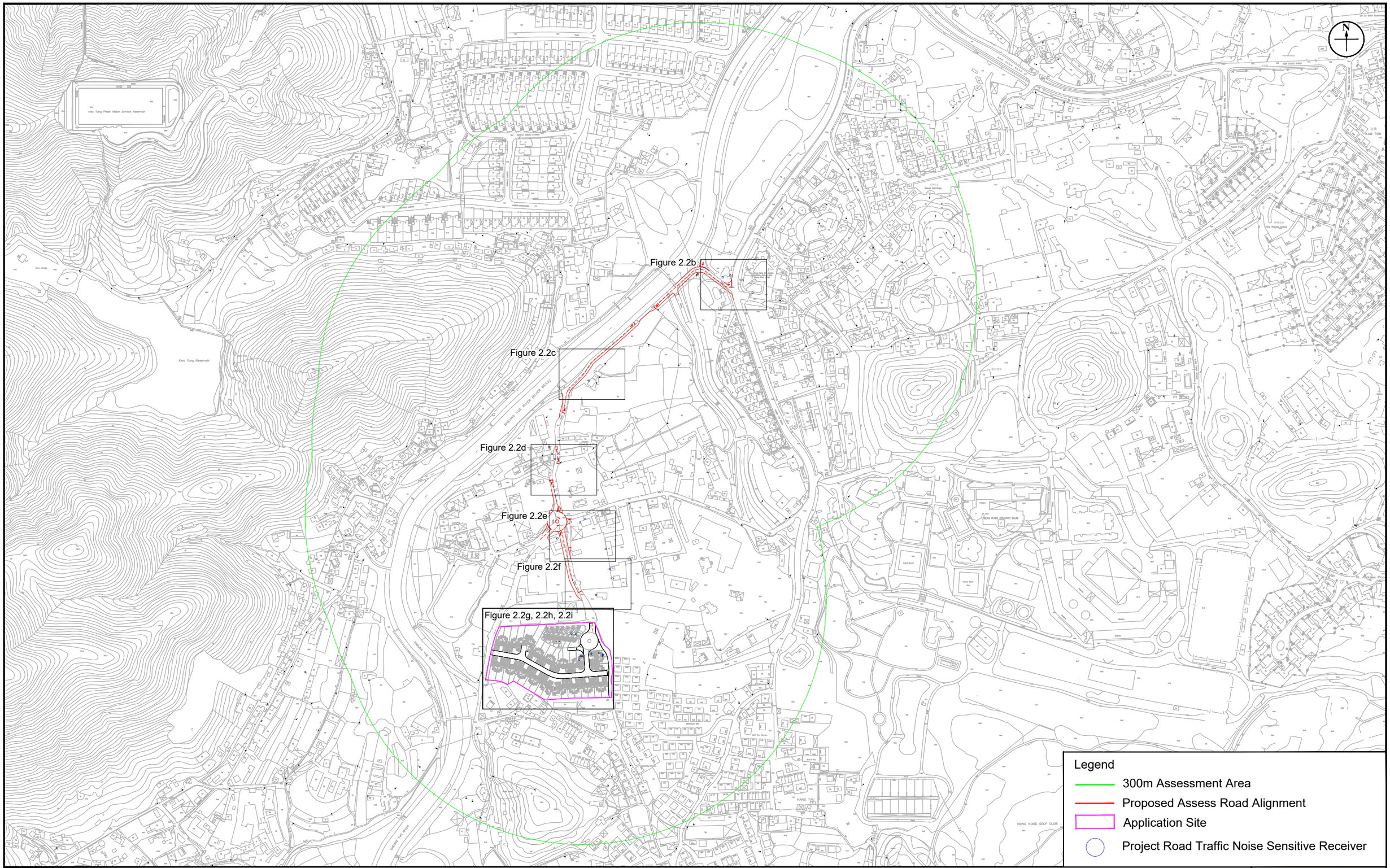


Figure:	2.2a
Title:	Location of Noise Sensitive Receivers Nearby the Associated Road Improvement Works
Project:	Proposed Private Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.
RAMBOLL	
Drawn by:	MW
Checked by:	CC
Rev.:	1.0
Date:	Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\02 Noise\02 Traffic\221117\cad\TNIA_230104_Site Rec for project road.dwg

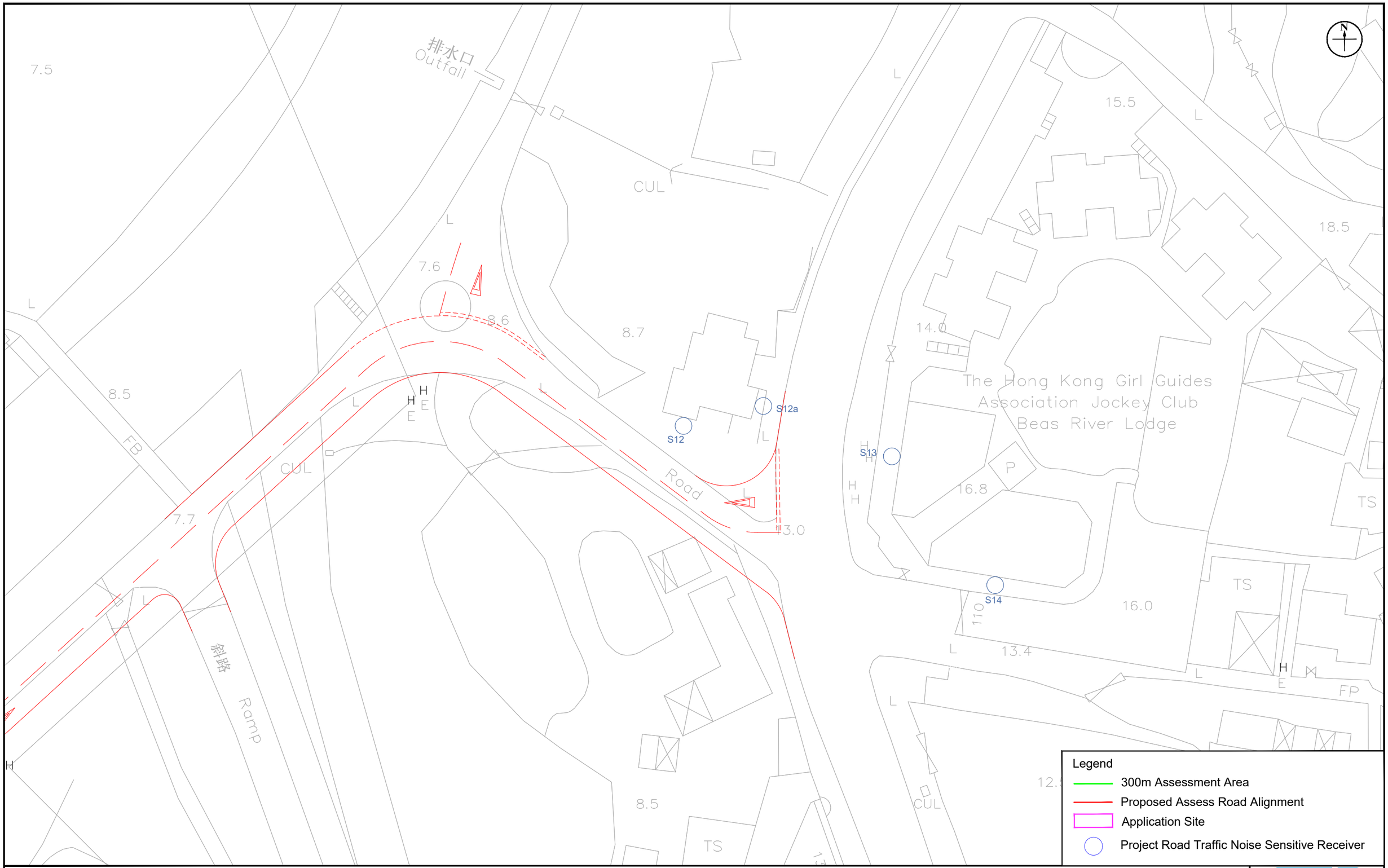


Figure: 2.2b

Title: Location of Noise Sensitive Receivers Nearby the Associated Road Improvement Works

Project: Proposed Private Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.0
Date:	Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\02 Noise\02 Traffic\221117\cad\TNIA_230104_Site Rec for project road.dwg

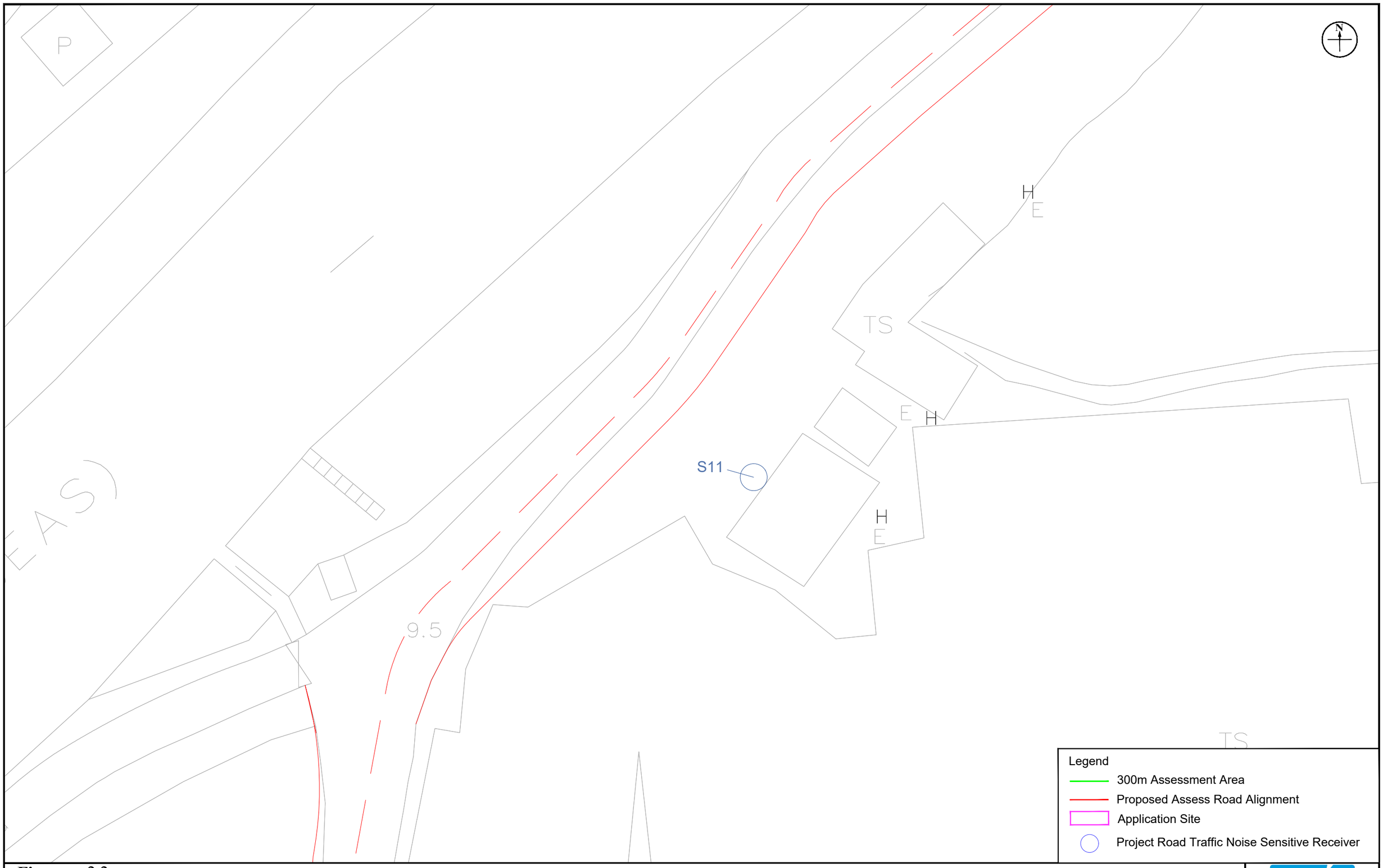


Figure: 2.2c

Title: Location of Noise Sensitive Receivers Nearby the Associated Road Improvement Works

RAMBOLL

Drawn by: MW

Checked by: CC

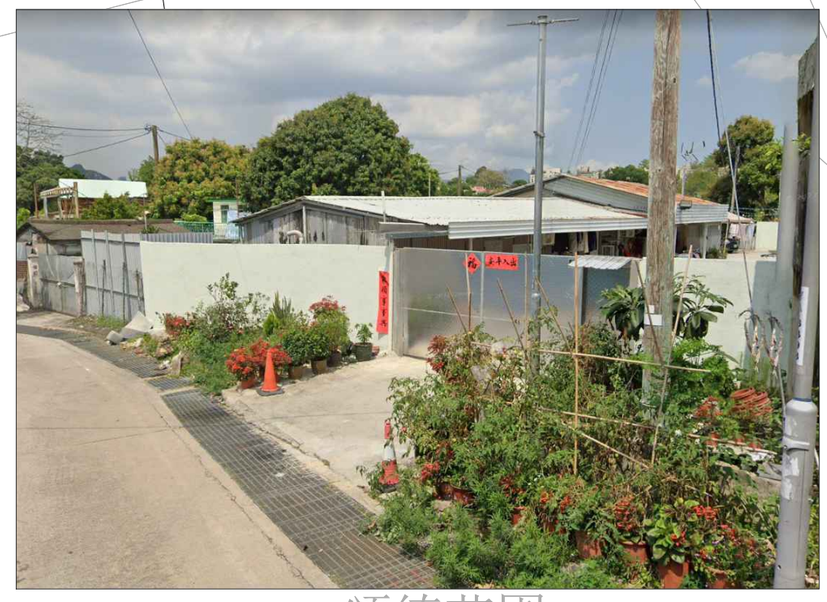
Rev.: 1.0

Date: Jan 2023

Project: Proposed Private Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

Q:\Projects\CHIKTS94EI00\05 Assessments\02 Noise\02 Traffic\221117\cad\TNIA_230104_Site Rec for project road.dwg





頌德花園

S10
S9
S8
S7
TS
10.8
10.5
12.1
12.6
R
E
H
L
ET

Remark
The photos shows S8 & S9 are having people living

Legend
- 300m Assessment Area
- Proposed Assess Road Alignment
- Application Site
- Project Road Traffic Noise Sensitive Receiver

Figure: 2.2d

Title: Location of Noise Sensitive Receivers Nearby the Associated Road Improvement Works

Project: Proposed Private Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.0
Date:	Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\02 Noise\02 Traffic\221117\cad\TNIA_230104_Site Rec for project road.dwg

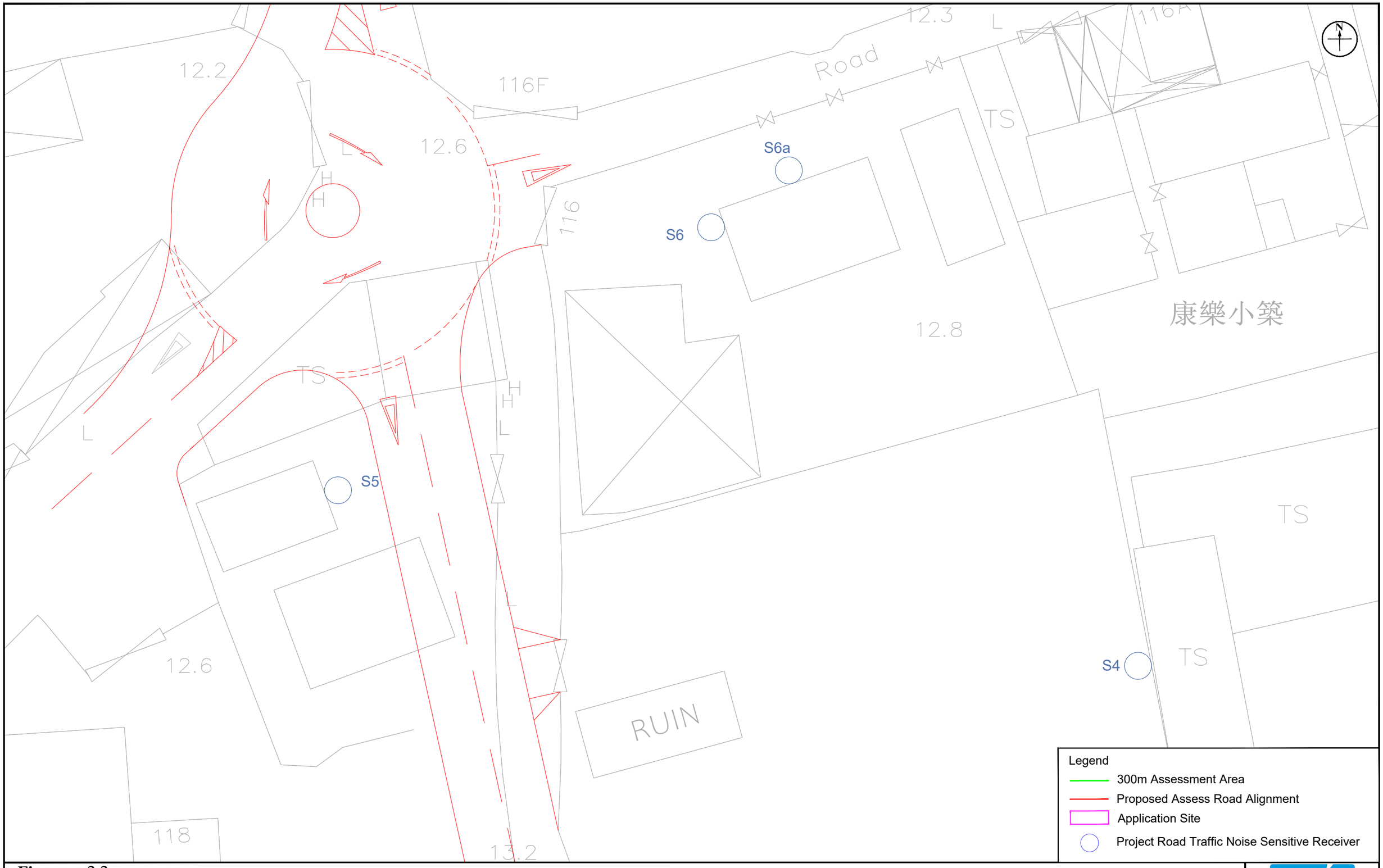


Figure: 2.2e

Title: Location of Noise Sensitive Receivers Nearby the Associated Road Improvement Works

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.0
Date:	Jan 2023

Project: Proposed Private Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

Q:\Projects\CHIKTS94EI00\05 Assessments\02 Noise\02 Traffic\221117\cad\TNIA_230104_Site Rec for project road.dwg

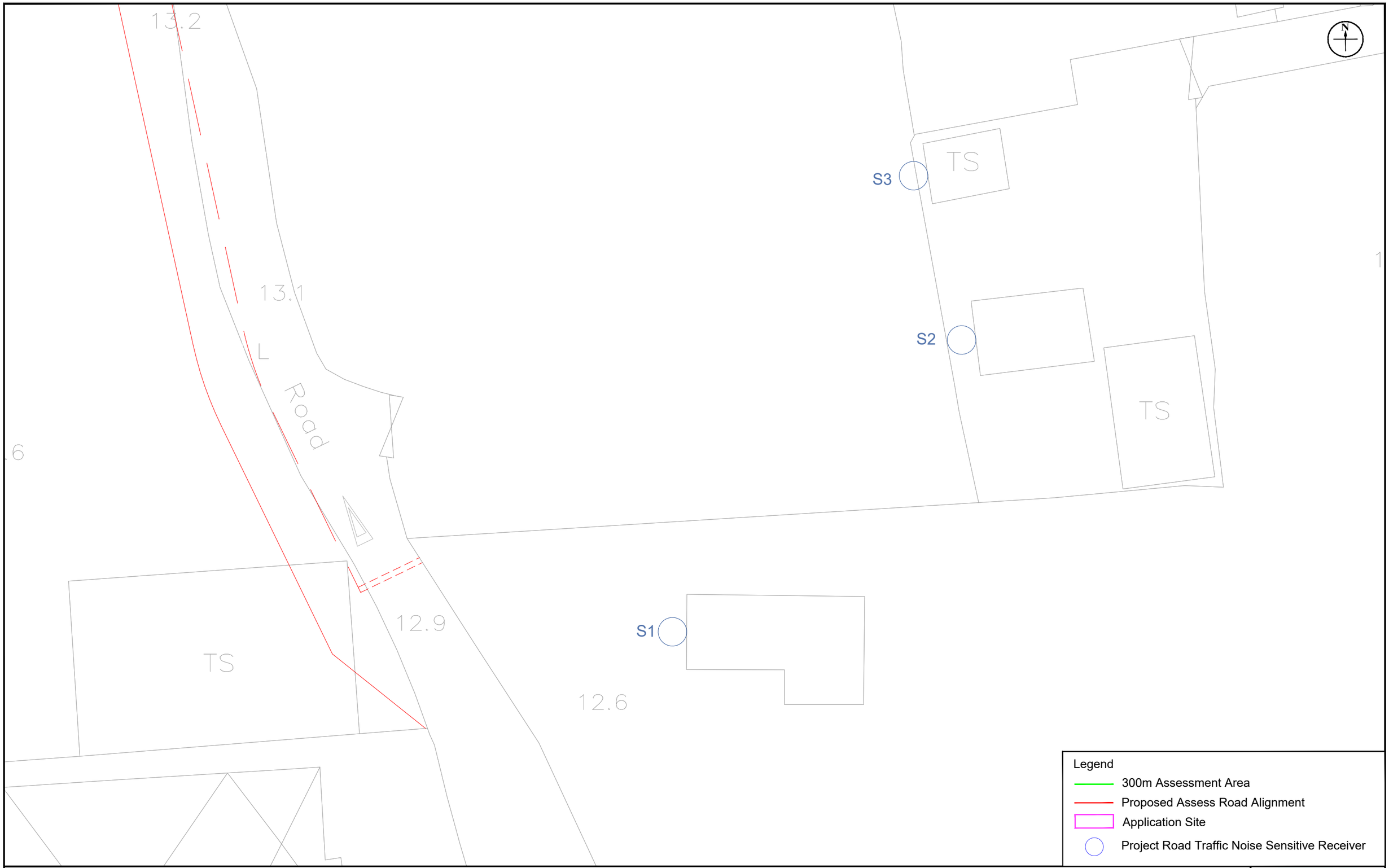


Figure: 2.2f

Title: Location of Noise Sensitive Receivers Nearby the Associated Road Improvement Works

Project: Proposed Private Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.0
Date:	Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\02 Noise\02 Traffic\221117\cad\TNIA_230104_Site Rec for project road.dwg

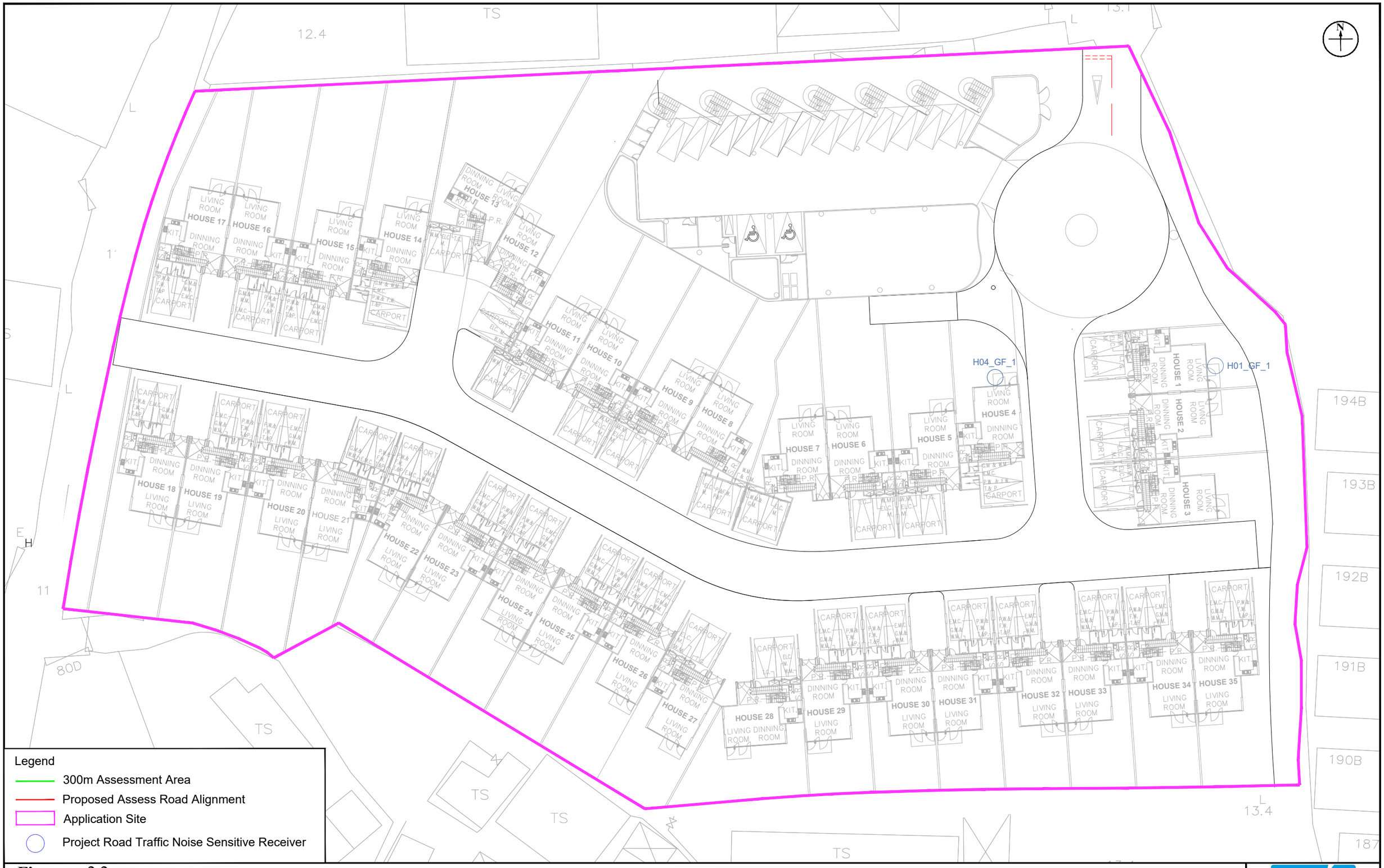


Figure: 2.2g

Title: Location of Noise Sensitive Receivers Nearby the Associated Road Improvement Works (G/F)

Project: Proposed Private Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.0
Date:	Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\02 Noise\02 Traffic\221117\cad\TNIA_230104_Site Rec for project road.dwg

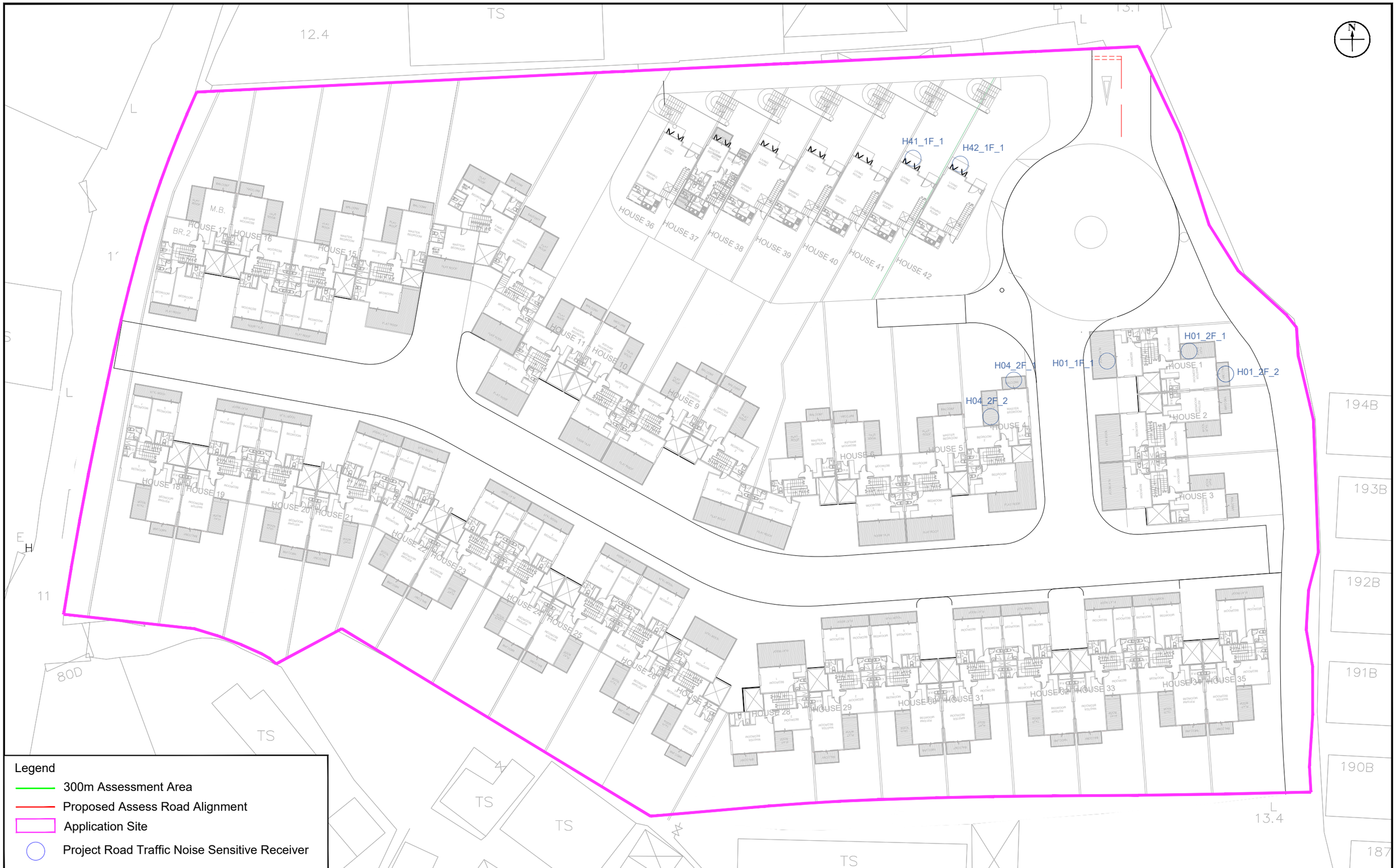


Figure: 2.2h

Title: Location of Noise Sensitive Receivers Nearby the Associated Road Improvement Works (House 1-35: 1-2/F, House 36-42: 1/F)

Project: Proposed Private Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.0
Date:	Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\02 Noise\02 Traffic\221117\cad\TNIA_230104_Site Rec for project road.dwg

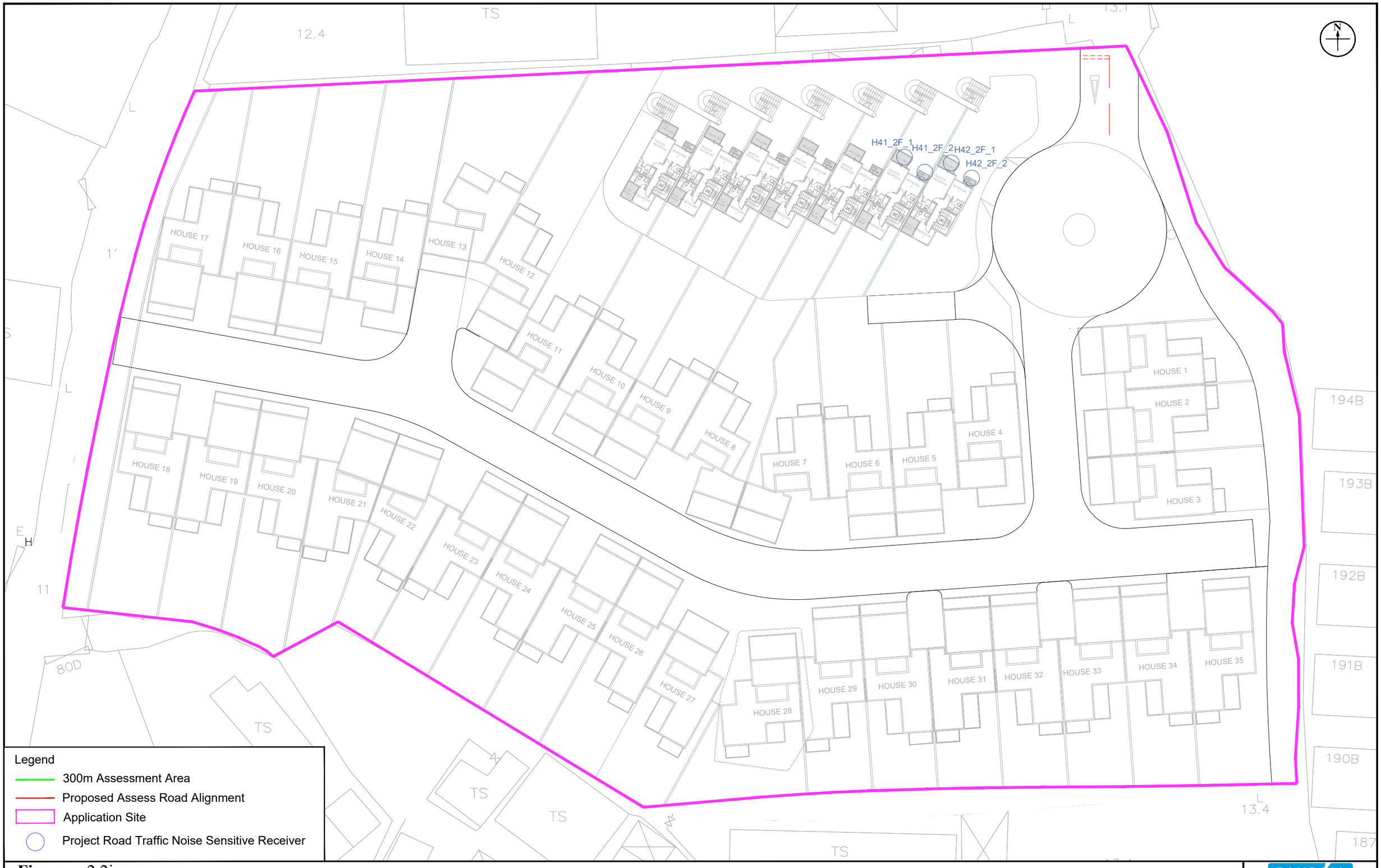


Figure: 2.2i

Title: Location of Noise Sensitive Receivers Nearby the Associated Road Improvement Works (House 36-42: 2/F)

Project: Proposed Private Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.0
Date:	Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\02 Noise\02 Traffic\221117\cad\TNIA_230104_Site Rec for project road.dwg

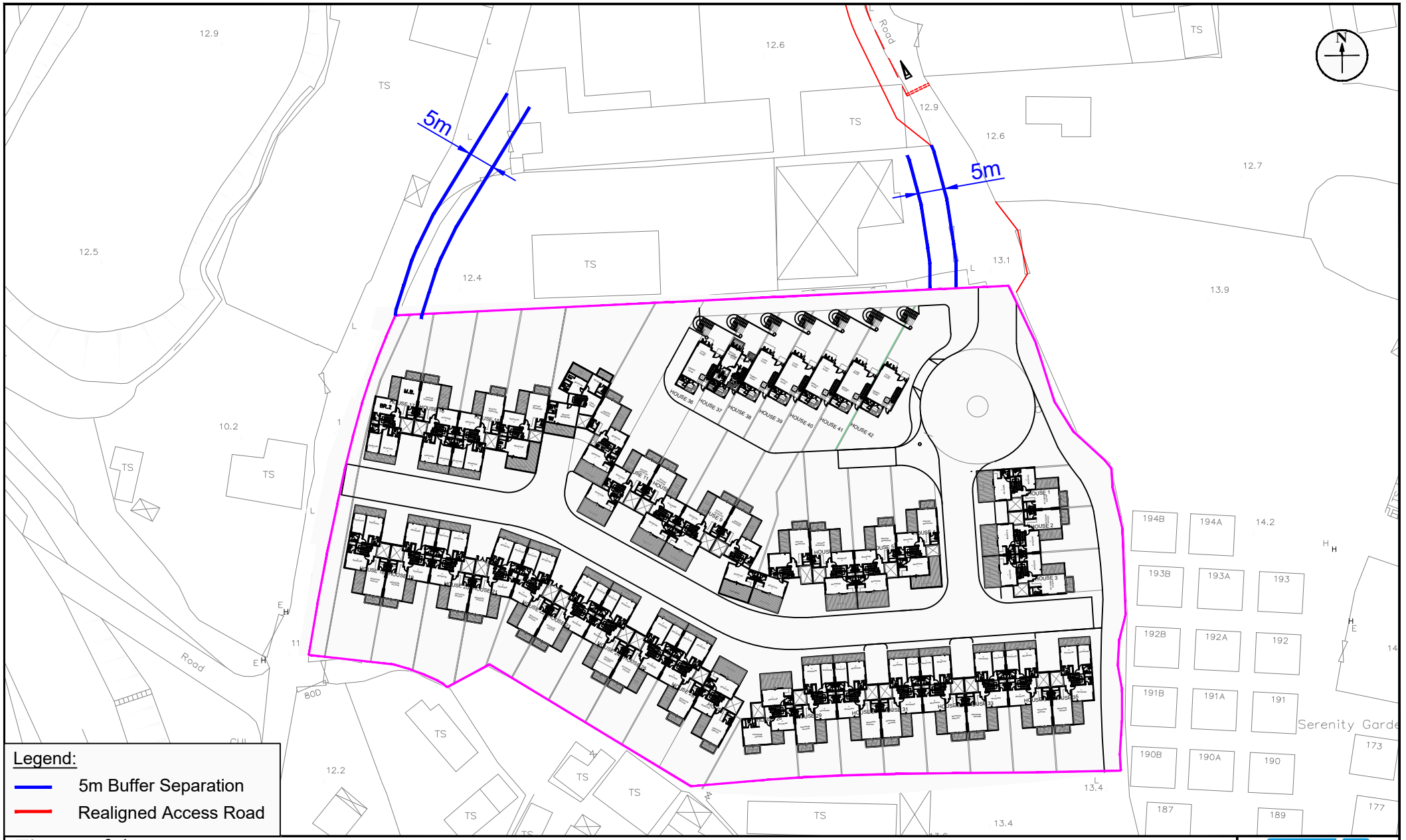


Figure: 3.1

Title: HKPSG Vehicular Emission Buffer Distance for Nearby Road Network

Project: Proposed Private Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

RAMBOLL

Drawn by:	PL
Checked by:	CC
Rev.:	1.0
Date:	Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\01 Air\20221117\Buffer Distance_230105.dwg

Appendix 1.1 Master Layout Plan, Floor Plans and Sections of the Proposed Development



PLAN 5 MASTER LAYOUT PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd
JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3



LEGEND:

E.M.C.	= ELECTRICAL METER CABINET
G.M.&W.M.	= GAS METER & WATER METER
KIT.	= KITCHEN
P.R.	= POWER ROOM
P.W.&F.W. T.&P.	= PORTABLE WATER & FLUSHING WATER TANK & PUMP
T.G.	= TOWN GAS
TBE RM.	= TELECOMMUNICATIONS & BROADCASTING EQUIPMENT ROOM

PLAN 6 GROUND FLOOR PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3



PLAN 7 FIRST FLOOR PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3



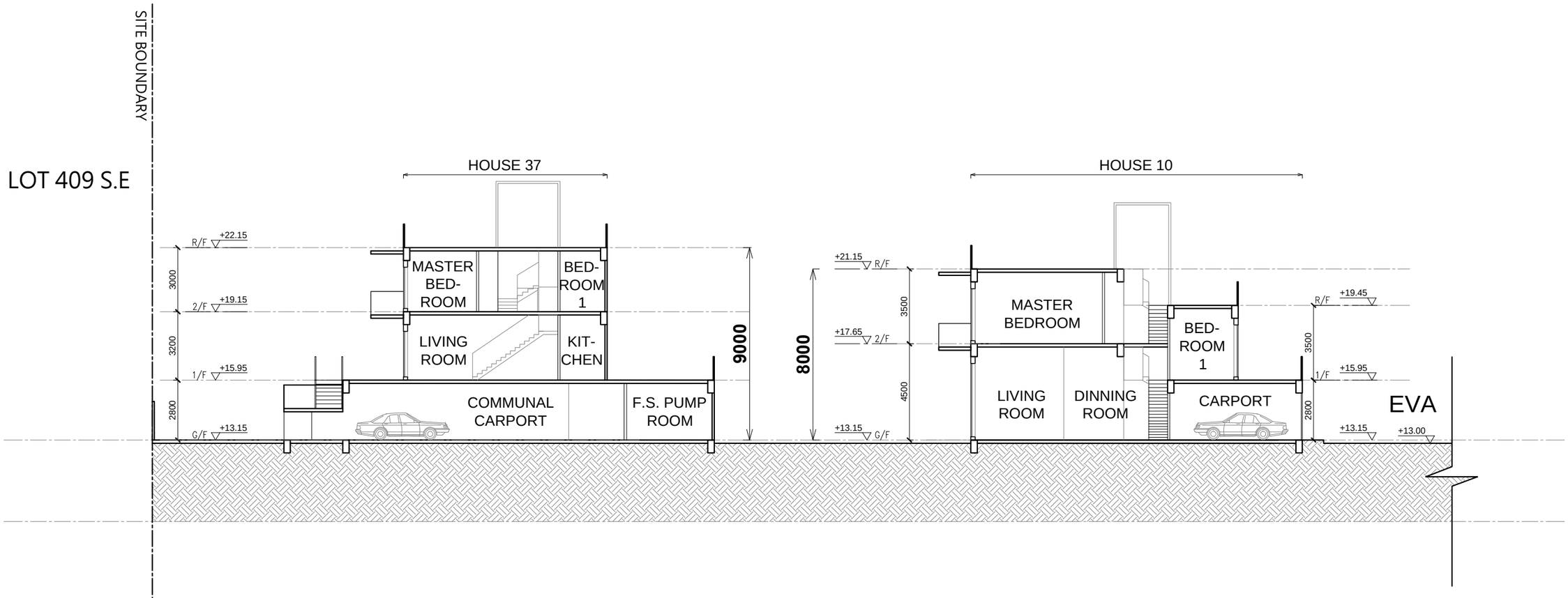
PLAN 8 SECOND FLOOR PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at

Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3



PLAN 9

SECTION AA'

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:200 @A3

Appendix 2.1 Traffic Forecast for Year 2043

Year 2043 Traffic Forecast in Reference Scenario - Without Proposed Development and Access Road Improvement Scheme

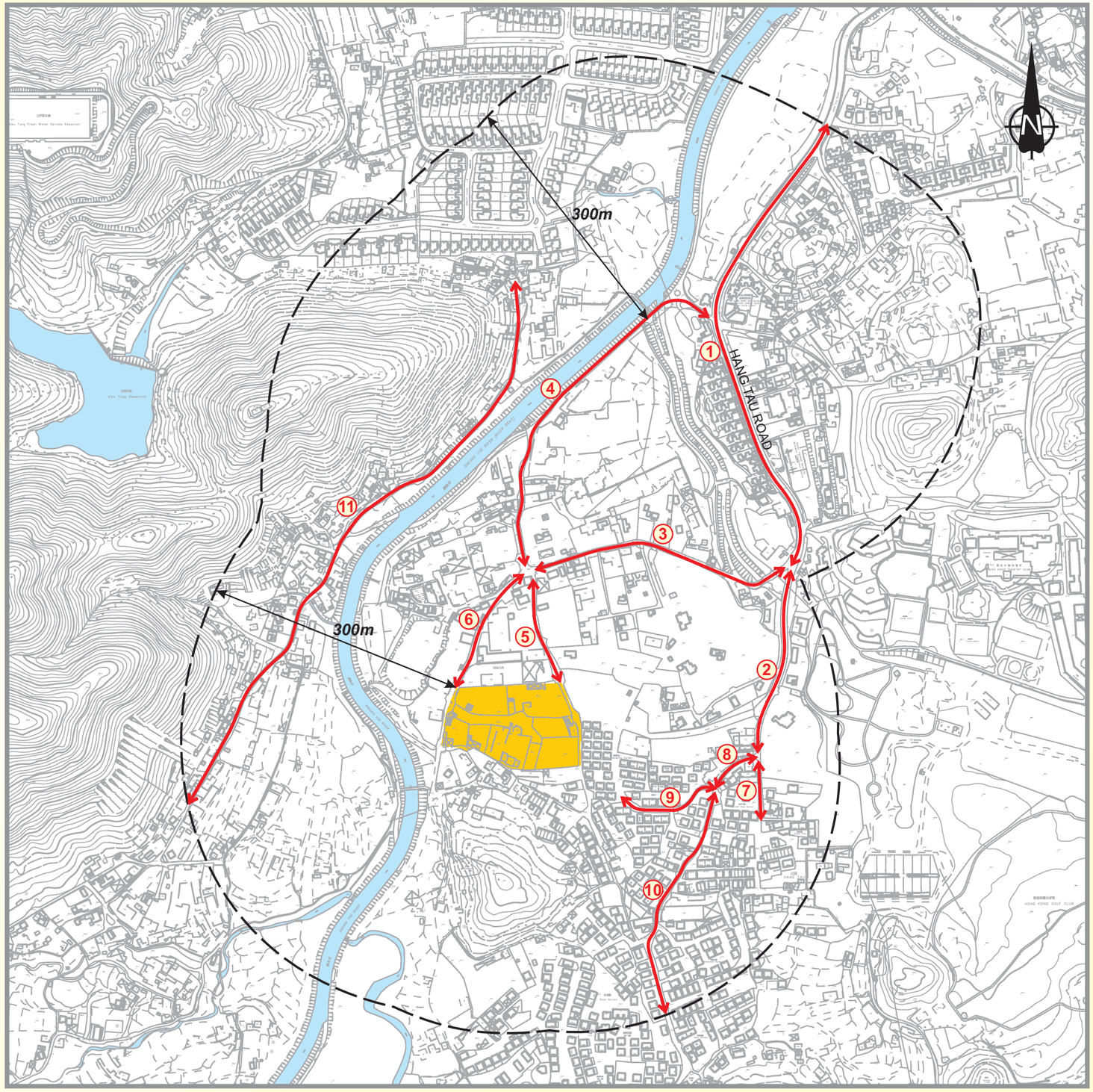
Ref. No. / (Direction)	Road Name	2043 Reference Traffic Flows (veh/hr) (round-up to nearest 10)		HV% (1)	
		AM Peak	PM Peak	AM Peak	PM Peak
1(2-way)	Hang Tau Road (2-way)	450	390	21%	21%
2(2-way)	Hang Tau Road (2-way)	330	300	21%	17%
3(2-way)	Access Road (2-way)	70	80	18%	19%
4(2-way)	Access Road (2-way)	20	20	41%	58%
5(2-way)	Access Road (2-way)	10	10	40%	43%
6(2-way)	Access Road (2-way)	40	60	22%	22%
7(2-way)	Access Road (2-way)	40	40	16%	15%
8(2-way)	Access Road (2-way)	210	220	28%	24%
9(2-way)	Access Road (2-way)	80	60	15%	8%
10(2-way)	Access Road (2-way)	130	160	36%	31%
11(2-way)	Access Road (2-way)	20	20	29%	28%

Year 2043 Traffic Forecast in Design Scenario - With Proposed Development and Access Road Improvement Scheme

Ref. No. / (Direction)	Road Name	2043 Design Traffic Flows (veh/hr) (round-up to nearest 10)		HV% (1)	
		AM Peak	PM Peak	AM Peak	PM Peak
1(2-way)	Hang Tau Road (2-way)	460	390	21%	21%
2(2-way)	Hang Tau Road (2-way)	330	300	21%	17%
3(2-way)	Access Road (2-way)	40	50	32%	33%
4(2-way)	Access Road (2-way)	60	50	12%	15%
5(2-way)	Access Road (2-way)	40	30	12%	11%
6(2-way)	Access Road (2-way)	30	40	37%	30%
7(2-way)	Access Road (2-way)	40	40	16%	15%
8(2-way)	Access Road (2-way)	210	220	28%	24%
9(2-way)	Access Road (2-way)	80	60	15%	8%
10(2-way)	Access Road (2-way)	130	160	36%	31%
11(2-way)	Access Road (2-way)	20	20	29%	28%

Note:

(1) Heavy vehicle (HV) percentage including the category of goods vehicles (GV) (comprise with vans, light goods vehicles (LGV), medium/heavy goods vehicles (MGV/HGV) and container trucks) and the category of public transport (PT) (comprise with public light buses (PLB), non-franchised buses (SPB) (including small coaches and large coaches) and franchised buses (FB))



LEGEND :

- APPLICATION SITE
- ROAD SECTION
- ⑦ ROAD SECTION NO.

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED RESIDENTIAL DEVELOPMENT AT KWU TUNG SOUTH, N.T. VARIOUS LOTS IN D.D.94

Drawing Title

YEAR 2043 PEAK HOURS TRAFFIC FORECAST FOR NIA

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	NTS	DEC 2022	6.1	-

SYSTRA MVA

CHK50682710/TIA/F61.CDR/LLH/22DEC22

Original Size : A3

Appendix 2.2 Results of Road Traffic Noise Impact Assessment of the Proposed Development

Predicted Road Traffic Noise (L10, dB(A)) at Representative Noise Assessment Points (NAPs)
Base Case (AM)

Ground Floor (House 1-35)

Floor	mPD	H01_GF_1	H02_GF_1	H03_GF_1	H04_GF_1	H05_GF_1	H06_GF_1	H07_GF_1	H08_GF_1	H09_GF_1	H10_GF_1	H11_GF_1	H12_GF_1	H13_GF_1	H14_GF_1	H15_GF_1	H16_GF_1	H17_GF_1	H18_GF_1	H19_GF_1	H20_GF_1	H21_GF_1	H22_GF_1	H23_GF_1	H24_GF_1	H25_GF_1	H26_GF_1	H27_GF_1	H28_GF_1	H29_GF_1	H30_GF_1	H31_GF_1	H32_GF_1	H33_GF_1	H34_GF_1	H35_GF_1
G/F	13.15	50	48	45	50	49	49	48	47	47	46	45	47	53	55	56	56	56	42	41	41	41	41	41	41	41	40	40	40	40	40	40	40	40	39
Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

First Floor (House 1-35)

Floor	mPD	H01_1F_1	H02_1F_1	H03_1F_1	H04_1F_1	H05_1F_1	H06_1F_1	H07_1F_1	H08_1F_1	H09_1F_1	H10_1F_1	H11_1F_1	H12_1F_1	H13_1F_1	H14_1F_1	H15_1F_1	H15_1F_2	H16_1F_1	H16_1F_2	H17_1F_1	H17_1F_2
1/F	15.95	49	47	45	43	43	42	42	42	42	42	43	43	43	42	43	43	43	43	43	43
Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0		0	

Floor	mPD	H18_1F_1	H18_1F_2	H19_1F_1	H19_1F_2	H20_1F_1	H20_1F_2	H21_1F_1	H21_1F_2	H22_1F_1	H22_1F_2	H23_1F_1	H23_1F_2	H24_1F_1	H24_1F_2	H25_1F_1	H25_1F_2	H26_1F_1	H26_1F_2	H27_1F_1	H28_1F_1	H29_1F_1	H29_1F_2	H30_1F_1	H30_1F_2	H31_1F_1	H31_1F_2	H32_1F_1	H32_1F_2	H33_1F_1	H33_1F_2	H34_1F_1	H34_1F_2	H35_1F_1	H35_1F_2
1/F	15.95	45	45	45	45	45	45	45	45	45	45	45	45	45	45	44	45	44	44	44	44	44	44	44	44	45	45	45	47	46	46	45	44	43	44
Exceedance		0		0		0		0		0		0		0		0		0		0	0	0		0		0		0		0		0		0	

Second Floor (House 1-35)

Floor	mPD	H01_2F_1	H01_2F_2	H02_2F_1	H02_2F_2	H03_2F_1	H03_2F_2	H04_2F_1	H04_2F_2	H05_2F_1	H05_2F_2	H06_2F_1	H06_2F_2	H07_2F_1	H07_2F_2	H08_2F_1	H08_2F_2	H09_2F_1	H09_2F_2	H10_2F_1	H10_2F_2	H11_2F_1	H11_2F_2	H12_2F_1	H12_2F_2	H13_2F_1	H13_2F_2	H14_2F_1	H14_2F_2	H15_2F_1	H15_2F_2	H16_2F_1	H16_2F_2	H17_2F_1	H17_2F_2
2/F	17.65	51	51	50	45	48	46	51	44	50	44	48	49	49	43	47	48	48	44	46	47	47	44	47	49	54	54	56	55	56	55	52	57	56	53
Exceedance		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0	

Floor	mPD	H18_2F_1	H18_2F_2	H19_2F_1	H19_2F_2	H20_2F_1	H20_2F_2	H21_2F_1	H21_2F_2	H22_2F_1	H22_2F_2	H23_2F_1	H23_2F_2	H24_2F_1	H24_2F_2	H25_2F_1	H25_2F_2	H26_2F_1	H26_2F_2	H27_2F_1	H27_2F_2	H28_2F_1	H28_2F_2	H29_2F_1	H29_2F_2	H30_2F_1	H30_2F_2	H31_2F_1	H31_2F_2	H32_2F_1	H32_2F_2	H33_2F_1	H33_2F_2	H34_2F_1	H34_2F_2	H35_2F_1	H35_2F_2
2/F	17.65	42	43	43	40	40	42	42	41	40	42	42	40	41	42	42	40	41	42	40	42	42	41	42	41	40	42	42	42	41	42	42	42	41	42	42
Exceedance		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0	

First Floor (House 36-42)

Floor	mPD	H36_1F_1	H37_1F_1	H38_1F_1	H39_1F_1	H40_1F_1	H41_1F_1	H42_1F_1
1/F	15.95	53	53	53	53	53	53	53
Exceedance		0	0	0	0	0	0	0

Second Floor (House 36-42)

Floor	mPD	H36_2F_1	H36_2F_2	H36_2F_3	H36_2F_4	H37_2F_1	H37_2F_2	H37_2F_3	H37_2F_4	H38_2F_1	H38_2F_2	H38_2F_3	H38_2F_4	H39_2F_1	H39_2F_2	H39_2F_3	H39_2F_4	H40_2F_1	H40_2F_2	H40_2F_3	H40_2F_4	H41_2F_1	H41_2F_2	H41_2F_3	H41_2F_4	H42_2F_1	H42_2F_2	H42_2F_3	H42_2F_4
2/F	19.15	55	53	51	50	55	53	43	44	55	54	43	44	55	54	43	44	55	54	43	44	55	54	43	45	55	55	43	48
Exceedance		0				0				0				0				0				0				0			

No. of Flats:	42
No. of Units with Exceedance:	0
Compliance Level:	100%
Max. Noise Level:	57

Noted:
Noise level exceed stardand of 70 dB(A)

Predicted Road Traffic Noise (L10, dB(A)) at Representative Noise Assessment Points (NAPs)
Base Case (PM)

Ground Floor (House 1-35)

Floor	mPD	H01_GF_1	H02_GF_1	H03_GF_1	H04_GF_1	H05_GF_1	H06_GF_1	H07_GF_1	H08_GF_1	H09_GF_1	H10_GF_1	H11_GF_1	H12_GF_1	H13_GF_1	H14_GF_1	H15_GF_1	H16_GF_1	H17_GF_1	H18_GF_1	H19_GF_1	H20_GF_1	H21_GF_1	H22_GF_1	H23_GF_1	H24_GF_1	H25_GF_1	H26_GF_1	H27_GF_1	H28_GF_1	H29_GF_1	H30_GF_1	H31_GF_1	H32_GF_1	H33_GF_1	H34_GF_1	H35_GF_1
G/F	13.15	50	48	45	49	49	48	47	47	47	46	45	47	53	56	56	57	56	41	41	41	41	41	41	41	40	40	40	40	40	40	40	40	40	39
Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

First Floor (House 1-35)

Floor	mPD	H01_1F_1	H02_1F_1	H03_1F_1	H04_1F_1	H05_1F_1	H06_1F_1	H07_1F_1	H08_1F_1	H09_1F_1	H10_1F_1	H11_1F_1	H12_1F_1	H13_1F_1	H14_1F_1	H15_1F_1	H15_1F_2	H16_1F_1	H16_1F_2	H17_1F_1	H17_1F_2
1/F	15.95	48	46	44	42	42	42	42	42	42	42	42	43	43	42	43	43	43	43	43	43
Exceedance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0		0	

Floor	mPD	H18_1F_1	H18_1F_2	H19_1F_1	H19_1F_2	H20_1F_1	H20_1F_2	H21_1F_1	H21_1F_2	H22_1F_1	H22_1F_2	H23_1F_1	H23_1F_2	H24_1F_1	H24_1F_2	H25_1F_1	H25_1F_2	H26_1F_1	H26_1F_2	H27_1F_1	H28_1F_1	H29_1F_1	H29_1F_2	H30_1F_1	H30_1F_2	H31_1F_1	H31_1F_2	H32_1F_1	H32_1F_2	H33_1F_1	H33_1F_2	H34_1F_1	H34_1F_2	H35_1F_1	H35_1F_2
1/F	15.95	45	45	44	44	44	45	45	45	45	45	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	46	45	46	45	44	43	44
Exceedance		0		0		0		0		0		0		0		0		0		0	0	0		0		0		0		0		0		0	

Second Floor (House 1-35)

Floor	mPD	H01_2F_1	H01_2F_2	H02_2F_1	H02_2F_2	H03_2F_1	H03_2F_2	H04_2F_1	H04_2F_2	H05_2F_1	H05_2F_2	H06_2F_1	H06_2F_2	H07_2F_1	H07_2F_2	H08_2F_1	H08_2F_2	H09_2F_1	H09_2F_2	H10_2F_1	H10_2F_2	H11_2F_1	H11_2F_2	H12_2F_1	H12_2F_2	H13_2F_1	H13_2F_2	H14_2F_1	H14_2F_2	H15_2F_1	H15_2F_2	H16_2F_1	H16_2F_2	H17_2F_1	H17_2F_2
2/F	17.65	51	51	49	45	48	46	51	44	49	44	48	49	49	43	47	48	47	44	45	47	47	44	46	48	54	54	56	55	57	55	52	57	56	53
Exceedance		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0	

Floor	mPD	H18_2F_1	H18_2F_2	H19_2F_1	H19_2F_2	H20_2F_1	H20_2F_2	H21_2F_1	H21_2F_2	H22_2F_1	H22_2F_2	H23_2F_1	H23_2F_2	H24_2F_1	H24_2F_2	H25_2F_1	H25_2F_2	H26_2F_1	H26_2F_2	H27_2F_1	H27_2F_2	H28_2F_1	H28_2F_2	H29_2F_1	H29_2F_2	H30_2F_1	H30_2F_2	H31_2F_1	H31_2F_2	H32_2F_1	H32_2F_2	H33_2F_1	H33_2F_2	H34_2F_1	H34_2F_2	H35_2F_1	H35_2F_2
2/F	17.65	42	43	42	40	40	42	42	40	40	42	42	40	41	42	42	40	41	42	40	42	42	41	42	41	40	42	42	41	40	42	42	42	41	42
Exceedance		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0		0	

First Floor (House 36-42)

Floor	mPD	H36_1F_1	H37_1F_1	H38_1F_1	H39_1F_1	H40_1F_1	H41_1F_1	H42_1F_1
1/F	15.95	52	52	52	52	52	52	52
Exceedance		0	0	0	0	0	0	0

Second Floor (House 36-42)

Floor	mPD	H36_2F_1	H36_2F_2	H36_2F_3	H36_2F_4	H37_2F_1	H37_2F_2	H37_2F_3	H37_2F_4	H38_2F_1	H38_2F_2	H38_2F_3	H38_2F_4	H39_2F_1	H39_2F_2	H39_2F_3	H39_2F_4	H40_2F_1	H40_2F_2	H40_2F_3	H40_2F_4	H41_2F_1	H41_2F_2	H41_2F_3	H41_2F_4	H42_2F_1	H42_2F_2	H42_2F_3	H42_2F_4
2/F	19.15	54	52	51	51	54	52	42	44	54	53	42	44	54	53	42	44	54	53	42	44	54	53	42	44	54	54	42	47
Exceedance		0				0				0				0				0				0				0			

No. of Flats:	42
No. of Units with Exceedance:	0
Compliance Level:	100%
Max. Noise Level:	57

Noted:

Noise level exceed stardand of 70 dB(A)

Appendix 2.3 Results of Road Traffic Noise Impact Assessment of the Associated Road Improvement Work

Predicted Road Traffic Noise Levels at Representative NSRs For AM Peak Hour (Unmitigated Scenario)

NSR Information [1]					Predicted Traffic Noise Level (dB(A)) (AM Peak Flow) [4]				Compliance to Criteria [Y/N]		Mitigation Measures Required [Y/N]
					Year 2043 Design Traffic Flow With Development			Contribution of Traffic Noise Level from Project Roads	Project Roads only (C<Criteria)	Overall Noise Level (A<Criteria)	
					A	B	C				
NAP ID	NAP Description	Floor	mPD [2]	Criteria, dB(A) [3]	Overall	Existing Roads Only	Project Roads Only	D = A-B			
H01_GF_1	Planned NSRs of House 1	GF	14.4	70	50	48	45	2.0	Y	Y	N
H01_1F_1	Planned NSRs of House 1	1F	17.2	70	48	42	47	6.3	Y	Y	N
H01_2F_1	Planned NSRs of House 1	2F	18.9	70	51	49	46	1.9	Y	Y	N
H01_2F_2	Planned NSRs of House 1	2F	18.9	70	51	49	45	1.5	Y	Y	N
H04_GF_1	Planned NSRs of House 4	GF	14.4	70	49	46	45	2.7	Y	Y	N
H04_2F_1	Planned NSRs of House 4	2F	18.9	70	50	47	47	3.1	Y	Y	N
H04_2F_2	Planned NSRs of House 4	2F	18.9	70	44	42	39	1.8	Y	Y	N
H41_1F_1	Planned NSRs of House 42	1F	17.2	70	53	48	51	4.4	Y	Y	N
H41_2F_1	Planned NSRs of House 42	2F	20.4	70	55	50	53	4.5	Y	Y	N
H41_2F_2	Planned NSRs of House 42	2F	20.4	70	54	47	52	6.4	Y	Y	N
H42_1F_1	Planned NSRs of House 41	1F	17.2	70	52	49	50	3.6	Y	Y	N
H42_2F_1	Planned NSRs of House 41	2F	20.4	70	55	50	53	4.3	Y	Y	N
H42_2F_2	Planned NSRs of House 41	2F	20.4	70	54	50	52	4.3	Y	Y	N
S1	Village House	GF	13.8	70	58	47	57	10.4	Y	Y	N
S2	Village House	GF	13.8	70	53	47	52	6.0	Y	Y	N
S3	Village House	GF	13.8	70	54	47	53	6.4	Y	Y	N
S3	Village House	1F	16.8	70	56	52	53	3.5	Y	Y	N
S4	Village House	GF	13.7	70	54	49	52	4.8	Y	Y	N
S5	Village House	GF	14.4	70	63	55	62	8.0	Y	Y	N
S6	Village House	GF	14.0	70	62	60	59	2.5	Y	Y	N
S6	Village House	1F	17.0	70	62	60	59	2.5	Y	Y	N
S6a	Village House	GF	14.0	70	64	63	58	1.2	Y	Y	N
S6a	Village House	1F	17.0	70	64	62	58	1.3	Y	Y	N
S7	Village House at Hang Tau 116	GF	13.2	70	62	55	61	7.0	Y	Y	N
S8	Village House	GF	11.7	70	64	51	64	13.6	Y	Y	N
S9	Village House	GF	11.7	70	64	50	64	13.9	Y	Y	N
S10	Village House	GF	11.7	70	62	45	62	16.6	Y	Y	N
S10	Village House	1F	14.7	70	62	52	62	10.2	Y	Y	N
S11	Village House	GF	10.7	70	61	52	61	8.8	Y	Y	N
S11	Village House	1F	13.7	70	62	54	61	7.1	Y	Y	N
S12	The Hong Kong Girl Guides Association Jockey Club Beas River Lodge	GF	14.2	70	70	69	64	1.1	Y	Y	N
S12	The Hong Kong Girl Guides Association Jockey Club Beas River Lodge	1F	17.2	70	70	69	64	1.2	Y	Y	N
S12a	The Hong Kong Girl Guides Association Jockey Club Beas River Lodge	GF	14.2	70	75	75	58	0.1	Y	N	N
S12a	The Hong Kong Girl Guides Association Jockey Club Beas River Lodge	1F	17.2	70	75	75	58	0.1	Y	N	N
S13	The Hong Kong Girl Guides Association Jockey Club Beas River Lodge	GF	14.2	70	75	74	58	0.1	Y	N	N
S13	The Hong Kong Girl Guides Association Jockey Club Beas River Lodge	1F	17.2	70	74	74	58	0.1	Y	N	N
S14	The Hong Kong Girl Guides Association Jockey Club Beas River Lodge	GF	14.2	70	70	70	51	0.0	Y	Y	N
S14	The Hong Kong Girl Guides Association Jockey Club Beas River Lodge	1F	17.2	70	70	70	52	0.1	Y	Y	N

Notes:

[1] The assessment only includes NAPs which rely on opened windows for ventilation.

[2] Assessment level for road traffic noise impact assessment

[3] Shaded cells indicate non-compliance.

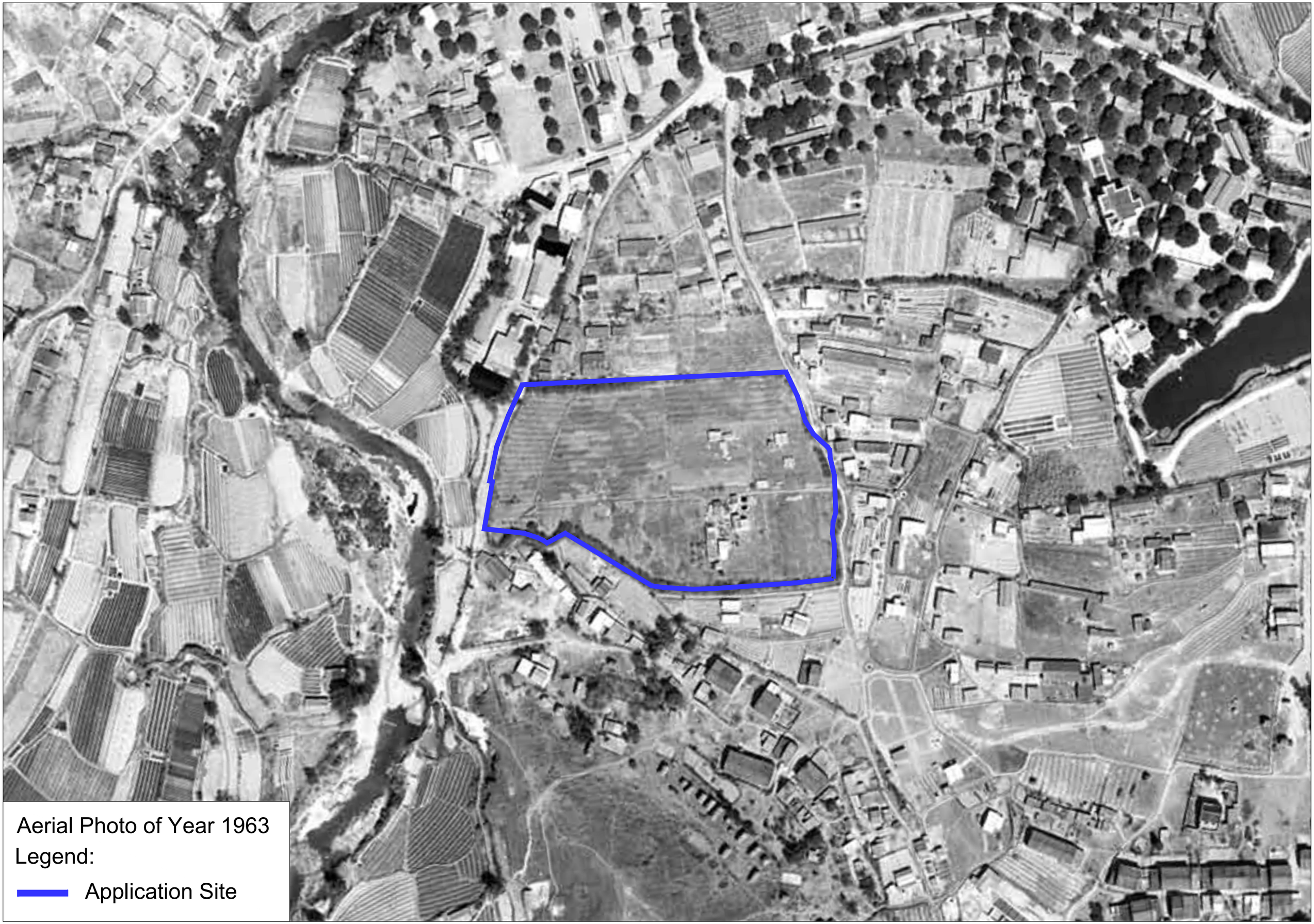
Predicted Road Traffic Noise Levels at Representative NSRs For PM Peak Hour (Unmitigated Scenario)

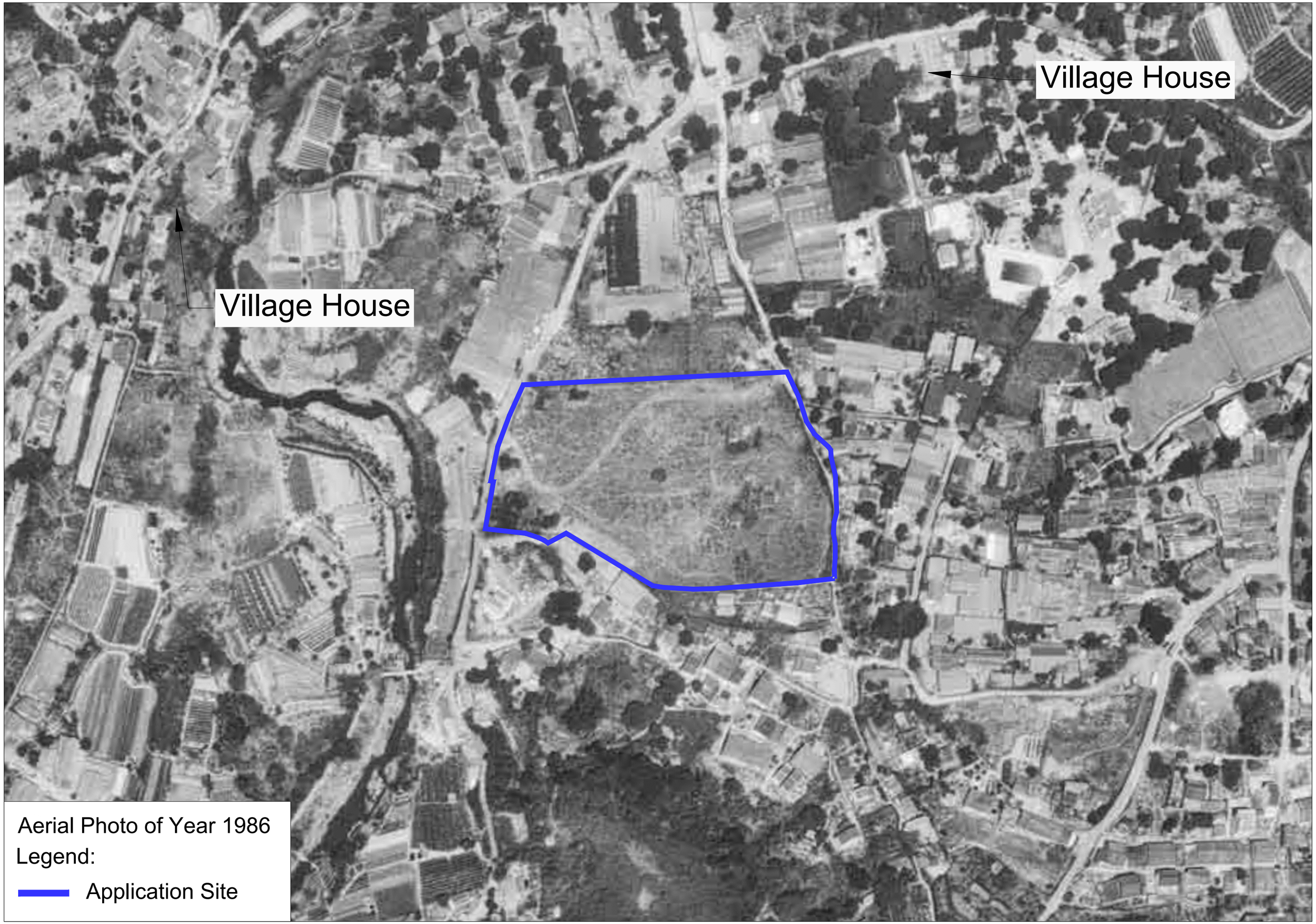
NSR Information [1]					Predicted Traffic Noise Level (dB(A)) (PM Peak Flow) [4]				Compliance to Criteria [Y/N]		Mitigation Measures Required [Y/N]
					Year 2043 Design Traffic Flow With Development			Contribution of Traffic Noise Level from Project Roads	Project Roads only (C<Criteria)	Overall Noise Level (A<Criteria)	
					A	B	C				
NAP ID	NAP Description	Floor	mPD [2]	Criteria, dB(A) [3]	Overall	Existing Roads Only	Project Roads Only	D = A-B			
H01_GF_1	Planned NSRs of House 1	GF	14.4	70	49	47	45	1.8	Y	Y	N
H01_1F_1	Planned NSRs of House 1	1F	17.2	70	48	42	46	5.4	Y	Y	N
H01_2F_1	Planned NSRs of House 1	2F	18.9	70	50	48	45	1.7	Y	Y	N
H01_2F_2	Planned NSRs of House 1	2F	18.9	70	50	49	44	1.4	Y	Y	N
H04_GF_1	Planned NSRs of House 4	GF	14.4	70	48	46	44	2.3	Y	Y	N
H04_2F_1	Planned NSRs of House 4	2F	18.9	70	50	47	46	2.6	Y	Y	N
H04_2F_2	Planned NSRs of House 4	2F	18.9	70	44	42	38	1.4	Y	Y	N
H41_1F_1	Planned NSRs of House 42	1F	17.2	70	52	48	49	3.7	Y	Y	N
H41_2F_1	Planned NSRs of House 42	2F	20.4	70	54	50	51	3.8	Y	Y	N
H41_2F_2	Planned NSRs of House 42	2F	20.4	70	53	47	51	5.3	Y	Y	N
H42_1F_1	Planned NSRs of House 41	1F	17.2	70	52	49	49	3.0	Y	Y	N
H42_2F_1	Planned NSRs of House 41	2F	20.4	70	54	50	51	3.7	Y	Y	N
H42_2F_2	Planned NSRs of House 41	2F	20.4	70	54	50	51	3.8	Y	Y	N
S1	Village House	GF	13.8	70	57	48	56	9.0	Y	Y	N
S2	Village House	GF	13.8	70	53	48	51	4.8	Y	Y	N
S3	Village House	GF	13.8	70	53	48	52	5.2	Y	Y	N
S3	Village House	1F	16.8	70	55	52	52	2.8	Y	Y	N
S4	Village House	GF	13.7	70	54	50	51	3.6	Y	Y	N
S5	Village House	GF	14.4	70	62	56	61	6.5	Y	Y	N
S6	Village House	GF	14.0	70	63	61	58	1.9	Y	Y	N
S6	Village House	1F	17.0	70	63	61	58	1.9	Y	Y	N
S6a	Village House	GF	14.0	70	65	64	57	0.9	Y	Y	N
S6a	Village House	1F	17.0	70	64	63	57	1.0	Y	Y	N
S7	Village House at Hang Tau 116	GF	13.2	70	62	56	61	5.9	Y	Y	N
S8	Village House	GF	11.7	70	63	52	63	11.9	Y	Y	N
S9	Village House	GF	11.7	70	63	51	63	12.4	Y	Y	N
S10	Village House	GF	11.7	70	61	45	61	15.7	Y	Y	N
S10	Village House	1F	14.7	70	61	52	61	9.4	Y	Y	N
S11	Village House	GF	10.7	70	60	52	60	8.1	Y	Y	N
S11	Village House	1F	13.7	70	61	54	60	6.7	Y	Y	N
S12	The Hong Kong Girl Guides Association Jockey Club Beas River Lodge	GF	14.2	70	70	69	63	1.1	Y	Y	N
S12	The Hong Kong Girl Guides Association Jockey Club Beas River Lodge	1F	17.2	70	70	68	63	1.2	Y	Y	N
S12a	The Hong Kong Girl Guides Association Jockey Club Beas River Lodge	GF	14.2	70	74	74	57	0.1	Y	N	N
S12a	The Hong Kong Girl Guides Association Jockey Club Beas River Lodge	1F	17.2	70	74	74	58	0.1	Y	N	N
S13	The Hong Kong Girl Guides Association Jockey Club Beas River Lodge	GF	14.2	70	74	74	57	0.1	Y	N	N
S13	The Hong Kong Girl Guides Association Jockey Club Beas River Lodge	GF	14.2	70	74	74	57	0.1	Y	N	N
S14	The Hong Kong Girl Guides Association Jockey Club Beas River Lodge	1F	14.2	70	69	69	51	0.0	Y	Y	N
S14	The Hong Kong Girl Guides Association Jockey Club Beas River Lodge	1F	14.2	70	69	69	51	0.0	Y	Y	N

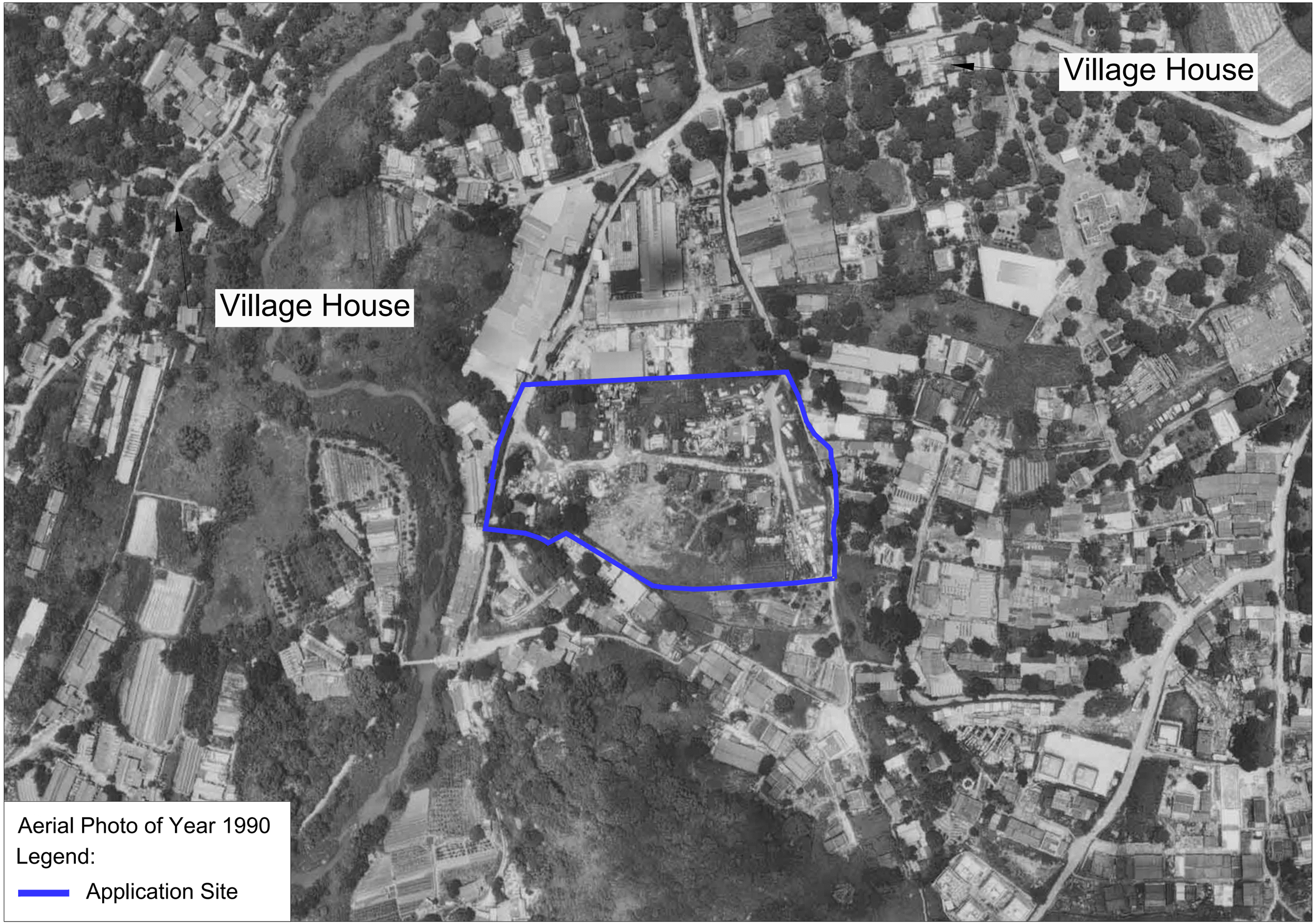
Notes:
[1] The assessment only includes NAPs which rely on opened windows for ventilation.
[2] Assessment level for road traffic noise impact assessment
[3] Shaded cells indicate non-compliance.

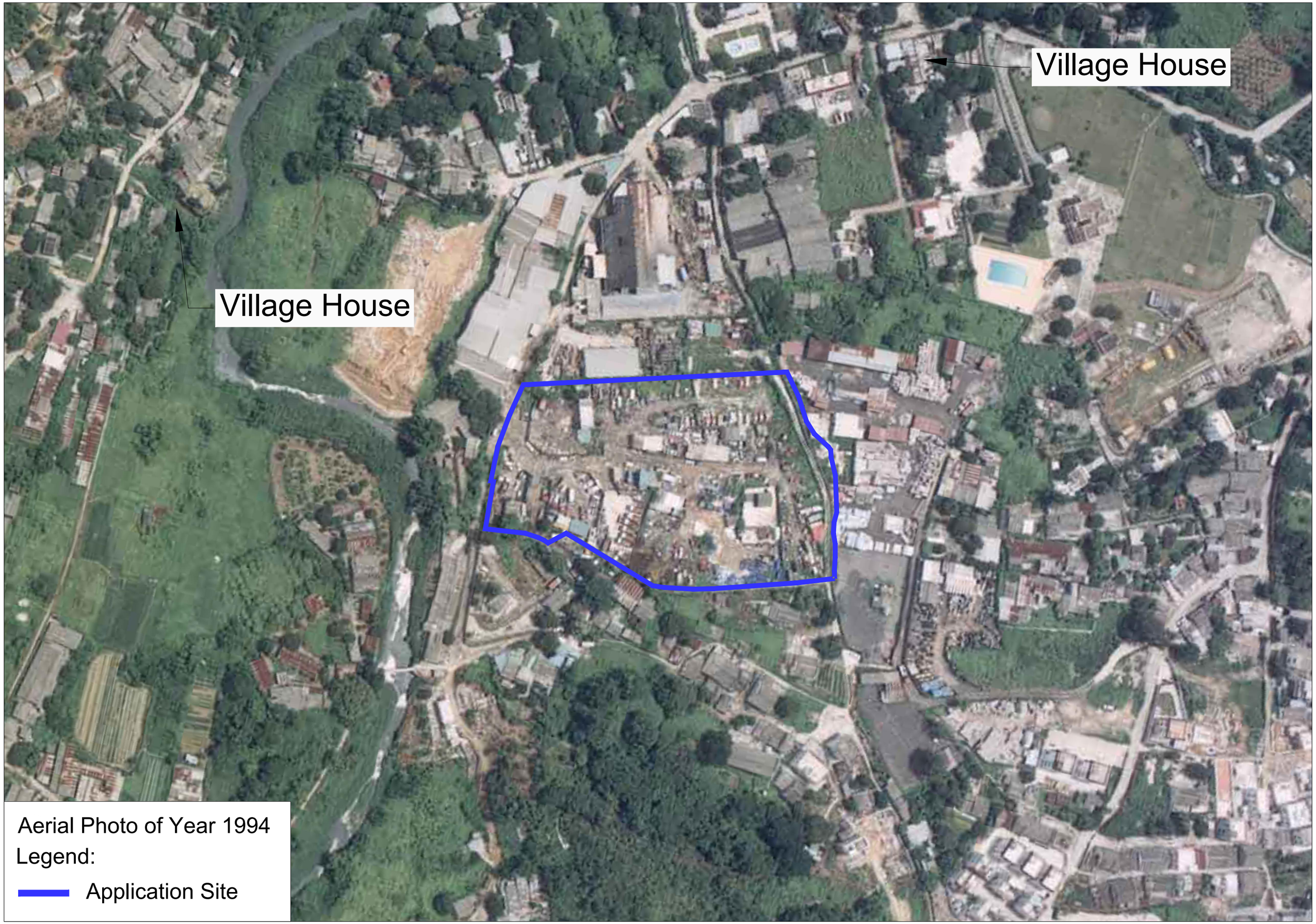
Appendix 4.1 Historic Aerial Photo


Aerial Photo of Year 1945
Legend:
Application Site

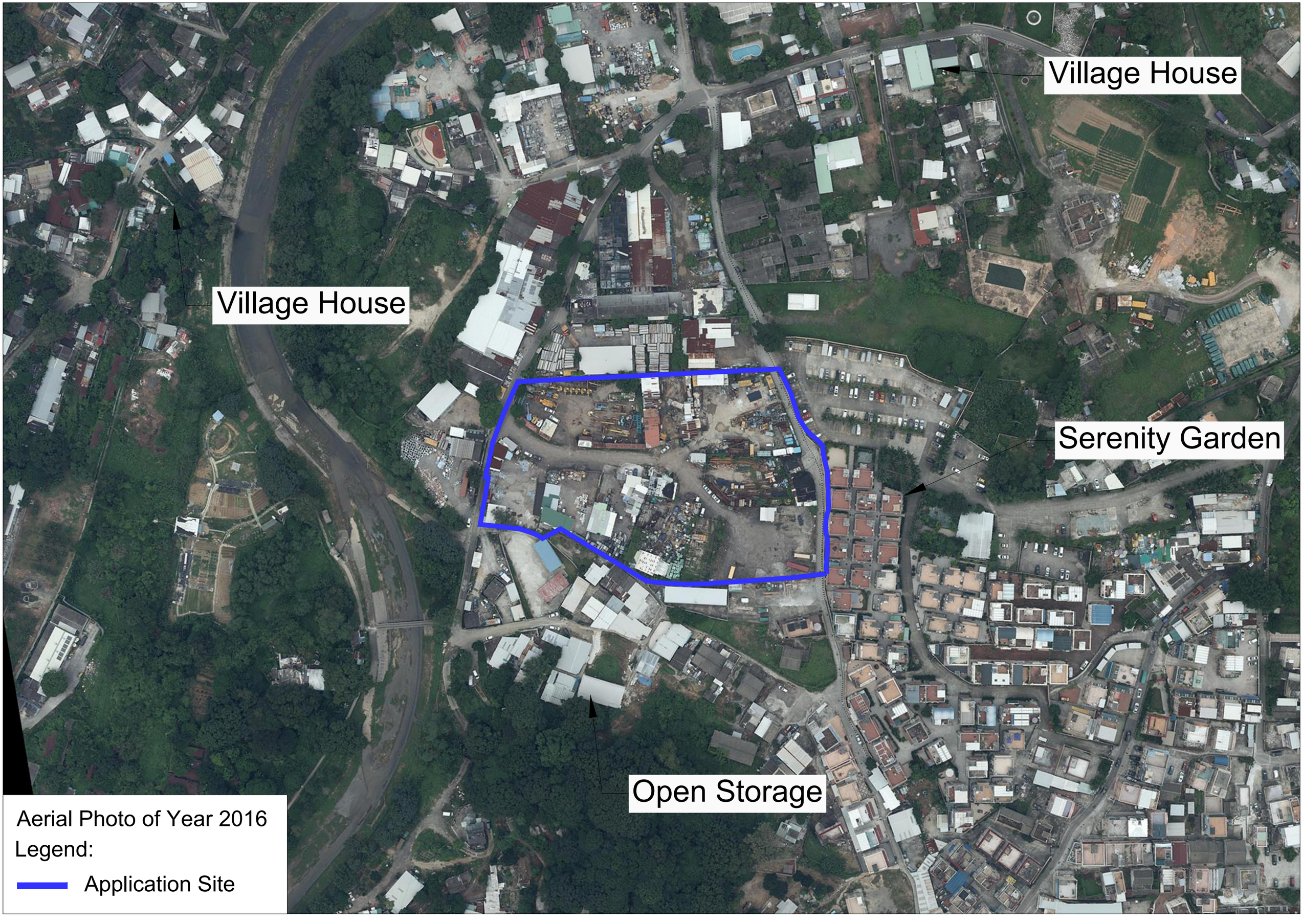

Aerial Photo of Year 1963
Legend:
Application Site

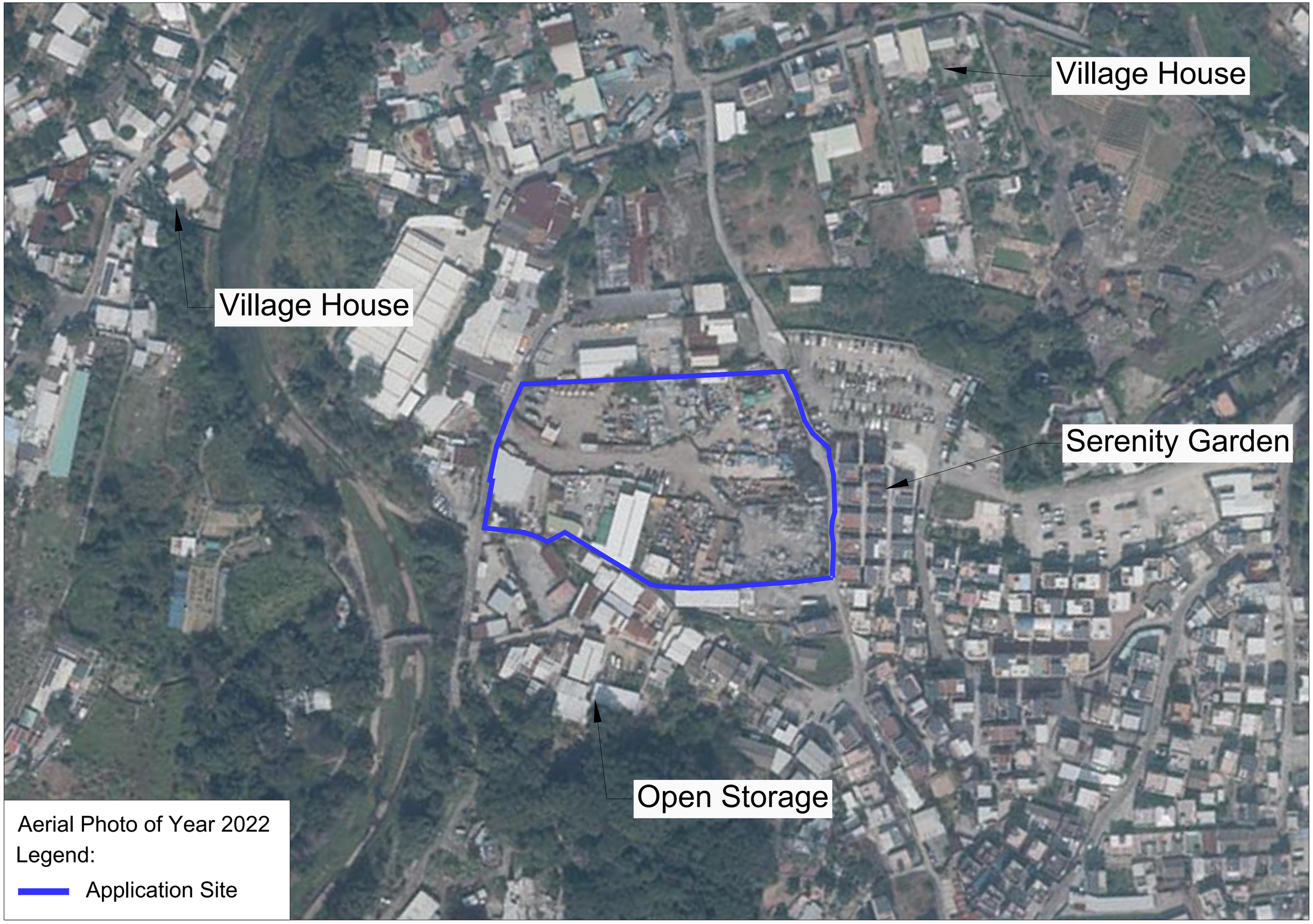

Village House
Village House
Aerial Photo of Year 1986
Legend:
Application Site


Village House
Village House
Aerial Photo of Year 1990
Legend:
Application Site


Village House
Village House
Aerial Photo of Year 1994
Legend:
Application Site


Village House
Village House
Serenity Garden
Aerial Photo of Year 2009
Legend:
Application Site


Village House
Village House
Serenity Garden
Open Storage
Aerial Photo of Year 2016
Legend:
Application Site


Village House
Village House
Serenity Garden
Open Storage
Aerial Photo of Year 2022
Legend:
Application Site

Appendix 4.2 Correspondence with Various Departments

RAMBOLL

Ref.: CHIKTS94E100_0_0001L.22

1 August 2022

Environmental Protection Department
Environmental Compliance Division
Regional Office (North)
10th Floor, Sha Tin Government Offices, 1 Sheung Wo Che Road,
Sha Tin, New Territories

By Fax (2685 1155) & Post

Dear Sir / Madam,

Land Contamination Assessment Study for Planning Application for Proposed Residential Development at Kwu Tung South - Enquiry for Land Contamination Information

We are conducting a Land Contamination Assessment Study for Planning Application for Proposed Residential Development at Kwu Tong South. As required by the "Practice Guide for Investigation and Remediation of Contaminated Land" published by the Environmental Protection Department of the Government of HKSAR (EPD), information pertaining to the change of land uses/past activities/incidents/accidents at the Application Site are required as part of the vetting process.

Of particular interests is whether there are any registered chemical waste producers under your record in the Application Site, any waste disposal record, any accidental spillage record, any submission relating to land contamination assessment and any information you could provide which might be useful for our study. We enclosed herewith a site map and a lot index plan of the Application Site for your reference.

Due to the urgency of the project, we would be much appreciated if you could provide the requested information by **22 August 2022**.

Should you have any queries, please do not hesitate to contact the undersigned at 3465 2811 (email: cchiu@ramboll.com) or our Mr. Peter Leung at 3465 2831 (email: peterleung@ramboll.com). We sincerely seek your feedback on this matter. Thank you in advance for any assistance you can provide.

Yours faithfully,
For and on behalf of
Ramboll Hong Kong Limited

Calvin Chiu
Senior Manager

Enclosure: Location Plan and Lot Plan of the Application Site

Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.ramboll.com

Miko Wan

From: Miko Wan
Sent: Monday, 2 January 2023 23:22
To: Miko Wan
Subject: FW: Land Contamination Assessment Study for Planning Application for Proposed Residential Development at Kwu Tung South - Enquiry for Land Contamination Information

---

From: ceciliaymchan@epd.gov.hk <ceciliaymchan@epd.gov.hk>
Sent: Friday, August 5, 2022 2:24 PM
To: Calvin Chiu <cchiu@ramboll.com>
Subject: Land Contamination Assessment Study for Planning Application for Proposed Residential Development at Kwu Tung South - Enquiry for Land Contamination Information

You don't often get email from ceciliaymchan@epd.gov.hk. Learn why this is important

Dear Mr. Chiu,

I refer to your letter dated 1 Aug 2022 (Your reference: CHIKTS94E100_0_0001L.22) on the captioned.

Regarding your enquiries in above letter, this Regional Office has no record of spillage or leakage of chemical waste or chemicals within the concerned site for the past 5 years. You may like to check with other relevant parties or departments for such information as appropriate.

As registered chemical waste producers at the location are concerned, a register of chemical waste producers is available for inspection in the Territorial Control Office of this department. If you would like to inspect, please contact Mr. C. K. TSANG at 2835 1017 for making appointment to view the records.

Should you have any query on the matter, please contact the undersigned at 2158 5718. Thank you.

Regards,
Cecilia CHAN
E(RN)31/EPD

Classification: Confidential

RAMBOLL

Ref.: CHIKTS94E100_0_0002L.22

1 August 2022

Fire Services Department
Corporate Strategy Command
Management Group
9th Floor, Fire Services Headquarters Building, 1 Hong Chong Road,
Tsim Sha Tsui East, Kowloon

By Fax (2739 5879) & Post

Dear Sir / Madam,

Land Contamination Assessment Study for Planning Application for Proposed Residential Development at Kwu Tong South - Enquiry for Land Contamination Information

We are conducting a Land Contamination Assessment Study for Planning Application for Proposed Residential Development at Kwu Tong South. As required by the "Practice Guide for Investigation and Remediation of Contaminated Land" published by the Environmental Protection Department of the Government of HKSAR (EPD), information pertaining to the change of land uses/past activities/incidents/accidents at the Application Site are required as part of the vetting process.

Of particular interests are spill and incident reports (including records of fire at the Application Site) that we believe your Department might have record of. Furthermore, we would also like to know whether anywhere of the Application Site had applied or possessed license for dangerous goods storage. We enclosed herewith a site map and lot index plan of the Application Site for your reference.

Due to the urgency of the project, we would be much appreciated if you could provide the requested information by **22 August 2022**.

Should you have any queries, please do not hesitate to contact the undersigned at 3465 2811 (email: cchiu@ramboll.com) or our Mr. Peter Leung at 3465 2831 (email: peterleung@ramboll.com). We sincerely seek your feedback on this matter. Thank you in advance for any assistance you can provide.

Yours faithfully,
For and on behalf of
Ramboll Hong Kong Limited



Calvin Chiu
Senior Manager

Enclosure: Location Plan and Lot Plan of the Application Site

Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.ramboll.com

消 防 處
香港九龍尖沙咀東部康莊道 1 號
消防總部大廈

FIRE SERVICES DEPARTMENT
FIRE SERVICES HEADQUARTERS BUILDING,
No.1 Hong Chong Road,
Tsim Sha Tsui East, Kowloon,
Hong Kong.

本處檔號 **OUR REF.** : (23) in FSD GR 6-5/4 R Pt. 43
來函檔號 **YOUR REF.** : CHIKTS94E100_0_0002L.22
電子郵件 **E-mail** : hkfsdenq@hkfsd.gov.hk
圖文傳真 **FAX NO.** : 2739 5879
電　　話 **TEL NO.** : 2733 7741

7 September 2022

Ramboll Hong Kong Limited
21/F, BEA Harbour View Centre,
56 Gloucester Road,
Wanchai, Hong Kong.
(Attn: Mr. Calvin CHIU, Senior Manager)

Dear Mr. CHIU,

Land Contamination Assessment Study for Planning Application for Proposed Residential Development at Kwu Tong South – Equiry for Land Contamination Information
Request for Information of Dangerous Goods & Incident Records

I refer to your letter 1.8.2022 regarding the captioned request and reply below in response to your questions:-

Please be advised that neither records of dangerous goods license, fire incidents nor incidents of spillage / leakage of dangerous goods were found in connection with the given conditions of your request at the subject location.

If you have further questions, please feel free to contact the undersigned.

Yours sincerely,

(NG Wing-chit)
for Director of Fire Services

RAMBOLL

Ref.: CHIKTS94E100_0_0004L.22

1 August 2022

Planning Department
District Planning Branch
New Territories District Planning Division
Fanling, Sheung Shui & Yuen Long East Planning Office
Unit 2202, 22/F, CDW Building, 388 Castle Peak Road,
Tsuen Wan, New Territories

By Fax (3168 4074) & Post

Dear Sir / Madam,

Land Contamination Assessment Study for Planning Application for Proposed Residential Development at Kwu Tung South - Enquiry for Land Contamination Information

We are conducting a Land Contamination Assessment Study for Planning Application for Proposed Residential Development at Kwu Tong South. As required by the "Practice Guide for Investigation and Remediation of Contaminated Land" published by the Environmental Protection Department of the Government of HKSAR (EPD), information pertaining to the change of land uses/past activities/incidents/accidents at the Application Site are required as part of the vetting process.

Of particular interests are current and historical site information, any change on the land use, future land use and any information relating to land contamination issues of the Application Site. We enclosed herewith a site map and lot index plan of the Application Site for your reference.

Due to the urgency of the project, we would be much appreciated if you could provide the requested information by **22 August 2022**.

Should you have any queries, please do not hesitate to contact the undersigned at 3465 2811 (email: cchiu@ramboll.com) or our Mr. Peter Leung at 3465 2831 (email: peterleung@ramboll.com). We sincerely seek your feedback on this matter. Thank you in advance for any assistance you can provide.

Yours faithfully,
For and on behalf of
Ramboll Hong Kong Limited



Calvin Chiu
Senior Manager

Enclosure: Location Plan and Lot Plan of the Application Site

Ramboll Hong Kong Limited 英環香港有限公司
21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong Tel: 852.3465 2888 Fax: 852.3465 2899
www.ramboll.com

規劃署

荃灣及西九龍規劃處
新界荃灣西樓角路38號
荃灣政府合署27樓

Planning Department

Tsuen Wan & West Kowloon
District Planning Office
27/F, Tsuen Wan Government Offices,
38 Sai Lau Kok Road,
Tsuen Wan, N.T.

本函檔號	Your Reference	CHIKTS94E100_0_0004l.22
本署檔號	Our Reference	( ) in PD/FSYLE/6-20-1
電話號碼	Tel. No. :	3168 4042
傳真機號碼	Fax No. :	3168 4047

RAMBOLL Hong Kong Ltd
21/F, BEA Harbour View Centre
56 Gloucester Road
Wanchai
Hong Kong

2nd September 2022

(Attn.: Mr. Calvin CHIU)

Dear Mr. CHIU,

Land Contamination Assessment Study for Planning Application for Proposed Residential Development at Kwu Tung South – Enquiry for Land Contamination Information

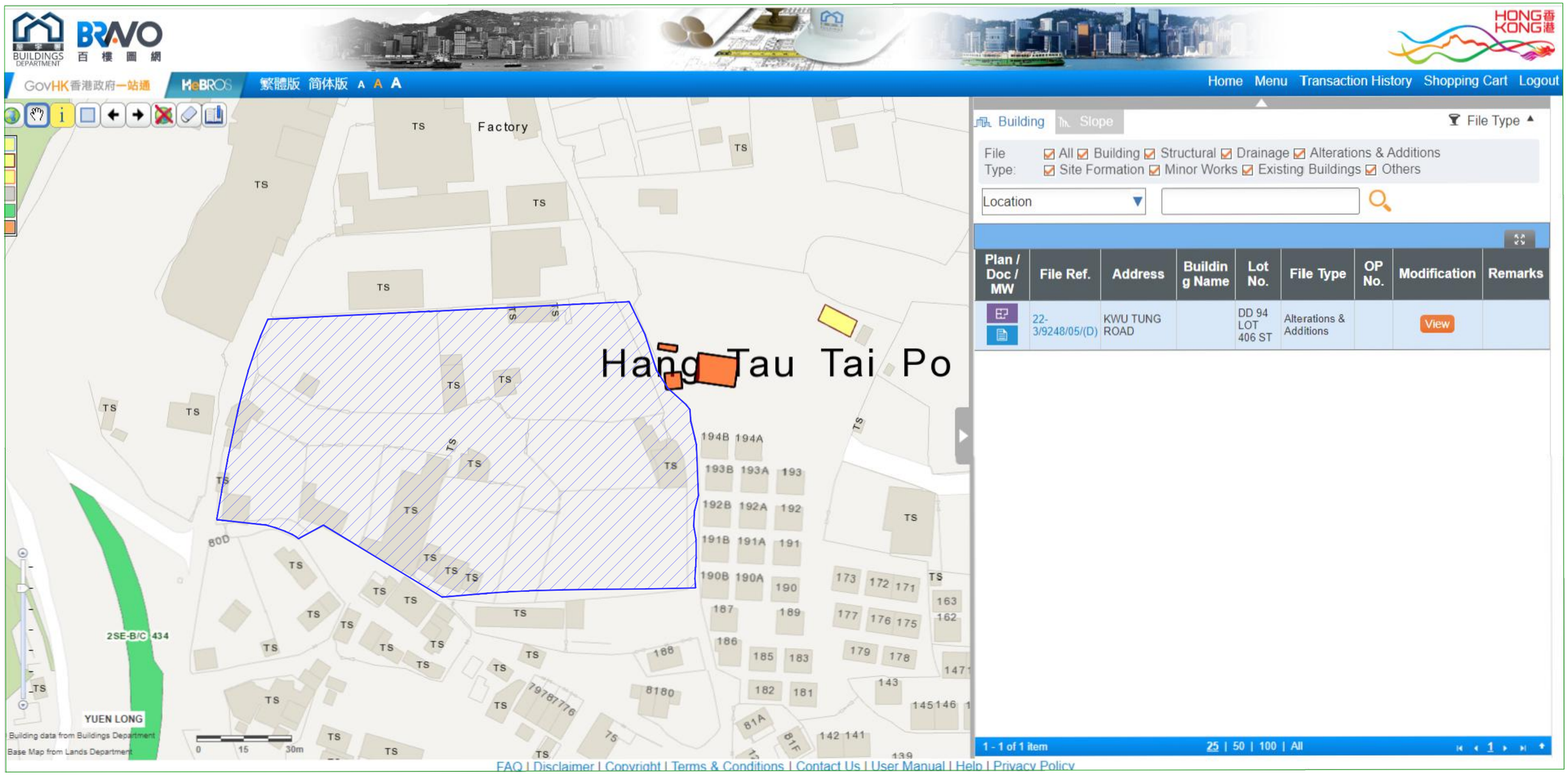
I refer to your letter of 1.8.2022 regarding the subject matter.

Based on a site plan attached to your letter, the subject site falls within "Residential (Group D)" on the approved Kwu Tung South Outline Zoning Plan (OZP) No. S/NE-KTS/18. According to our current record, we are not aware of any proposed developments at the site. We also have no information on any proposed new projects that may fall within the site. You may wish to check with Lands Department for further information.

Yours faithfully,

(Florence SIU)
for District Planning Officer/
Fanling, Sheung Shui and Yuen Long East
Planning Department

Appendix 4.3 Screen Capture of BRAVO



Legend

Application Site

Appendix: 4.3

Title: Screen Capture of BRAVO

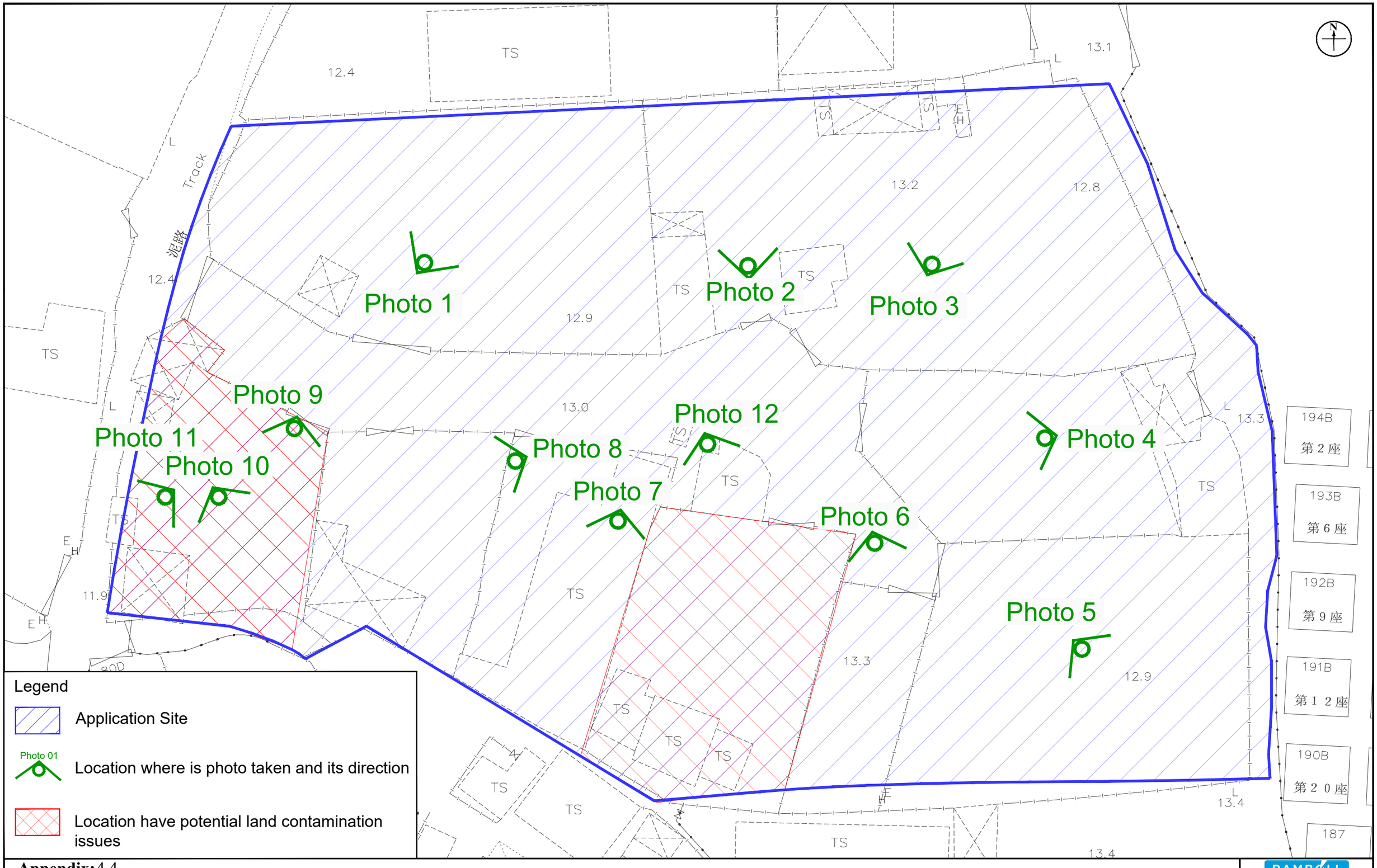
Project: Proposed Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.0
Date:	Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\04 Land Con\220729\subject site_.dwg

Appendix 4.4 Site Survey Record Plan



Appendix: 4.4

Title: Site Survey Record Plan

Project: Proposed Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.0
Date:	Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\04 Land Con\220729\subject site_.dwg

Photo Record

	
Photo 1 Truck/Machinery Carpark	Photo 2 Open Storage (C&D Material & Equipment)
	
Photo 3 Construction Contractor's Warehouse	Photo 4 Construction Contractor's Warehouse
	
Photo 5 Open Storage	Photo 6 Open Storage (C&D Material)
	
Photo 7 Warehouse	Photo 8 Open Storage

Photo Record

	
Photo 9 Car Repair	Photo 10 Recycling Workshop
	
Photo 11 Recycling Workshop	Photo 12 Machinery Repair & Storage

CHIH Design Ltd.

Your Ref.: TPB/A/NE-KTS/525
Our Ref.: 2105PA - L008
Date: 19th June 2023

(By hand)

The Secretary
Town Planning Board
C/o Town Planning Board Section
Planning Department
15/F, North Point Government Offices
333 Java Road
North Point, Hong Kong

RECEIVED
20 JUN 2023
Town Planning Board

Dear Sir/Madam,

Re : Response to Departments' Comments
Proposed Residential Development (House) and Minor Relaxation of Plot Ratio Restriction in "Residential (Group D)" Zone at Various Lots in D.D.94, Hang Tau Tai Po, Kwu Tung South, Sheung Shui

We refer your e-mail dated on 4th April 2023 and 2nd May 2023. The following responses are submitted herewith for your departmental circulation to address Lands department, Landscape Unit of PlanD, District Planning Department and Transport Department's comments.

Comments	Responses
Comment from District Lands Office/North, Lands Department:	
Non-Small House Development within Village Environ 1. If the subject planning application is approved by TPB, the Applicant has to apply to Lands Department for a land exchange to implement the approved planning scheme.	Noted
2. Majority of the Application Site encroaches onto the Village Environ of Hang Tau, which is primarily preserved for small house development by indigenous villagers under the Small House Policy. Non-Small House Policy land exchanges within the Village Environ should be fully justified.	Noted and such matters will be duly followed and complied with at the land exchange application stage.
3. The Applicant is reminded that every application submitted to LandsD will be considered on its own merits by LandsD at its absolute discretion acting in its capacity as a landlord and there is **no guarantee** that the land exchange application will eventually be approved by LandsD. If the application for land exchange is approved by LandsD, it will be subject to such terms and conditions as may be imposed by LandsD at its absolute discretion, including payment of premium and administrative fee.	Noted

.../2

Unit A, 20/F, Morrison Plaza, 5-9A Morrison Hill Road, Wanchai, Hong Kong Telephone (852) 2581 3081 Fax (852) 2742 0622
香港灣仔摩利臣山道5-9A號天樂廣場20樓A室 電話(852) 2581 3081 傳真(852) 2742 0622

Current Land Ownership 4. As revealed from the application form, the Applicant is just one of the "current land owners" though he/she claimed (without verification) that consent from other "current land owners" had been obtained. The Applicant is advised to note that any land exchange application should be submitted by all owners of the concerned lots and the titles have to be unified prior to surrender.	Noted. Such matters will be resolved at the land exchange application stage.
Existing Access Road and Proposed Road Improvement Works 5. According to the Planning Statement, improvement of existing access road is proposed. The existing access road leading from Hang Tau Road to the Application Site as indicated on Drawing No. 2.2 of the TIA passes through Government land and private lot such as Lot No. 409 S.F.s.s.19 in D.D. 94., no right of access is granted under the lease governing the private lots.	Noted. Right of way through private lots will be sought at the land exchange application stage.
6. As shown on Drawing Nos. 2.3 to 2.6 of the TIA, road improvement works comprising carriageway widening, provision of pedestrian way and a roundabout traffic intersection etc. are proposed on the said existing access road and an alternative access road. Such road improvement works fall not only on Government land but also on private lots.	The proposed improvement works that fall on government land and private lots will be designed and be submitted at the land exchange application and building plan submission stage. Consent from the private lot owners in concern have been sought and have been revealed in our current application. (see consent letters dated 28th April 2023 enclosed)
7. As the said improvement works are proposed outside the boundary of the Application Site and even on private lots, subject to para. 3 above, such requirements will not be incorporated into the lease. As the necessity of such traffic and related provisions are outside the purview of this office, please consult TD and HyD on the acceptance and implementation of the said road improvement proposal including the future management and maintenance of the improved access roads which will fall on Government land and private lots accordingly. For the uninterrupted use of the road access, the Applicant should also demonstrate consent from the concerned private lot owners had been obtained.	The proposed improvement works that fall on government land and private lots will be designed and be submitted at the land exchange application and building plan submission stage. Consent from the private lot owners in concern have been sought and have been revealed in our current application. (see consent letters dated 28th April 2023 enclosed)

.../3

Our Ref.: 2105PA - L008.../3
Date: 19th June 2023

8. Similar to the comments in para. 7 above, as indicated on Drawing No. 2.4 of the TIA, the proposed vehicular access and junction improvement to and EVA of the Application Site pass through adjoining private lots namely Lot No. 409 S.E, Lot 409 S.F s.s.19, Lot 1118 S.A.RP, 1115 S.B, 1121 S.A, Lot 1076 etc. in D.D. 94 respectively. The Applicant should demonstrate consent from the concerned lot owners had been obtained.	Please see attached plans with indication of lot ownership for the propose access road for easy reference.: Drawing no.2.4 (Rev.A) Drawing no.2.5 (Rev.A) Drawing no. 2.6 (Rev.A) The proposed improvement works for the access road as indicated is fallen solely either on government land or Lot L1118S.A. RP in DD92, where consent for carrying such works have been sought. Please see attach copy of consent letter from lot owner of Lot L1118S.A. RP in DD92.
Comment from Chief Town Planner/urban Design and Landscape, Planning Department (CTP/UD&L, PlanD):	
(a) Setback for pedestrian walkway – the width of the setback for pedestrian walkway as proposed by the applicant should be indicated on relevant plans including Master Layout Plan.	Width of the pedestrian walkway is shown on the attached plan. - Plan 5 (Rev. A) - Plan 6 (Rev. A)
(b) The boundary of the Site should be indicated on the Plans 11 to 15 for easy reference. Please supplement.	Plans 11 to 15 are amended and enclosed: - Plan 11 (Rev. A) - Plan 12 (Rev. A) - Plan 13 (Rev. A) - Plan 14 (Rev. A) - Plan 15 (Rev. A)
Comment from Fanling, Sheung Shui and Yuen Long East District Planning Office, Planning Department:	
(1) Paragraph 4.1 of Planning Statement - Noting that private lots encroaching "V" and "AGR" zones are excluded from the site area and PR calculation for the proposed development, how would this excluded area benefit the proposed development as private garden area.	The lots that encroach on "V" and "ARG" zone will be assigned at the land exchange application stage, such that the part of each lot that falls outside the R(D) zone will be excluded from the application site. It is the intention of the applicant to retain such remaining portion of these lots and have them rented or sold to future adjacent individual house as private open space. However, this intention cannot be and will not be implemented under the current application.
(2) Paragraph 4.2 of Planning Statement - Noting that the greenery coverage is about 40%, please provide detail provision of the greenery measures, such as any vertical greening for additional greenery?	Please see indication of greenery provision on Plan 10 (rev.A)

Our Ref.: 2105PA - L008…/4
Date: 19th June 2023

(3) The management and maintenance responsibility of the proposed pedestrian footpath within the proposed development. Please confirm whether that strip of land would be surrender to the Government upon completion.	The applicant has no objection to surrender the proposed pedestrian footpath to the government upon completion of the project.
(4) Justifications in terms of planning and design merits for the proposed minor relaxation of PR; justifications in terms of housing supply, site utilization.	The proposed minor relaxation of PR is in line with the government's policy to increase housing provision in the HKSAR in general. The proposed PR of 0.48 is also in line with a precedent case no. A/NE-KTS/466. Our proposed design demonstrates an effective land use with a better design through careful architectural and planning arrangement. The majority of the proposed houses (35 out of 42) are only 2 storey high with a building height of 8m. Greenery coverage on grade and podium garden is as high as 40%. Please see attached Plan 10(rev.A) with greenery calculation added.
Comment from TD	Please refer to attached "Responses to Comments" prepared by MVA Hong Kong Limited for your perusal.

Should you have any queries, please do not hesitate to contact the undersigned at 2581 3081.

Sincerely Yours,
For and on behalf of
CHIH Design Ltd.

Eric Ming Yuen Chih
Director

EC/fh

c.c. Great Huge Limited – Mr. Wan
(by E-mail) (w/ encl)

1118 S.A RP

ROAD WIDENING FOR JUNCTION MODIFICATION AT LOT NO. 1118 S.A.R.P. IN DD92 (CONSENT FOR PROPOSING ROAD IMPROVEMENT WORK FROM LOT OWNER HAS BEEN OBTAINED)

ROAD WIDENING ON GOVERNMENT LANDS

1121 S.A

1120 S.B

1120 S.A

SEE DRAWING NO. 2.5

7.3m

408 S.B ss.1

7.3m

ROAD WIDENING ON GOVERNMENT LANDS

407 S.A ss.2 S.A

6.6m

ROAD WIDENING AT THIS SECTION IS CONSTRAINED BY PRIVATE LOTS ON BOTH SIDES

7.3m

EVA

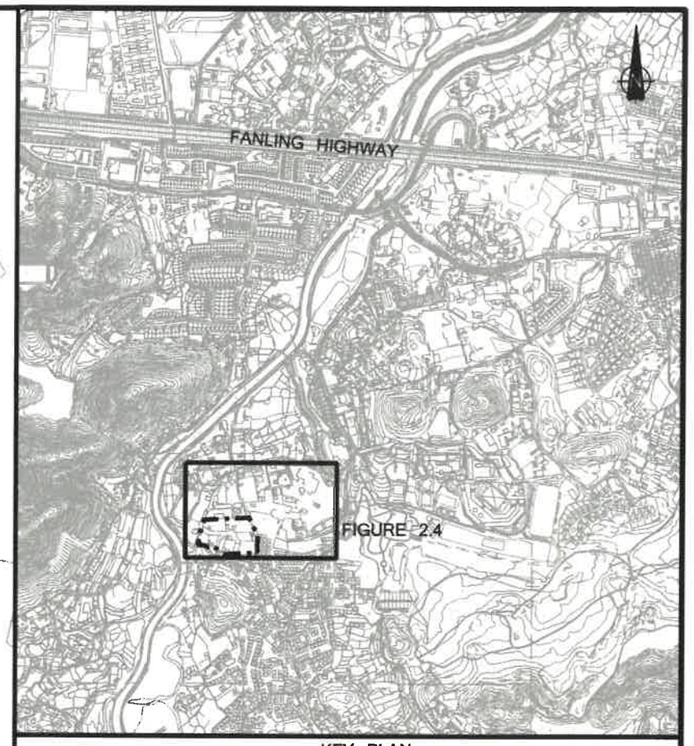
EVA

EVA

CLUB HOUSE

TRANS-FORMER ROOM

H.E.



KEY PLAN

INFORMATION ADDED IN RESPONSE TO TPB'S COMMENT DATED 4TH APRIL, 2023

PROPOSED WIDENING ROAD WORKS FOR ACCESS ROAD ON GOVERNMENT LAND (OUTSIDE EXISTING ROAD)

PROPOSED WIDENING ROAD WORKS FOR ACCESS ROAD ON PRIVATE LOT NO. 1118S.A. RP, CONSENT HAS BEEN OBTAINED

LOT BOUNDARY

LEGEND:

BOUNDARY OF APPLICATION SITE

PROPOSED SETBACK FOR PEDESTRIAN PATH

PROPOSED RAOD WIDENING

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIONS LOTS IN D.D. 94, KWU TUNG SOUTH

Drawing Title

PROPOSED ACCESS ROAD IMPROVEMENT SCHEME (SHEET 1 OF 3)

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	1:1000(A3)	NOV 2022	2.4	A

SYSTRA MVA

CHK50682710/TIA/F24.DGN/CKC/18JAN23

Original Size : A3

SEE DRAWING NO. 2.6

2257 S.A RP

ROAD WIDENING ON GOVERNMENT LANDS

1081

1075

ROAD WIDENING ON GOVERNMENT LANDS

SHEUNG YUE RIVER (RIVER BEAS)

雙魚河

6m MIN.

607 S.A

4.6m

5.3m

6m MIN.

ROAD WIDENING AT THIS SECTION IS CONSTRAINED BY PRIVATE LOTS ON BOTH SIDES

APPROX. 20M

6m MIN.

4.4m MIN.

7.8m

1118 S.A RP

ROAD WIDENING FOR JUNCTION MODIFICATION AT LOT NO. 1118 S.A.R.P. IN DD92 (CONSENT FOR PROPOSING ROAD IMPROVEMENT WORK FROM LOT OWNER HAS BEEN OBTAINED)

ROAD WIDENING ON GOVERNMENT LANDS

1121 S.A

1120 S.B

1120 S.A

SEE DRAWING NO. 2.4

7.3m

408 S.B ss.1

FANLING HIGHWAY

FIGURE 2.5

KEY PLAN

INFORMATION ADDED IN RESPONSE TO TPB'S COMMENT DATED 4TH APRIL, 2023

PROPOSED WIDENING ROAD WORKS FOR ACCESS ROAD ON GOVERNMENT LAND (OUTSIDE EXISTING ROAD)

PROPOSED WIDENING ROAD WORKS FOR ACCESS ROAD ON PRIVATE LOT NO. 1118S.A. RP, CONSENT HAS BEEN OBTAINED

LOT BOUNDARY

LEGEND:

BOUNDARY OF APPLICATION SITE

PROPOSED RAOD WIDENING

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIONS LOTS IN D.D. 94, KWU TUNG SOUTH

Drawing Title

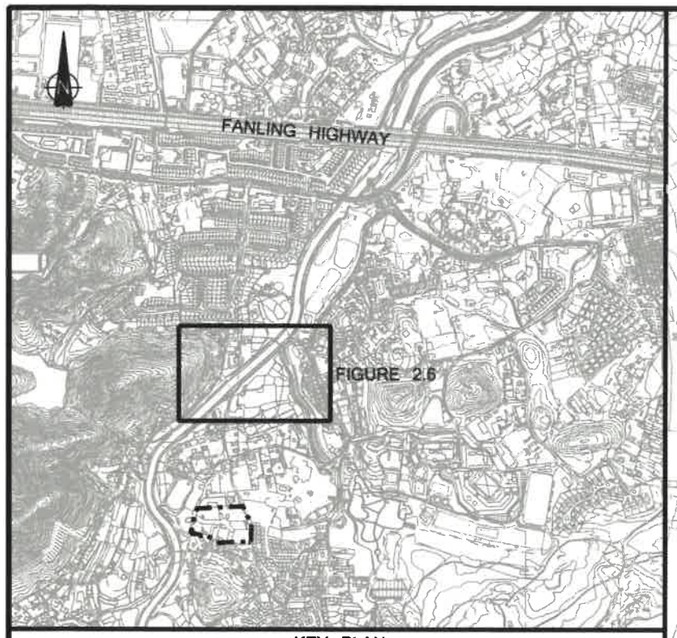
PROPOSED ACCESS ROAD IMPROVEMENT SCHEME (SHEET 2 OF 3)

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	1:1000(A3)	NOV 2022	2.5	A

SYSTRA MVA

CHK50682710/TIA/F25.DGN/CKC/18JAN23

Original Size : A3



KEY PLAN

2257 RP

2257 S.A RP
SEE DRAWING NO. 2.5

2544

1081

1075

607 S.A

3.6m

6m MIN.

5.3m

ROAD WIDENING AT THIS SECTION IS CONSTRAINED BY PRIVATE LOTS ON BOTH SIDES

ROAD WIDENING ON GOVERNMENT LANDS

ROAD WIDENING ON GOVERNMENT LANDS

ROAD WIDENING ON GOVERNMENT LANDS

HANG TAU ROAD

SHEUNG YUE RIVER (RIVER BEAS)

INFORMATION ADDED IN RESPONSE TO TRB'S COMMENT DATED 4TH APRIL 2023

PROPOSED WIDENING ROAD WORKS FOR ACCESS ROAD ON GOVERNMENT LAND (OUTSIDE EXISTING ROAD)

PROPOSED WIDENING ROAD WORKS FOR ACCESS ROAD ON PRIVATE LOT NO. 1118S.A. RP, CONSENT HAS BEEN OBTAINED

LOT BOUNDARY

LEGEND:

BOUNDARY OF APPLICATION SITE

PROPOSED RAOD WIDENING

Rev.	Description	Checked	Date
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Project Title

SECTION 16 PLANNING APPLICATION FOR PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT VARIONS LOTS IN D.D. 94, KWU TUNG SOUTH

Drawing Title

PROPOSED ACCESS ROAD IMPROVEMENT SCHEME (SHEET 3 OF 3)

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	1:1000(A3)	NOV 2022	2.6	A

SYSTRA MVA

CHK50682710/TIA/F26.DGN/CKC/17JAN23

Original Size : A3

ADJOINING TEMPORARY STRUCTURE

VEHICULAR ENTRANCE

ADJOINING PRIVATE OPEN-AIR CARPARK

SETBACK FOR PEDESTRIAN WALKWAY

EXISTING FENCE WALL ON ADJACENT LOTS

1 STOREY PODIUM

HOUSE 1
HOUSE 2
HOUSE 3
HOUSE 4
HOUSE 5
HOUSE 6
HOUSE 7
HOUSE 8
HOUSE 9
HOUSE 10
HOUSE 11
HOUSE 12
HOUSE 13
HOUSE 14
HOUSE 15
HOUSE 16
HOUSE 17
HOUSE 18
HOUSE 19
HOUSE 20
HOUSE 21
HOUSE 22
HOUSE 23
HOUSE 24
HOUSE 25
HOUSE 26
HOUSE 27
HOUSE 28
HOUSE 29
HOUSE 30
HOUSE 31
HOUSE 32
HOUSE 33
HOUSE 34
HOUSE 35
HOUSE 36
HOUSE 37
HOUSE 38
HOUSE 39
HOUSE 40
HOUSE 41
HOUSE 42

EVA (6m WIDE ACCESS ROAD)

6000
6000

4500
2946
6014
3373
4500
3885
4500
4535

EXISTING TRACK

PARTIAL LOT AREA FALLS WITHIN AGRICULTURE ZONE (NOT FORMING PART OF THIS APPLICATION)

ADJOINING EXISTING RESIDENTIAL HOUSING ESTATE (SERENITY GARDEN)

SITE AREA	: 12,100m²
NO. OF BLOCK	: 42
TOTAL GFA	: 5,808m²
	[90.1 x 7 (FOR HOUSE 36 - 42), 132.4 x16 (FOR HOUSE 1-14 & 27-28) 161 x 19 (FOR HOUSE 15-26 & 29-35)]
SITE COVERAGE	: NOT MORE THAN 33.3%
PLOT RATIO	: 0.48
BUILDING HEIGHT	: 8m (FOR HOUSE 1- 35) 9m (FOR HOUSE 36-42)

ADJOINING TEMPORARY STRUCTURE

PARTIAL LOT AREA FALLS WITHIN VILLAGE ZONE (NOT FORMING PART OF THIS APPLICATION)

LEGEND:
APPLICATION SITE BOUNDARY

CHIH Design Ltd

PLAN 5 MASTER LAYOUT PLAN (REV.A)

Proposed Residential Development (House) and Minor Relaxation of Plot Ratio Restriction in "Residential (Group D)" Zone at Various Lots in D.D.94, Hang Tau Tai Po, Kwu Tung South, Sheung Shui

JOB NO.: 2105PA
DATE : 19 -06 - 2023
SCALE : 1:500 @A3



LEGEND:

E.M.C.	= ELECTRICAL METER CABINET
G.M.&W.M.	= GAS METER & WATER METER
KIT.	= KITCHEN
P.R.	= POWER ROOM
P.W.&F.W. T.&P.	= PORTABLE WATER & FLUSHING WATER TANK & PUMP
T.G.	= TOWN GAS
TBE RM.	= TELECOMMUNICATIONS & BROADCASTING EQUIPMENT ROOM

CHIH Design Ltd

PLAN 6 GROUND FLOOR PLAN (REV.A)

Proposed Residential Development (House) and Minor Relaxation of Plot Ratio Restriction in "Residential (Group D)" Zone at Various Lots in D.D.94, Hang Tau Tai Po, Kwu Tung South, Sheung Shui

JOB NO.: 2105PA
DATE : 19 -06 - 2023
SCALE : 1:500 @A3

- TOTAL 1 NO. OF TREE TO BE RETAINED WITHIN SITE

HOUSE 1
HOUSE 2
HOUSE 3
HOUSE 4
HOUSE 5
HOUSE 6
HOUSE 7
HOUSE 8
HOUSE 9
HOUSE 10
HOUSE 11
HOUSE 12
HOUSE 13
HOUSE 14
HOUSE 15
HOUSE 16
HOUSE 17
HOUSE 18
HOUSE 19
HOUSE 20
HOUSE 21
HOUSE 22
HOUSE 23
HOUSE 24
HOUSE 25
HOUSE 26
HOUSE 27
HOUSE 28
HOUSE 29
HOUSE 30
HOUSE 31
HOUSE 32
HOUSE 33
HOUSE 34
HOUSE 35
HOUSE 36
HOUSE 37
HOUSE 38
HOUSE 39
HOUSE 40
HOUSE 41
HOUSE 42

LEGEND:

- APPLICATION SITE BOUNDARY
- PROPOSED NEW TREE PLANTING
- PROPOSED RETAINED TREE
- PROPOSED NEW BUSHES
- PROPOSED PRIVATE GARDEN
- PROPOSED LAWN

INFORMATION ADDED IN RESPONSE TO TPB'S COMMNET DATED 2ND MAY 2023

PROPOSED PRIVATE GARDEN AREA = 4016.07 m²

PROPOSED LAWN AREA = 836.03 m²

THE TOTAL GREENERY SITE COVERAGE = [(4016.07 m² + 836.03 m²) / 12 100] x 100

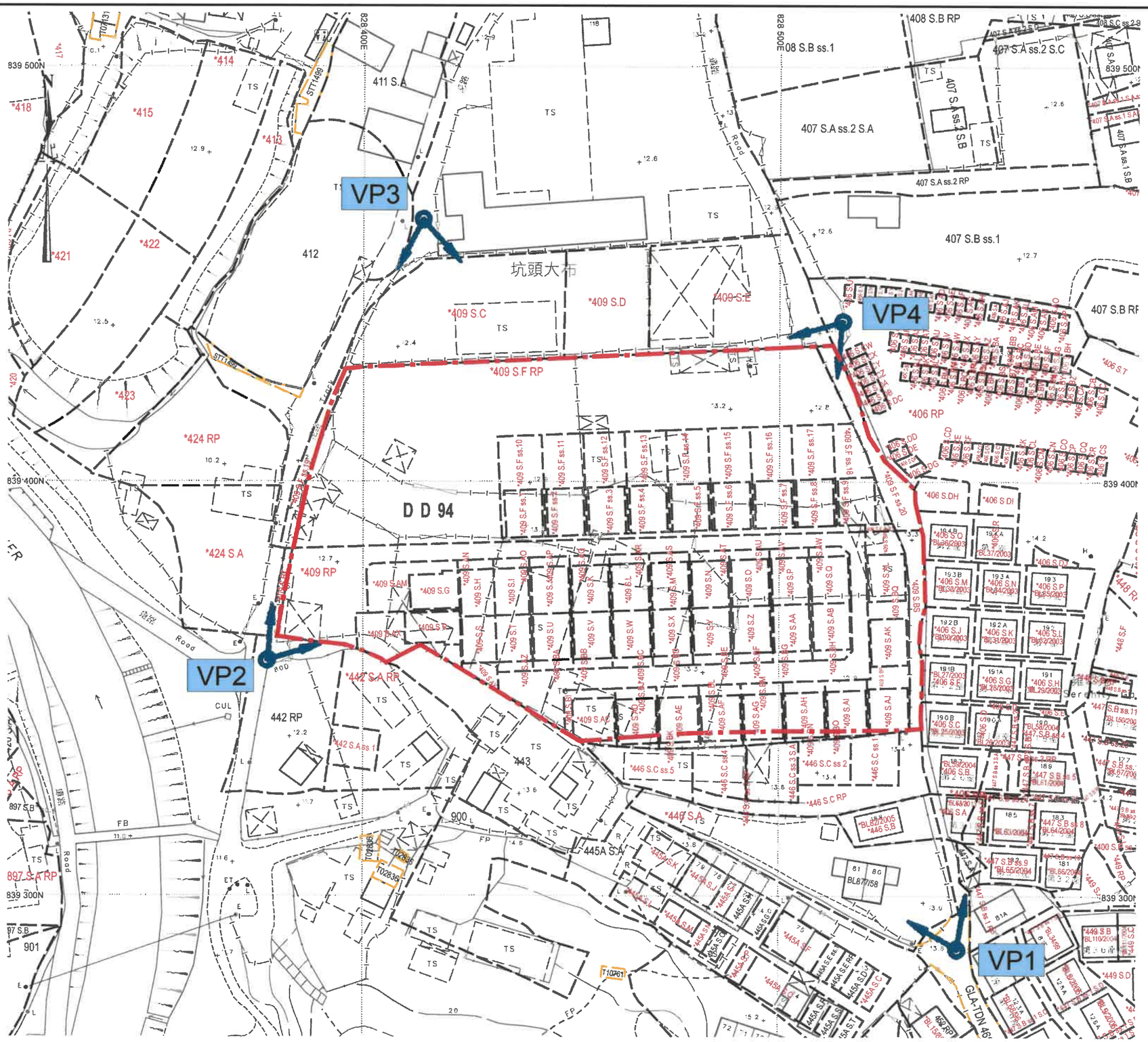
= 40.10 %

CHIH Design Ltd

PLAN 10 SCHEMATIC LANDSCAPE PLAN (REV.A)

Proposed Residential Development (House) and Minor Relaxation of Plot Ratio Restriction in "Residential (Group D)" Zone at Various Lots in D.D.94, Hang Tau Tai Po, Kwu Tung South, Sheung Shui

JOB NO.: 2105PA
DATE : 19 -06 - 2023
SCALE : 1:500 @A3



CHIH Design Ltd

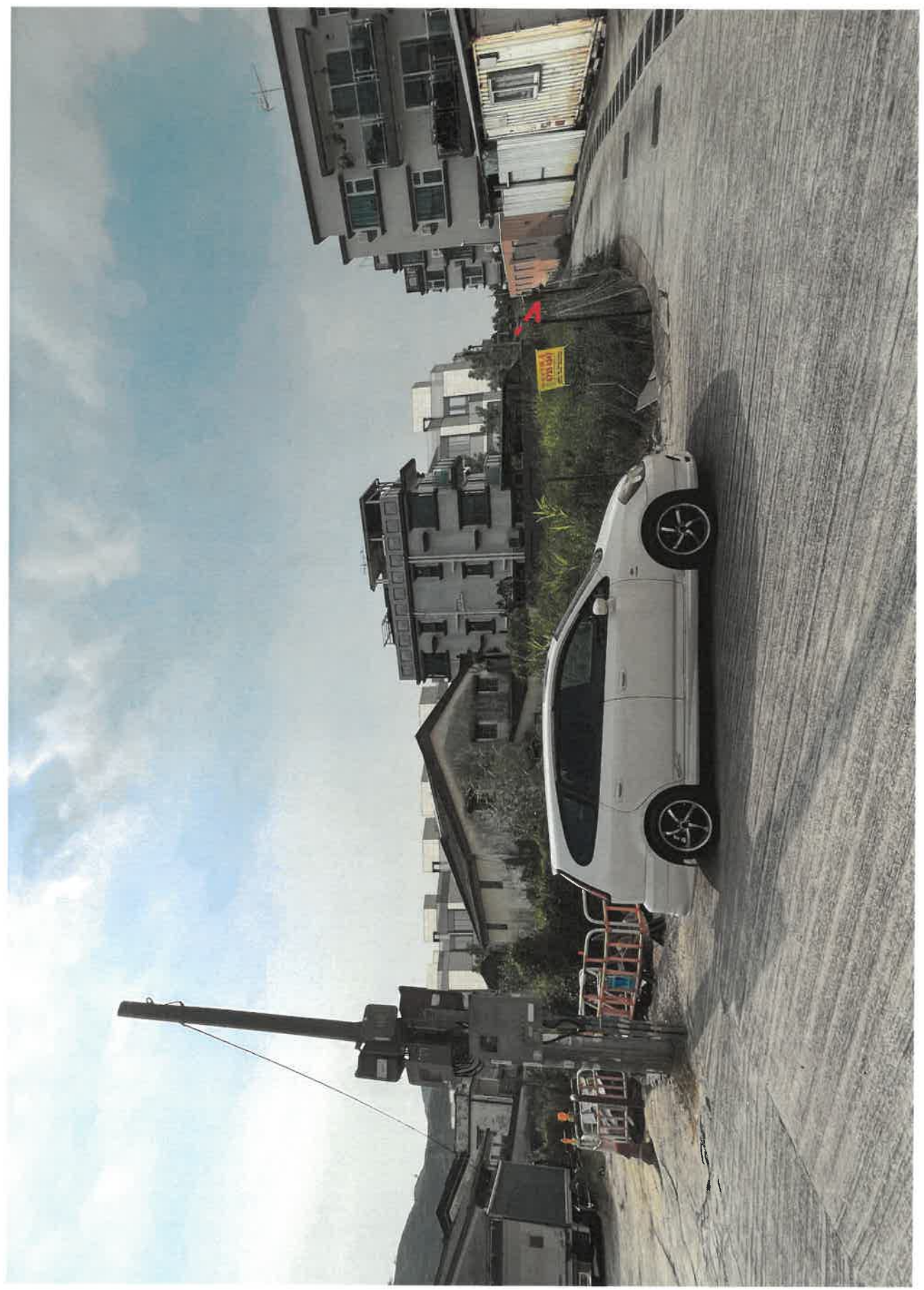
PLAN 11 LOCATION OF PHOTOMONTAGE VANTAGE POINTS (REV A)

Proposed Residential Development (House) and Minor Relaxation of Plot Ratio Restriction in "Residential (Group D)" Zone at Various Lots in D.D.94, Hang Tau Tai Po, Kwu Tung South, Sheung Shui

JOB NO.: 2105PA
DATE : 19 - 06 - 2023
SCALE : 1:1000@A3



EXISTING SITUATION



PROPOSED SCHEME

APPLICATION SITE BOUNDARY

CHIH Design Ltd

PLAN 12 VANTAGE POINT 1 (REV A)

Proposed Residential Development (House) and Minor Relaxation of Plot Ratio Restriction in "Residential (Group D)" Zone at Various Lots in D.D.94, Hang Tau Tai Po, Kwu Tung South, Sheung Shui

JOB NO.: 2105PA
DATE : 19 - 06 - 2023
SCALE : N.A.



EXISTING SITUATION



PROPOSED SCHEME

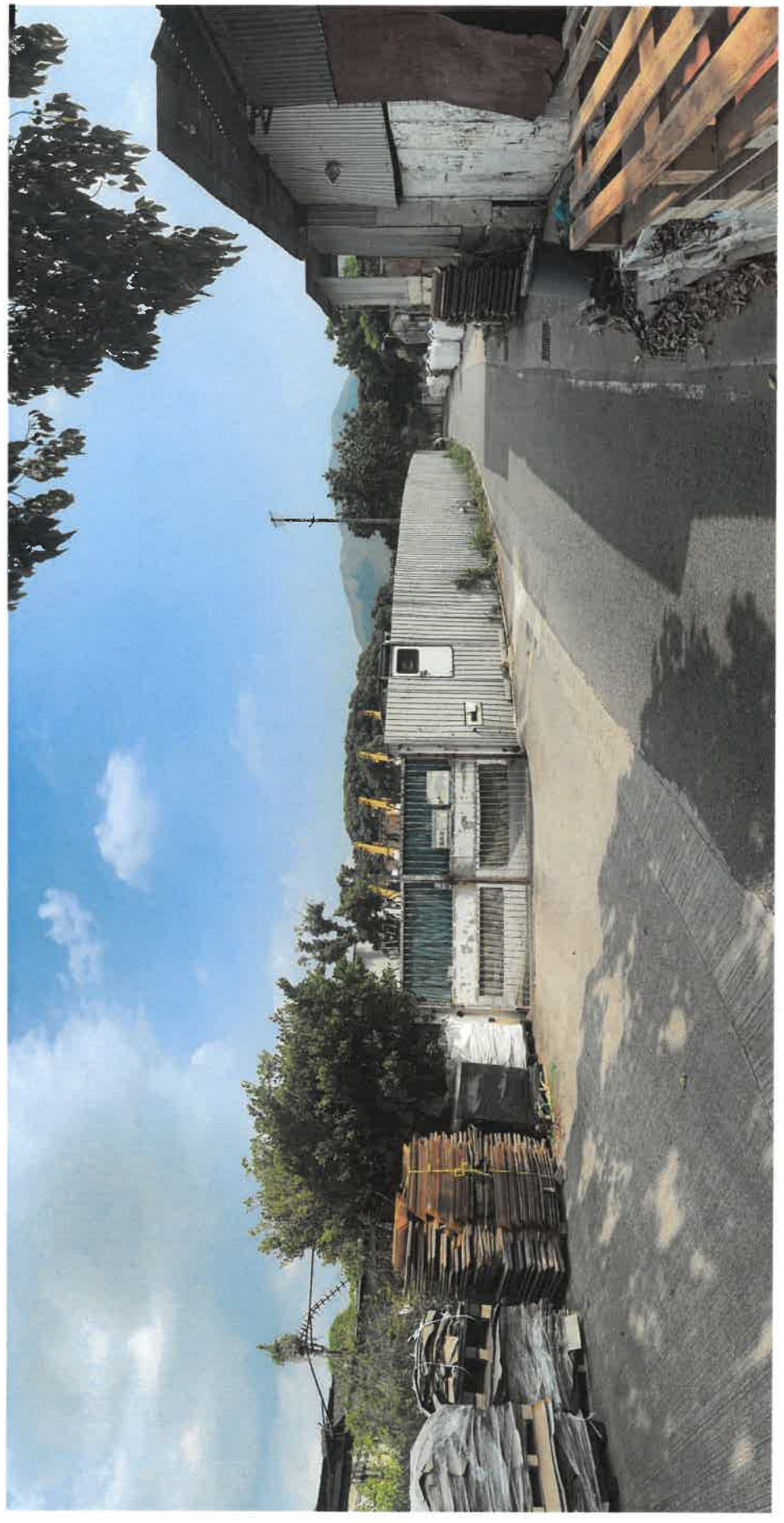
APPLICATION SITE BOUNDARY

CHIH Design Ltd

PLAN 13 VANTAGE POINT 2 (REV A)

Proposed Residential Development (House) and Minor Relaxation of Plot Ratio Restriction in "Residential (Group D)" Zone at Various Lots in D.D.94, Hang Tau Tai Po, Kwu Tung South, Sheung Shui

JOB NO.: 2105PA
DATE : 19 - 06 - 2023
SCALE : N.A.



EXISTING SITUATION



PROPOSED SCHEME

APPLICATION SITE BOUNDARY
(CANNOT BE SEEN IN THIS POINT OF VIEW)

CHIH Design Ltd

PLAN 14 VANTAGE POINT 3 (REV A)

Proposed Residential Development (House) and Minor Relaxation of Plot Ratio Restriction in "Residential (Group D)" Zone at Various Lots in D.D.94, Hang Tau Tai Po, Kwu Tung South, Sheung Shui

JOB NO.: 2105PA
DATE : 19 - 06 - 2023
SCALE : N.A.



EXISTING SITUATION



PROPOSED SCHEME

APPLICATION SITE BOUNDARY

CHIH Design Ltd

PLAN 15 VANTAGE POINT 4 (REV A)

Proposed Residential Development (House) and Minor Relaxation of Plot Ratio Restriction in "Residential (Group D)" Zone at Various Lots in D.D.94, Hang Tau Tai Po, Kwu Tung South, Sheung Shui

JOB NO.: 2105PA
DATE : 19 - 06 - 2023
SCALE : N.A.

Comments	Responses
Comments from Mr. POON Wing Hong, Sr Engr/North for Transport Department via email on 2 May 2023	
1. Para. 4.2.13 (i): It was mentioned that 1% growth rate was assumed. However, it was mentioned that 1.4% growth rate would be adopted in para. 4.2.9.	There was typo in para. 4.2.13, and "1%" should be read as "1.4%". Please be clarified that the 1.4% p.a. growth rate was adopted in the traffic forecasts in the submitted TIA report, and the typo in para. 4.2.13 does not affect the assessment results as presented in the submitted TIA report.
2. Table 4.3: Item "B" is the previous approval of the subject application.	It is noted that an application (No. A/NE-KTS/516) of temporary public car park at site "B" was approved by TPB in November 2022 however such permission is only on a temporary basis for 3 years upto November 2025 (i.e. before the completion of the proposed development). Since the planning permission under the approved No. A/NE-KTS/466 for a residential development at the concerned site "B" is still valid, the future traffic induced by the site under this approved residential development scheme was adopted in the forecasts and assessments for a conservative approach.
3. Table 4.3: Comments from the Planning Department should be obtained on the latest planning data.	Noted. The submission document of this application including the TIA report was also circulated to Planning Department for consideration.
4. The existing vehicular access between the application site and Hang Tau Road is not managed by TD. Viability of the proposed access road B would be critical for the proposed development. If no proper access road could be provided for the captioned development, the vehicles may be parked elsewhere in the vicinity and cause problem.	Apart from the proposed access road B, please note that the existing local access road A is currently serving the daily accesses of the application site as well as the surrounding developments, and it is also able to serve the proposed development under the existing access arrangement. Nevertheless, a scheme of providing an alternative access route to/from Hang Tau Road was proposed in order to further improve the overall traffic condition in the area, and the applicant would undertake the

Comments	Responses
	design and provision of the works in related to the access road improvement scheme as proposed in this application.
5. For the proposed vehicular access B, it is noted that it would pass through private lots, government land and drainage maintenance access. The applicant should seek comments from the responsible parties and their agreements, in particular, the management and maintenance agent after the improvement works. The applicant also need to provide that the implementation of this access road is technically feasible. On this, Highways Department's comment should be obtained. I presume that the applicant would undertake the design and provision of such access road. Should the application be approved, a condition should be included on the design and provision of this vehicular access.	Noted. The applicant would undertake the design and provision of the access road improvement works as proposed in the TIA report. The submission document of this application including the TIA report was also circulated to the relevant departments for consideration. The details of management and maintenance matrix would be further coordinated and agreed with the relevant department(s) and stakeholder(s).
6. Dimensions should be provided for the proposed roundabouts in the development and the access road B. What is the type of vehicle designed to be used?	The dimensions of the proposed roundabouts in the development and the access road B are shown in the attached **Drawing No. SK1 and SK2** respectively. With various site constraints, the roundabouts are designated in a form of "mini-roundabout". Nevertheless, the proposed min-roundabouts together with the proposed improvement of access road B are considered a greater enhancement to the existing condition. As demonstrated in the attached **Drawing No. SK3**, the proposed roundabout within the development would physically allow 11m HGV and fire appliance access to the proposed loading/unloading bay and the internal EVA. Whilst, the attached **Drawing No. SK4** demonstrates the roundabout at access road B would physical allow turning of 11m HGV as well as the fire appliance.



SK1 - Dimension of the Proposed Roundabout within the Development (1:500 A3)



SK2 - Dimension of the Proposed Roundabout at Access Road B (1:500 A3)



SK3 - Swept Path Analysis for the Proposed Roundabout within the Development (1:500 A3)



SK4 - Swept Path Analysis for the Proposed Roundabout at Access Road B (1:500 A3)

CHIH Design Ltd.

Your Ref.: TPB/A/NE-KTS/525
Our Ref.: 2105PA - L009
Date: 26th June 2023

(By hand)

The Secretary
Town Planning Board
C/o Town Planning Board Section
Planning Department
15/F, North Point Government Offices
333 Java Road
North Point, Hong Kong

Dear Sir/Madam,

Re : Response to Departments' Comments
Proposed Residential Development (House) and Minor Relaxation of Plot Ratio Restriction in "Residential (Group D)" Zone at Various Lots in D.D.94, Hang Tau Tai Po, Kwu Tung South, Sheung Shui

We refer to your e-mail dated 16th May 2023.

Please refer to attached "Responses to Comments" and 4 sets of revised Drainage Impact Assessment report prepared by Ramboll Hong Kong Limited for your departmental circulation to address Environmental Protection Department and Drainage Services Department's comments.

Should you have any queries, please do not hesitate to contact the undersigned at 2581 3081.

Sincerely Yours,
For and on behalf of
CHIH Design Ltd.

RECEIVED
27 JUN 2023
Town Planning Board

Eric Ming Yuen Chih
Director

EC/fh

c.c. Great Huge Limited – Mr. Wan
(by E-mail) (w/ encl)

Unit A, 20/F, Morrison Plaza, 5-9A Morrison Hill Road, Wanchai, Hong Kong Telephone (852) 2581 3081 Fax (852) 2742 0622
香港灣仔摩利臣山道5-9A號天樂廣場20樓A室 電話(852) 2581 3081 傳真(852) 2742 0622

Proposed Residential Development (Houses) and Minor Relaxation of Plot Ratio Restriction at Various Lots in D.D. 94, Hang Tau Tai Po, Kwu Tong South, Sheung Shui, New Territories (Application No. A/NE-KTS/525)
Submission of Sewerage Impact Assessment (SIA) Report

Comments from Environmental Protection Department and Drainage Services Department attached in Planning Department's Email

Date: **16 June 2023**
Report Ref.: **R8752_V1.0**

Comment	Response
Comments from Director of Environmental Protection (Contact Person: Ms. Felix TAI; Tel.: 2835 1845)	
SIA	
(1) DSD's advice should be sought on whether there are any available sewerage system for connection when the proposed development is in operation. If so, the wastewater should be conveyed to the public sewerage system. If no foreseeable public sewerage connection system will be covered, an on-site tertiary STW is suggested, the project proponent should also state the technique being adapted (e.g. MBR technology with ultra-filtration). Please be reminded that the discharge point should be sited away from the natural watercouse(s), if there is any alternation of the current stage of watercourses and/or ponds, advice from AFCD should be sought.	As per DSD's reply, there is no available public sewerage system for connection at the vicinity. Therefore, STP is proposed and MBR with ultra-filtration is recommended. The treated wastewater will be collected, with new drainage pipe constructed and discharged to open channel nearby. There is no alternation of any watercourse and ponds.
(2) Please clarify if there is any swimming pool from the proposed development and include the sewage from the backwashing of the swimming pool if applicable.	It is clarified that there is no swimming pool proposed.
Comments from CE/MS, DSD (Contact Person: Mr Keith LIU; Tel.: 2300 1595)	
(1) In addition to respond EPD's enquiry, please be advised that there is NO available public sewerage system for connection at the vicinity	Noted.
SIA	
(1) Section 2.5.3 – Please provide the layout (showing the footprint) of the proposed STP for reference.	Figure 2 shows the location and layout of proposed STP which is nearby the main entrance on northern side.

Proposed Residential Development (Houses) and Minor Relaxation of Plot Ratio Restriction at Various Lots in D.D. 94, Hang Tau Tai Po, Kwu Tong South, Sheung Shui, New Territories (Application No. A/NE-KTS/525)
Submission of Sewerage Impact Assessment (SIA) Report

Comments from Environmental Protection Department and Drainage Services Department attached in Planning Department's Email

Date: **16 June 2023**
Report Ref.: **R8752_V1.0**

Comment	Response
(2) Please indicate in the report that the project proponent will be responsible for the implementation and maintenance of the proposed private STP.	Noted and Section 2.5.3 was added.
(3) Please advise the discharge location and standard of the treated effluent for reference.	The discharge location was shown in Figure 2 and the proposed STP will be designed in accordance with the requirement in the "Guideline for the Design of Small Treatment Plants" issued by EPD. The standard is described under Section 2.5.7.
(4) The SIA report needs to meet the satisfaction of EPD, the planning authority of sewerage infrastructure.	Noted.
DIA	
(1) Please be advised that the Stormwater Drainage Manual has been updated vide Corrigendum No. 1/2022. Please kindly adopt the latest design parameters in the drainage analysis.	Noted and updated. The column of Runoff[2] represents the situation in Mid 21st Century (11.1%) and the column of Runoff [3] represents the situation in Late 21st Century (16%).
(2) It appears that climate change consideration was not incorporated in the drainage assessment. Please kindly review your calculation with view of Section 6.8 of the Stormwater Drainage Manual.	It is clarified that the climate change consideration was adopted in the drainage assessment. Pls also refer to response above.
(3) The site is located within the North District Rainfall Zone. However, the storm factor of the HKO rainfall zone was adopted. Please review your calculation with reference to Figure 3 and Table 3d of the Stormwater Drainage Manual.	Noted and revised.
(4) Please elaborate the drainage impact due to the proposed development and confirm if the downstream river section is adequate for the respective drainage	It is clarified that the surface runoff from the proposed development contributes only approximately 0.04% of the capacity of the downstream river and is considered insignificant so that no adverse drainage impact due to the proposed development is anticipated.

Proposed Residential Development (Houses) and Minor Relaxation of Plot Ratio Restriction at Various Lots in D.D. 94, Hang Tau Tai Po, Kwu Tong South, Sheung Shui, New Territories (Application No. A/NE-KTS/525)
Submission of Sewerage Impact Assessment (SIA) Report

Comments from Environmental Protection Department and Drainage Services Department attached in Planning Department's Email

Date: **16 June 2023**
Report Ref.: **R8752_V1.0**

Comment	Response
impact. Please also evaluate the surface runoff before and after the proposed development for comparison.	As the Application Site will be provided at least 20% green coverage, the surface runoff will in fact decrease after development. The comparison calculation was shown in Table 1 of Appendix 2.

Prepared for

Great Huge Limited

Prepared by

Ramboll Hong Kong Limited

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT AT LOT 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.SS.1, 409 S.F.SS.2, 409 S.F.SS.3, 409 S.F.SS.4, 409 S.F.SS.5, 409 S.F.SS.6, 409 S.F.SS.7, 409 S.F.SS.8, 409 S.F.SS.9, 409 S.F.SS.10, 409 S.F.SS.11, 409 S.F.SS.12, 409 S.F.SS.13, 409 S.F.SS.14, 409 S.F.SS.15, 409 S.F.SS.16, 409 S.F.SS.17, 409 S.F.SS.18, 409 S.F.SS.19, 409 S.F.SS.20, 409 S.F.SS.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z IN D.D 94, KWU TUNG SOUTH, N.T.

SEWERAGE AND DRAINAGE IMPACT ASSESSMENT

Date	**June 2023**
Prepared by	**Miko Wan** **Assistant Environmental Consultant**
Signed	
Approved by	**Calvin Chiu** **Senior Manager**
Signed	
Project Reference	**CHIKTS94EI00**
Document No.	**R8752_v1.1**

No part of this document may be reproduced or transmitted, in any form or by any means electronic, mechanical, photographic, recording or otherwise, or stored in a retrieval system of any nature without the written permission of Ramboll Hong Kong Ltd, application for which shall be made to Ramboll Hong Kong Ltd, 21/F, BEA Harbour View Centre, 56 Gloucester Road, Wan Chai, Hong Kong.

Disclaimer: This report is made on behalf of Ramboll Hong Kong Ltd. No individual is personally liable in connection with the preparation of this report. By receiving this report and acting on it, the client or any third party relying on it accepts that no individual is personally liable in contract, tort or breach of statutory duty (including negligence).

Ramboll Hong Kong Limited

21/F, BEA Harbour View Centre
56 Gloucester Road, Wan Chai, Hong Kong

Tel: (852) 3465 2888
Fax: (852) 3465 2899
Email: hkinfo@ramboll.com

Q:\Projects\CHIKTS94EI00\04 Deliverables\02 DSIA Report\R8752_v1.1.docx

CHAPTERS

Page

1. INTRODUCTION 3

1.1 Background and Objectives 3
1.2 Application Site and its Environs 3
1.3 Proposed Development Scheme 3

2. SEWERAGE IMPACT ASSESSMENT 4

2.1 Scope of Work 4
2.2 Assessment Criteria and Methodology 4
2.3 Existing Sewerage System 4
2.4 Wastewater Generated by the Proposed Development 4
2.5 Sewerage Impact 5
2.6 Conclusion 6

3. DRAINAGE IMPACT ASSESSMENT 7

3.1 Scope of Work 7
3.2 Assessment Criteria and Methodology 7
3.3 Site Condition 7
3.4 Proposed Development 7
3.5 Discussion 8

4. OVERALL CONCLUSION 9

4.1 Conclusion 9

TABLES

Table 1 Estimated Peak Flow for Application Site (onsite STP) 4

Table 2 Summary of Discharge Standard of Treated Effluent (flow rate between 10 and 200 m^3/day) 6

Table 3 Summary of Surface Runoff under Existing and Proposed Conditions 8

FIGURES

Figure 1 Location of the Application Site and its Environs

Figure 2 Proposed Sewage Treatment Plant and Effluent Discharge Location

Figure 3 Proposed Drainage System

APPENDICES

Appendix 1 Master Layout Plan

Appendix 2 Detailed Sewerage Analysis

Appendix 3 Detailed Drainage Analysis

Appendix 4 Drainage Record Obtained from DSD

1. INTRODUCTION

1.1 Background and Objectives

1.1.1 A residential development (the Proposed Development) has been proposed at Kwu Tung South, New Territories (the Application Site).

1.1.2 The Application Site falls within the "Residential (Group D)" ("R(D)") zone under the Approved Kwu Tung South Outline Zoning Plan (OZP) No. S/NE-KTS/18.

1.1.3 Ramboll Hong Kong Limited is commissioned by the Applicant to provide consultancy services to prepare this drainage and sewerage impact assessment (DSIA) report with respect to the Application Site.

1.1.4 The design of the master layout plan (MLP) and other technical information on the Proposed Development are provided by the Project Architect (CHIH Design Ltd).

1.2 Application Site and its Environs

1.2.1 The Application Site is approximately 12,100 m^2. It is bounded by a village access road on the west in Hang Tau Village.

1.2.2 To the immediate east and southeast of the Application Site is existing village houses development (Serenity Garden and Richmond Villa). To the immediate south and north are scattered village houses. To the further west of the site is Sheung Yue River.

1.2.3 The Application Site is currently used as warehouse, open storage and machinery storage & repair.

1.2.4 **Figure 1** shows the location of the Application Site and its environ.

1.3 Proposed Development Scheme

1.3.1 The Proposed Development consists of 42 houses (i.e. House 1 to House 42). E&M rooms, clubhouse, onsite sewage treatment plant are proposed underneath House 36 to House 42, which are located at the northwest corner of the Application Site.

1.3.2 The tentative occupation year is 2028.

1.3.3 The MLP, floor plans and sections of the Proposed Development are shown in **Appendix 1**.

2. SEWERAGE IMPACT ASSESSMENT

2.1 Scope of Work

2.1.1 The aim of this sewerage impact assessment (SIA) is to assess whether sewage generation from the Proposed Development would impose any significant impact and whether the capacity of the existing sewerage network serving the Application Site, if any, is sufficient to cope with the sewage flow from the Proposed Development.

2.2 Assessment Criteria and Methodology

2.2.1 Environmental Protection Department's (EPD's) Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning, Version 1 (GESF) has been referred to for the purposes of estimating the quantity of the sewage generated from the Proposed Development and the existing catchment area. Sewage flow parameters and global peaking factors in this document have been adopted for this SIA.

2.2.2 Based on the building type in the area, the following unit flow factor is used in the SIA calculation:

- Private Domestic R4: 0.37 m^3/day

2.3 Existing Sewerage System

2.3.1 There is no existing sewerage system serving the Application Site. The nearest manhole is around 415m away from the Application Site and various private lots are situated in between. Therefore, it is considered not practicable to connect with the existing sewerage system.

2.4 Wastewater Generated by the Proposed Development

2.4.1 Wastewater arising from the Proposed Development will be primarily contributed by the residents.

2.4.2 Based on the constraints as mentioned in **Section 2.3**, onsite sewage treatment plant (STP) is proposed. The treated effluent will be discharged to the stormwater system.

2.4.3 Detailed calculation for the Proposed Development is given in **Table 1** below and **Appendix 2**.

Table 1 Estimated Peak Flow for Application Site (onsite STP)

Development Parameters	Proposed Development	
	Residential	Clubhouse
Area (m^2)	-	232
Units	42	-
Assumed Population	118 (1)	8 (2)
Design Flow (m^3/person/day)	0.37 (3)	0.28 (4)
Flow Rate (m^3/day)	**43.7**	**2.1**
Total Flow Rate (m^3/day)	**45.8**	
Peak Flow (L/s)	**3.2**	

(1) Refer to 2021 Population Census: Average Household Size of 2.8 in Sheung Shui Rural District
(2) Based on Table 8 of CIFSUS – Community, Social & Personal Services - 30m^2 per worker
(3) Refer to Table T-1 of GESF – Private R4
(4) Refer to Table T-2 of GESF – J11

2.5 Sewerage Impact

2.5.1 It is currently technically infeasible to discharge wastewater generated from the Proposed Development to public sewerage system. Therefore, onsite STP is proposed to cater for sewage discharge based on design capacity of 3.2 L/s.

2.5.2 The exact treatment process would be subject to later detailed design and submissions. It will be necessary for the treatment facilities to achieve the necessary discharge standards, as set out in EPD's Technical Memorandum – Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters.

2.5.3 Membrane bioreactor with ultra-filtration (MBR) is recommended to achieve required effluent discharge standard and sludge dewatering system will be provided and designed in accordance with the requirement in the "Guidelines for the Design of Small Sewage Treatments Plants" issued by EPD. **Figure 2** shows the location of the proposed STP and the proposed discharge location. The project proponent will be responsible for the implementation and maintenance of the proposed private STP.

2.5.4 Sludge storage tank with deodorisation facilities will be provided. The sludge after having been dewatered and thickened will be tanked away to the landfill for disposal subject to confirmation with future licensed collector/contractor. As good practice for sewage treatment facilities, measures will be incorporated into the design to minimize the risk of emergency overflow from the treatment plant. These measures will include standby pumps, secure power supplies and appropriate alarms, as well as comprehensive Operation and Maintenance procedures, to keep the facilities in good working order. Holding tank for emergency storage/retention will be included with adequate capacity (e.g. to store 6-hours of ADWF discharge) to minimise need of emergency discharge. In the event of any emergency overflow, on-call crews will follow the overflow emergency response plan and proceed with the best response to correct the problem immediately. For example, the alarm system will be activated once overflow occurs. The on-call crews will provide instant response by acknowledging the alarm, to investigate the cause of overflow and correct the problem. The alarm system will repeat until it is acknowledged. In addition, the on-call crews will ensure the standby pump is switched on and contain the overflowed sewage using temporary weirs or vacuum trucks, where applicable.

2.5.5 The STP will also be subject to regular maintenance to ensure that it functions in designed condition and optimal performance, and can minimise any emergency situation. In addition, regular self-monitoring will be conducted to ensure the quality of the treated effluent shall meet the applicable standard before discharge. Monitoring programme will be devised for T&C of the system. A discharge licence will be applied prior the development commencement and monitoring requirement under the licence would be strictly followed as per Water Pollution Control Ordinance (WPCO). Necessary discharge standards, as set out in EPD's Technical Memorandum – Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters will be adopted.

2.5.6 The treated effluent will be discharged to the terminal stormwater manhole onsite and discharged to Sheung Yue River eventually (see next Chapter). Discharge from STP is also accounted in the Drainage Impact Assessment. No unacceptable impacts are expected from the proposed discharge of the treated effluent. With the proposed onsite STP in place, there is no sewerage connection to the public sewerage system.

2.5.7 The Water Pollution Control Ordinance (WPCO) provides the major statutory framework for the protection and control of water quality in Hong Kong. According to the Ordinance and its subsidiary legislation, Hong Kong waters are divided into ten Water Control Zones (WCZs). Corresponding statements of Water Quality Objectives (WQOs) are stipulated for different water regimes (marine waters, inland waters, bathing beaches subzones, secondary contact recreation subzones and fish culture subzones) in each WCZ based on their beneficial uses. WQOs for the Deep Bay WCZ relevant to this assessment are listed below, which is the targeted discharge standard of treated effluent to be met.

Table 2 Summary of Discharge Standard of Treated Effluent (flow rate between 10 and 200 m^3/day)

Determinand	Limit
pH	6-8
Temp (°C)	45
Colour (lovibond units (25mm cell length)	1
Suspended solids	50
BOD	20
COD	80
Oil & grease	20
Iron	10
Boron	4
Barium	4
Mercury	0.001
Cadmium	0.001
Other toxic metals individually	0.5
Total toxic metals	1
Cyanide	0.1
Phenols	0.5
Sulphide	5
Total residual chlorine	1
Total nitrogen	100
Total phosphorus	10
Surfactants (total)	15
E. coli (count/100ml)	1000

All units in mg/L unless otherwise stated; all figures are upper limits unless otherwise indicated

2.6 Conclusion

2.6.1 A Sewerage Impact Assessment (SIA) has been conducted to evaluate the potential impacts due to the sewage generation from the Proposed Development.

2.6.2 The estimated sewage generations from the Proposed Development will be approximately 3.2L/s.

2.6.3 The nearest public foulwater manhole is located 415m from the Application Site, while various private lots are situated in between. Therefore, onsite STP is proposed to treat effluent before discharge to public drain. Details of the proposed STP including emergency discharge, emergency storage/retention arrangement and the sludge disposal arrangement will be provided after specialist contractor and licensed collector are engaged. The proposal will be submitted to relevant departments for approval.

3. DRAINAGE IMPACT ASSESSMENT

3.1 Scope of Work

3.1.1 The aim of this Drainage Impact Assessment (DIA) is to assess whether there is any unacceptable impact on existing drainage network serving the Application Site after development.

3.2 Assessment Criteria and Methodology

3.2.1 The assessment standard complies with Drainage Services Department (DSD) Stormwater Drainage Manual (SDM) (2018 Edition) and Corrigendum No. 1/2022. The Application Site is situated in rural area, therefore, a 1 in 50 year return storm has been adopted for the DIA.

3.2.2 The catchment runoff has been calculated using the "Rational Method", as outlined in the DSD SDM:

$$Q = 0.278\ C\ i\ A$$

Where	Q	=	peak runoff in m^3/s
	C	=	runoff coefficient (dimensionless)
	i	=	rainfall intensity in mm/hr
	A	=	catchment area in km

3.2.3 The Proposed Development will be for residential use. An overall runoff coefficient of 0.95 is adopted for the future paved areas, and 0.20 for the greenery areas.

3.2.4 The rainfall intensity parameter "i" is dependent on the return period, rainfall duration and the time of concentration of the catchment under consideration. For the future upstream catchment containing the Site, there is no significant change to the flow path and the same time of concentration has been adopted as for the existing scenario. Runoff calculations are included in **Appendix 3**.

3.3 Site Condition

3.3.1 Based on site observations, the Application Site consists of warehouse, open storage and machinery storage & repair. The area is generally paved.

3.3.2 There are no existing flooding blackspots or known drainage problems in the vicinity of the Application Site.

3.4 Proposed Development

3.4.1 It is recommended that the drainage system of the Proposed Development to be discharged through the proposed drainage system (T1 to Outfall) as shown in **Figure 3**. The new underground pipes (525mm in diameter) connecting to the site's terminal manhole and the proposed outfall are proposed to discharge the surface runoff from the Application Site. The surface runoff from the Application Site have been estimated and presented in **Appendix 3**.

3.4.2 The total catchment area for the drainage system will remain unchanged after development at the Application Site. The proposed green coverage of the Proposed Development will be no less than 20%. In other words, the surface runoff will decrease comparing the existing Application Site.

3.4.3 The surface runoff before and after development is summarized below in **Table 3**.

Table 3 Summary of Surface Runoff under Existing and Proposed Conditions

Catchment	Area (m^2)	Runoff (m^3/s) under 1 in 50 years scenario
Site (Before)	12,100	0.663
Site (After) + STP	12,100	0.551

3.4.4 The treated effluent from the STP of 3.2 L/s (i.e. 0.00032m^3/s) has been considered in this DIA. The total discharge volume (i.e. future surface runoff + effluent from STP) is considered to be 0.554m^3/s.

3.5 Discussion

3.5.1 A DIA has been conducted to evaluate the potential impacts due to the surface runoff from the Proposed Development.

3.5.2 It is noted that the Proposed Development will be equipped with onsite sewage treatment plant (STP) to treat the effluent before discharging to the proposed drainage system. The estimated flow from the STP would have a peak discharge rate of 3.2 L/s (i.e. 0.0032m^3/s).

3.5.3 Hence, the total discharge volume (i.e. future surface runoff + effluent from STP) after development is 0.554m^3/s.

3.5.4 The surface runoff and treated effluent will discharge to the proposed connection via the site terminal manhole and new 525mm diameter drainage pipes to the proposed outfall of Sheung Yue River. Detailed capacity calculations of the proposed pipes are included in **Appendix 3**.

3.5.5 The surface runoff from the Proposed Development will be discharge to the downstream river (16mW x 2.3mH open channel) (**Appendix 4**). As the capacity of the open channel at least 1664.61m^3/s, the Proposed Development only approximately 0.04% of the capacity of the open channel and is considered insignificant.

4. OVERALL CONCLUSION

4.1 Conclusion

4.1.1 A residential development is proposed at the Application Site at Kwu Tung South, N.T. The potential sewerage and drainage impact have been assessed.

4.1.2 Given that the long separation distance and inaccessible private lots between the Application Site and public foulwater manholes, it is considered not practicable to connect the Application Site with existing sewerage network. Therefore, onsite sewage treatment plant (STP) is proposed and the treated effluent (i.e. 3.2L/s) will be discharged through the proposed drainage system.

4.1.3 The STP will be subject to later detailed design and the proposal will be submitted to relevant departments for approval. The project proponent will be responsible to apply for the discharge license and the implementation and maintenance of the proposed private STP.

4.1.4 According to the findings in DIA, the total discharge volume will be 0.55m^3/s (with the treated effluent from the STP included). With the proposed 525mm diameter drainage pipes in place, no adverse sewerage and drainage impact due to the Proposed Development is anticipated.

Figures

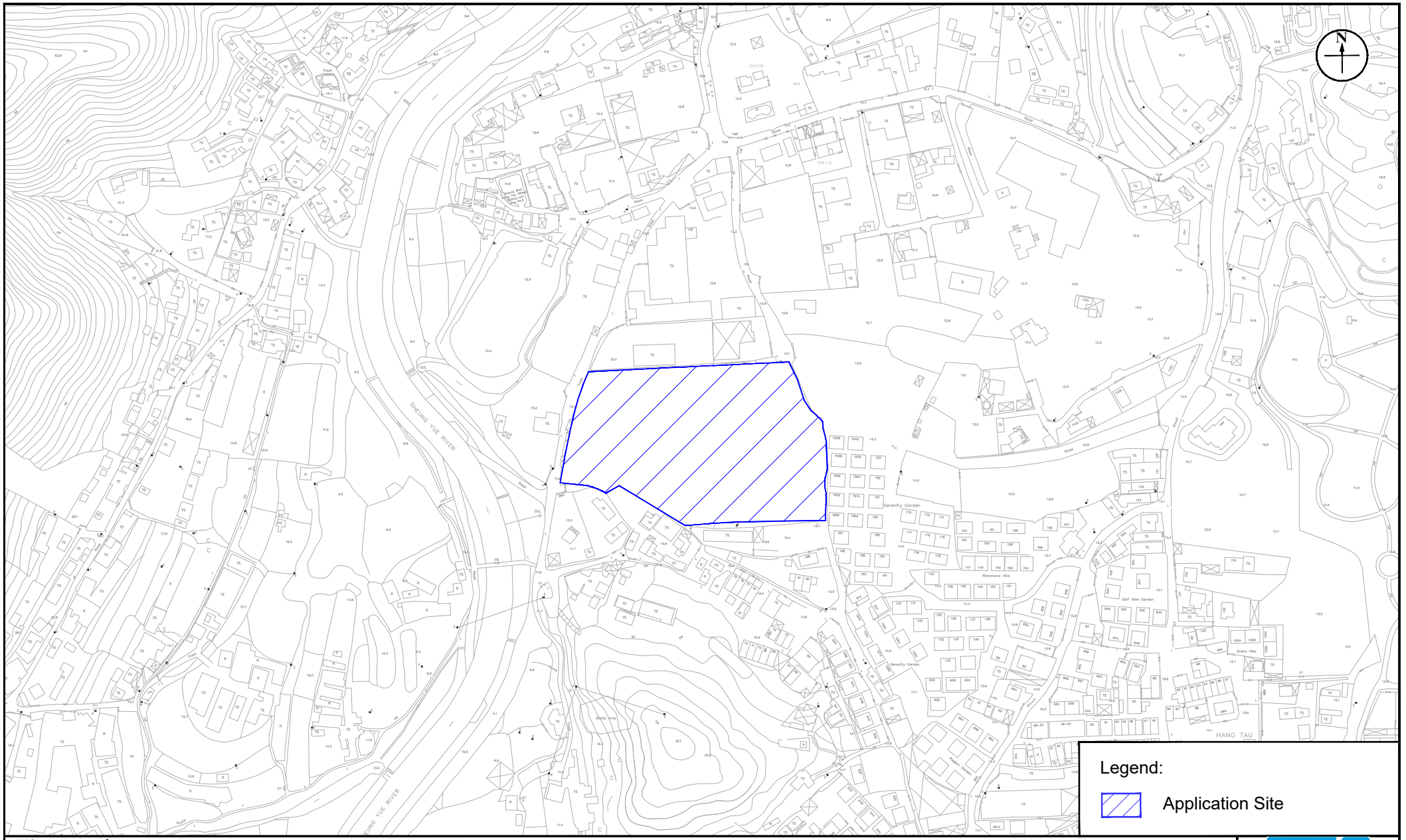


Figure: 1	RAMBOLL
Title: Location of the Application Site and its Environs	Drawn by: MW
Project: Proposed Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.	Checked by: CC
	Rev.: 1.0
	Date: Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\05 Drainage\V1.0\DIA_221117.dwg

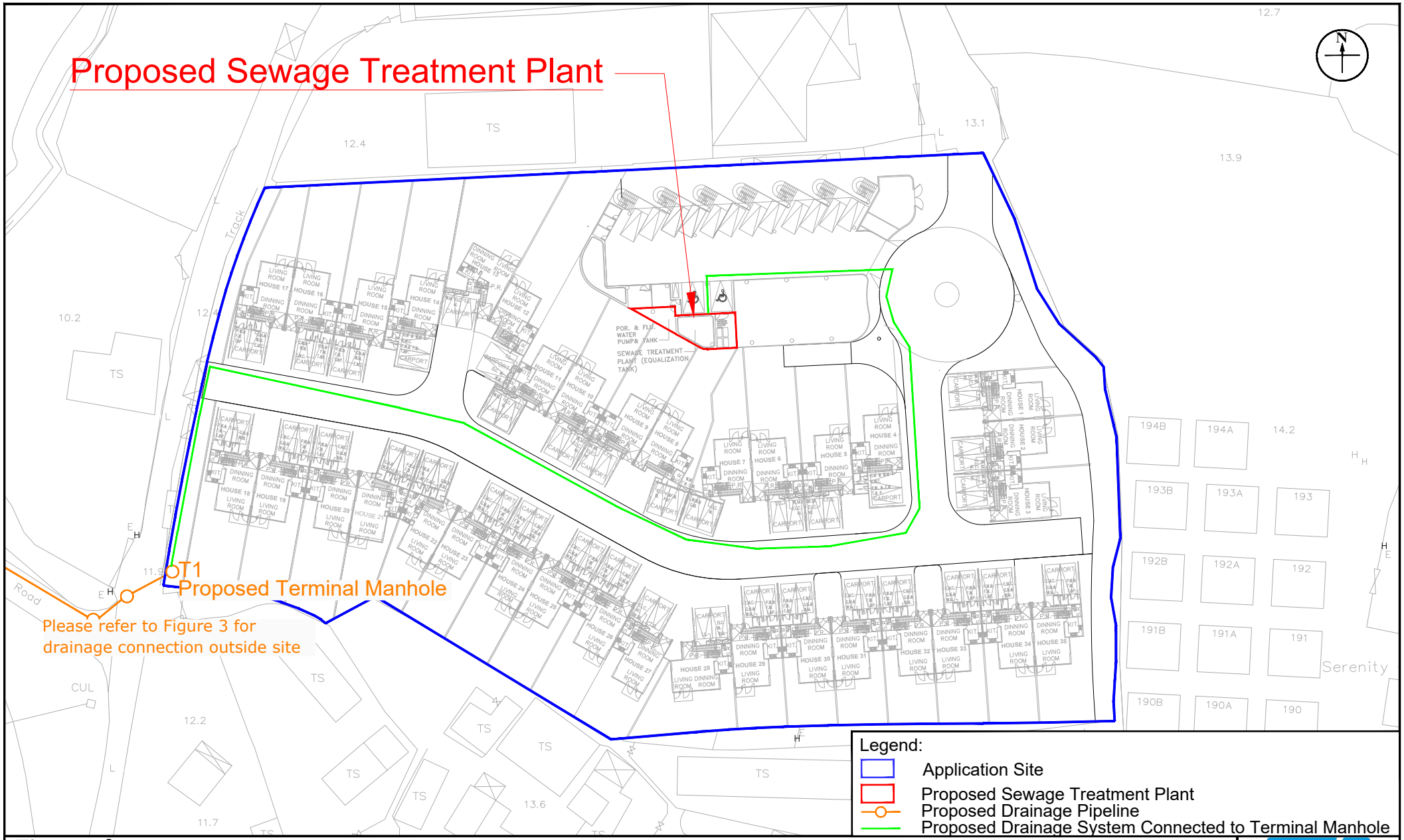


Figure:	2
Title:	Proposed Sewage Treatment Plant and Effluent Discharge Loction
Project:	Proposed Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.1
Date:	Jun 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\06 Sewerage\V1.1\SIA_20230621 - Copy (2).dwg

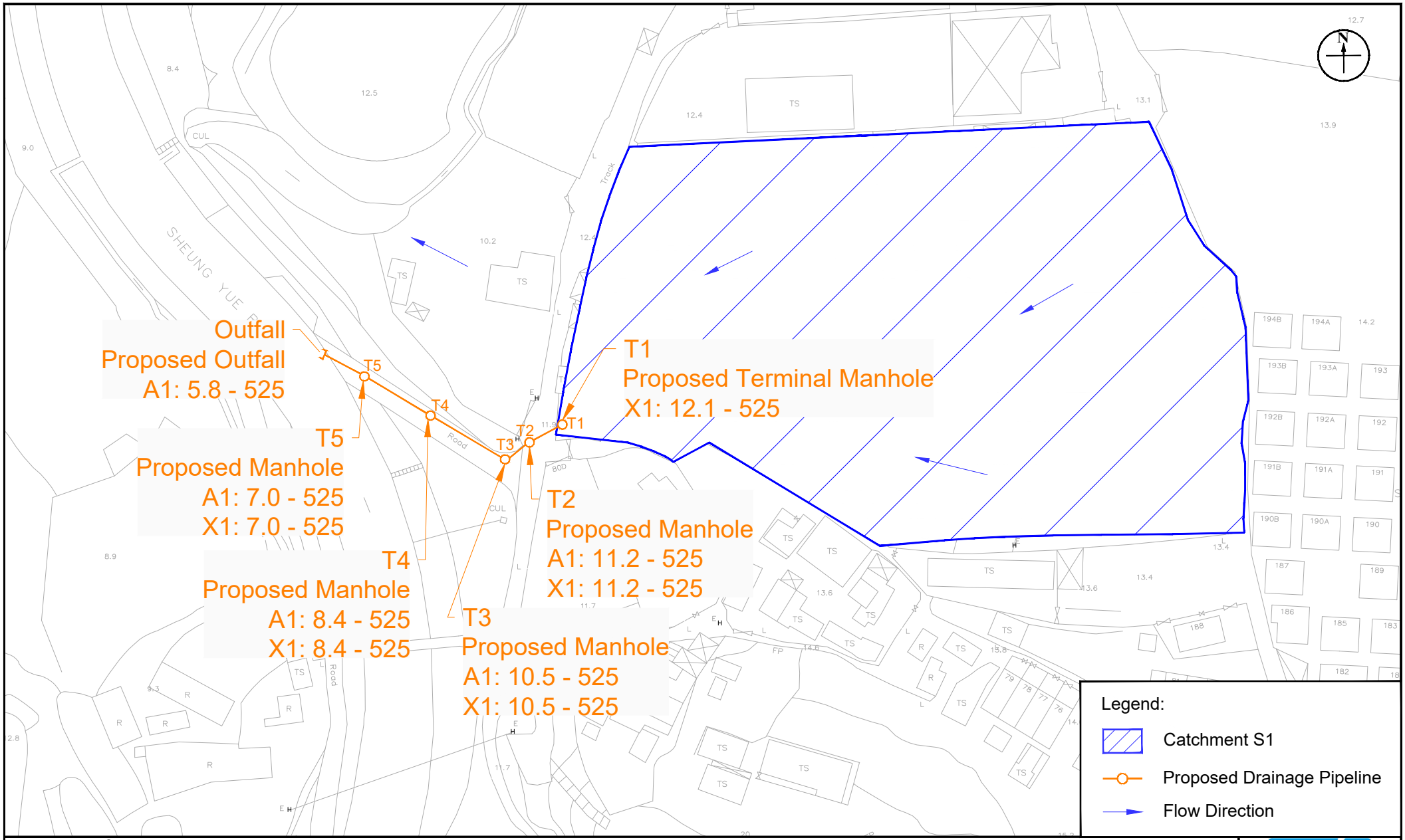


Figure:	2
Title:	Proposed Drainage System
Project:	Proposed Residential Development at Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

RAMBOLL

Drawn by:	MW
Checked by:	CC
Rev.:	1.0
Date:	Jan 2023

Q:\Projects\CHIKTS94EI00\05 Assessments\05 Drainage\V1.0\DIA_221117.dwg

Appendix 1 Master Layout Plan



PLAN 5 MASTER LAYOUT PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd
JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3



LEGEND:

E.M.C.	= ELECTRICAL METER CABINET
G.M.&W.M.	= GAS METER & WATER METER
KIT.	= KITCHEN
P.R.	= POWER ROOM
P.W.&F.W. T.&P.	= PORTABLE WATER & FLUSHING WATER TANK & PUMP
T.G.	= TOWN GAS
TBE RM.	= TELECOMMUNICATIONS & BROADCASTING EQUIPMENT ROOM

PLAN 6 GROUND FLOOR PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3



PLAN 7 FIRST FLOOR PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3



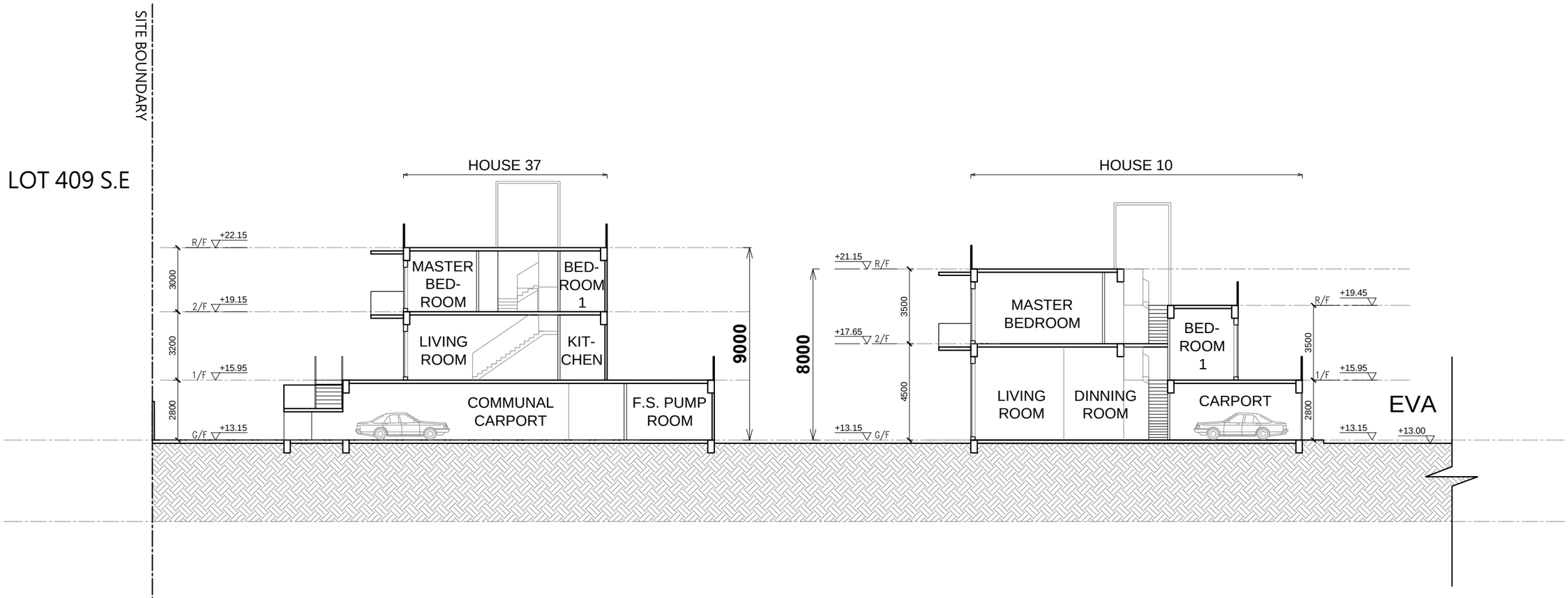
PLAN 8 SECOND FLOOR PLAN

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at

Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:500 @A3



PLAN 9

SECTION AA'

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 19 - 01 - 2023
SCALE : 1:200 @A3

Appendix 2 Detailed Sewerage Analysis

Table 1 Calculation for Sewage Generation Rate of the Proposed Development at the Subject Site

1. Residential Tower			
1a. Total number of residential units	=	42	units
1b. Total number of residents	=	118	people -- (2021 Population Census: Average Household Size of 2.8 in Sheung Shui Rural District)
1c. Design flow	=	0.37	m^3/person/day -- (Private R4 in Table T-1 of GESF)
1d. Sewage Generation rate	=	**43.7**	m^3/day
2. Clubhouse			
2a. Assumed Area	=	232	m^2
2b. Assumed floor area per employee	=	30.3	m^2 per worker -- (refer to Table 8 of CIFSUS - Community, Social & Personal Services)
2c. Total number of employees	=	8	employees
2d. Design flow for commercial activities	=	0.28	m^3/employee/day -- (refer to Table T-2 of GESF - J11)
2e. Sewage Generation rate	=	**2.1**	m^3/day
Total Flow from Proposed Development			
Flow Rate (without Catchmnet Inflow Factor)	=	**45.8**	m^3/day
Contributing Population	=	170	people
Peaking factor	=	6	Refer to Guidelines for the Design of Small Sewage Treatment Plants
Peak Flow	=	**3.2**	litre/sec

Appendix 3 Detailed Drainage Analysis

Kwu Tung South, Various Lots D.D. 94
Table 1 - Proposed Catchment Areas and Run-off (1 in 50 year)

$$Q_p = 0.278\ C\ i\ A$$

where Q_p = peak runoff in m^3/s
C = runoff coefficient (dimensionless)
i = rainfall intensity in mm/hr
A = catchment area in km^2

Surface Characteristics	*Runoff coefficient, C**
Asphalt	0.70 - 0.95
Concrete	0.80 - 0.95
Brick	0.70 - 0.85
Grassland (heavy soil**)	
Flat	0.13 - 0.25
Steep	0.25 - 0.35
Grassland (sandy soil)	
Flat	0.05 - 0.15
Steep	0.15 - 0.20

Notes:

Site Area 12,100 m^2

Catchments are small, so Rational Method is appropriate

1 in 50-year (according to Table 3 of DSD Manual)
a= 1167.6
b= 16.76
c= 0.561

	Catchment	Discharge Manhole	Paved	Unpaved	Run-off at	Area	Levels (mPD)		Fall	Overland, L	Fall, H	Overland t_c	t_0	Total t_f [1]	Total t_c [2]	Intensity	Weighted Runoff Coefficient	Run-off
						(m^2)	Upstream	Downstream	(m)	(m)	(m/100m)	(min)	(min)	(min)	(min)	(mm/h)		(m^3/s)
Existing	S1	T1	100%	0%		12,100							5.0	0.00	5.00	207	0.95	0.663
Future	S1	T1	80%	20%	T1	12,100							5.0	0.00	5.00	207	0.79	0.551
					T2									0.09	5.09	207	0.79	0.550
					T3									0.07	5.07	207	0.79	0.550
					T4									0.22	5.29	206	0.79	0.547
					T5									0.19	5.48	205	0.79	0.544
					Outfall									0.11	5.60	204	0.79	0.543

Remarks:
1. Assumed Time of Concentration through stream flow
2. Assumed Time of Concentration

Kwu Tung South, Various Lots D.D. 94
Hydraulic Calculations of Existing and Proposed Drainage System

Table 2a - 1 in 50 year Runoff of Future Catchments (m^3/s)

Runoff at	Catchment	
	S1	Total
T1	0.551	**0.55**
T2	0.550	**0.55**
T3	0.550	**0.55**
T4	0.547	**0.55**
T5	0.544	**0.54**

Table 2b - Treated Effluent from the proposed on-site STP

Estimated Peak Sewage Generation Rate, m^3/s	Estimated Peak Effluent from Proposed On-Site STP, m^3/s
0.003	0.003

Table 3a - Hydraulic Capacities for Proposed Drainage System

Segment	Manhole Reference	Manhole Reference	Type of Channel	Pipe Dia.	Pipe Length	Invert Level 1	Invert Level 2	g	k_s	s	Gradient	v	V	Area	Q	Q_{silt} [1]
				mm	m	mPD	mPD	m/s^2	m		1 in	m^2/s	m/s	m^2	m^3/s	m^3/s
T1 - T2	-	-	Circular	525	8.4	12.10	11.20	9.81	0.0030	0.107	9	0.000001	5.89	0.22	1.28	1.21
T2 - T3	-	-	Circular	525	6.7	11.20	10.50	9.81	0.0030	0.105	10	0.000001	5.83	0.22	1.26	1.20
T3 - T4	-	-	Circular	525	19.5	10.50	8.40	9.81	0.0030	0.108	9	0.000001	5.92	0.22	1.28	1.22
T4 - T5	-	-	Circular	525	17.3	8.40	7.00	9.81	0.0030	0.081	12	0.000001	5.13	0.22	1.11	1.05
T5 - Outfall	-	Outfall	Circular	525	10.2	7.00	5.80	9.81	0.0030	0.117	9	0.000001	6.17	0.22	1.34	1.27

Table 3b - Hydraulic Capacities for Existing Drainage System

Segment	Type of Channel	Width (W)	Height (H)	Slope	Pipe Length (L)	Manning's roughness coefficient	Cross Section Area	Wetted Perimeter	Hydraulic Radius (R)	V	Q	Q_{silt} [1]
		m	m		m		m^2	m	m	m/s	m^3/s	m^3/s
River	Box Culvert	16.0	2.3	0.008	125.5	0.016	36.65	118.93	27.43	50.47	1849.563	1664.61

Table 4a - Comparison of Runoff from Proposed Catchments and Hydraulic Capacities of Proposed Drainage System

Segment	Manhole Reference	Manhole Reference	Pipe Dia.	Q_{silt} [1]	Catchment Involved	Runoff	Occupancy	Sufficient Capacity?	Runoff [2]	Occupancy	Sufficient Capacity?	Runoff [3]	Occupancy	Sufficient Capacity?
			mm	m^3/s		m^3/s			m^3/s			m^3/s		
T1 - T2	-	-	525	1.21	S1	0.554	45.7%	YES	0.62	50.8%	YES	0.64	53.1%	YES
T2 - T3	-	-	525	1.20	S1	0.553	46.1%	YES	0.61	51.2%	YES	0.64	53.5%	YES
T3 - T4	-	-	525	1.22	S1	0.553	45.4%	YES	0.61	50.5%	YES	0.64	52.7%	YES
T4 - T5	-	-	525	1.05	S1	0.550	52.2%	YES	0.61	58.0%	YES	0.64	60.5%	YES
T5 - Outfall	-	Outfall	525	1.27	S1	0.548	43.1%	YES	0.61	47.9%	YES	0.64	50.0%	YES

Table 4b - Comparison of Runoff from Proposed Catchments and Hydraulic Capacities of Existing Drainage System

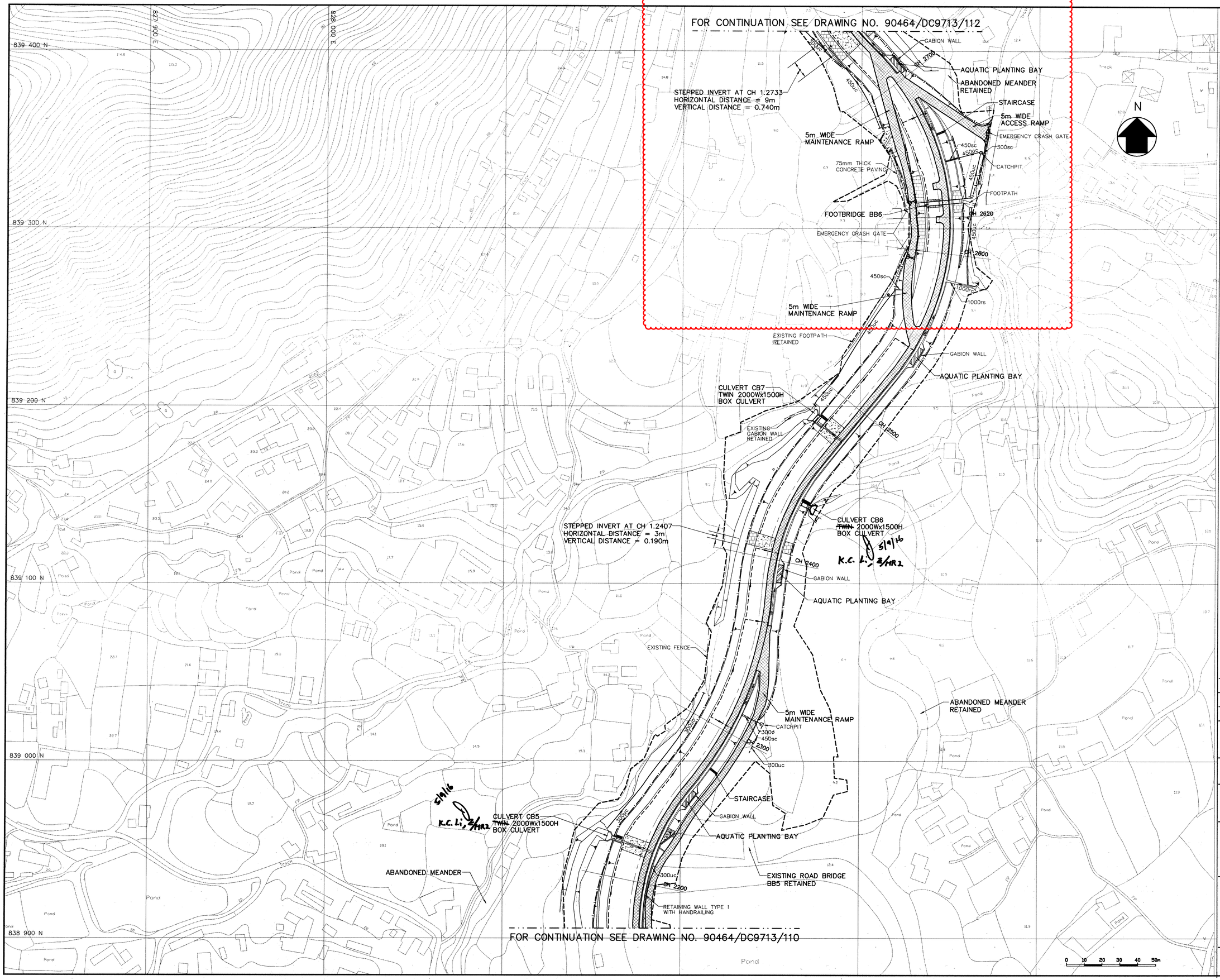
Segment	Manhole Reference	Manhole Reference	Pipe Dia.	Q_{silt} [1]	Catchment Involved	Runoff	Occupancy	Sufficient Capacity?	Runoff [2]	Occupancy	Sufficient Capacity?	Runoff [3]	Occupancy	Sufficient Capacity?
			mm	m^3/s		m^3/s			m^3/s			m^3/s		
River	-	-	-	1664.61	S1	0.544	0.03%	YES	0.60	0.04%	YES	0.63	0.04%	YES

Remarks:

1. Qsilt: 10% reduction in flow for gradient is not greater than 1 in 25, 5% reduction in flow for gradient greater than 1 in 25.
2. Cross Section Area of Circular Pipe: D^2 × PI / 4
3. Perimeter of Circular Pipe: (D × 2 × PI) / 2

Runoff [2] represents the situation in Mid 21st Century (11.1%)
Runoff [3] represents the situation in Late 21st Century (16%)

Appendix 4 Drainage Record Obtained from DSD



Notes :

1. This drawing is to be read in conjunction with the general notes on drawing No. 90464/DC9713/102 unless otherwise stated.
2. For concrete staircase details see drawing No. 90464/DC9713/146.

LEGEND:

- Dry Weather Flow Channel
- Maintenance Road
- Footpath
- Limit of Works
- Gabion Wall (see Drg. No. 90464/DC9713/146)
- Aquatic Planting Bay (see Drg. No. 90464/DC9713/146)
- Retaining Wall (see Drg. No. 90464/DC9713/525 & 526)
- U-channel (see CED's Standard Drg No. C2409C & C2412)
- BB5 Footbridge Reference Number
- Pedestrian Handrailing (see Drg. No. 90464/DC9713/500)
- Emergency Crash Gate and "No-Entry" Signboard (see Drg No. 90464/DC9713/102 & 103)
- Channel Slope
- 150mm Dia. Sub-soil Drain
- 300 uc
  - uc U-Channel
  - sc Stepped Channel
  - rc Rectangular Open Channel
  - rs Rectangular Stepped Channel
  - jc J-Channel
  - Size of Channel in mm
- 200x200x75 Granite Block Facing (see CED's Standard Drg No. C2002/1)
- 175mm Concrete Paving (see Drg No. 90464/DC9713/146)
- Catchpit (see CED's Standard Drg No. C2405)
- Manhole (see DSD's Standard Drg No. DS1001 – DS1010)

Rev	Issue Stat	Amendment	By	App.	Date
B	ABR	As Built Record Drawing			22.4.03
A	IFT	Tender Drawings	SANG	DWM	18.12.98

Client

DRAINAGE SERVICES DEPARTMENT

Contract No. DC/97/13

Project

Rural Drainage Rehabilitation Scheme

Title

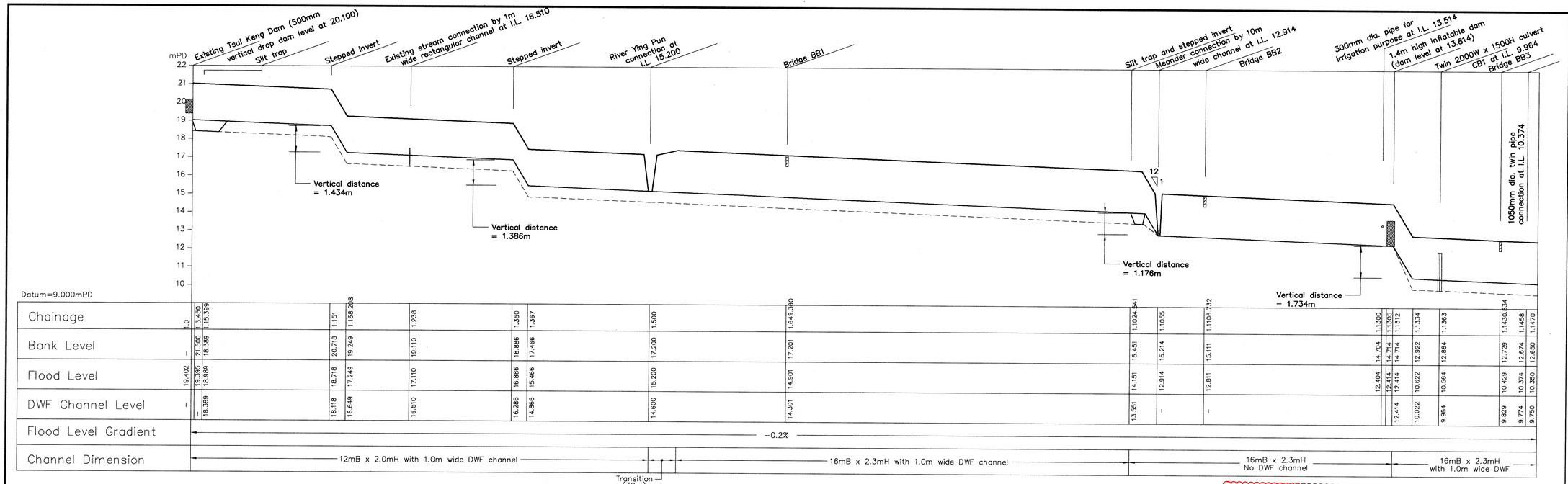
River Beas
General Layout of
As Built Works
(SHEET 4 OF 7)

Mouchel
Mouchel Asia Limited
Consulting Engineers

Drawn YIC	Date 22.4.03
Checked EL	Date 22.4.03
Approved KHS	Date 22.4.03
CAD File No. 713-111B	
Scale 1 : 1000	

First Issued	Drg. No.	Rev.
18.12.98	90464/DC9713/111	B

2-SE-148 & D


mPD
Existing Tsui Keng Dam (500mm vertical drop dam level at 20.100)
Silt trap
Stepped invert
Existing stream connection by 1m wide rectangular channel at I.L. 16.510
Stepped invert
River Ying Pun connection at I.L. 15.200
Bridge BB1
Silt trap and stepped invert
Meander connection by 10m wide channel at I.L. 12.914
Bridge BB2
300mm dia. pipe for irrigation purpose at I.L. 13.514
1.4m high Inflatable dam (dam level at 13.814)
Twin 2000W x 1500H culvert CB1 at I.L. 9.964
Bridge BB3
1050mm dia. twin pipe connection at I.L. 10.374
Vertical distance = 1.434m
Vertical distance = 1.386m
Vertical distance = 1.176m
Vertical distance = 1.734m
12
1
Datum=9.000mPD

| | | |

CHIH Design Ltd.

Your Ref.: TPB/A/NE-KTS/525
Our Ref.: 2105PA-L014
Date: 28th August 2023

The Secretary (By Courier and Email)
Town Planning Board
C/o Town Planning Board Section
Planning Department
15/F, North Point Government Offices
333 Java Road
North Point, Hong Kong

Dear Sir/Madam,

Re : Response to Departments' Comments
Proposed Residential Development (Houses) and Minor Relaxation of Plot Ratio Restriction at Various Lots in D.D. 94, Hang Tau Tai Po, Kwu Tung South, Sheung Shui, New Territories
(Application No. A/NE-KTS/525)

We refer to your comments dated 10th August 2023. The following responses are submitted herewith for your departmental circulation to address the various departments' comments.

Comments	Reply
Comments from the LandsD Department (Contact Person: Mr Nathan KONG at Tel.:2675 1747)	
1. Our previous comments on the subjection planning remain valid. It is noted from the Further Information (1) that, basically, all fundamental issues previously raised by this office have not been addressed but would instead be deferred to land exchange application stage. Hence, it remains doubtful whether the applicant's proposal is feasible.	Noted and such matters will be duly followed and complied with at the land exchange application stage.
2. The applicant should note that the existing third-party private lots would neither be governed by nor subject to the future land grant of such land exchange application (if approved). In other words, such land grant would not mandate or stipulate any access arrangement involving their- party private lots. To demonstrate the viability of the proposed scheme, the applicant is the party to secure agreement directly from the concerned private lot owners to gain access via (and carry out road improvement works with) such third-party private lots, apart from reaching agreement on the management and maintenance role.	Noted and such matters will be duly followed and complied with at the land exchange application stage.

RECEIVED
29 AUG 2023
Town Planning Board

.../2

Unit A, 20/F, Morrison Plaza, 5-9A Morrison Hill Road, Wanchai, Hong Kong Telephone (852) 2581 3081 Fax (852) 2742 0622
香港灣仔摩利臣山道5-9A號天樂廣場20樓A室 電話(852) 2581 3081 傳真(852) 2742 0622

Your Ref.: TPB/A/NE-KTS/525
Our Ref.: 2105PA-L014.../2
Date: 28th August 2023

Comments	Reply
Comments from the Transport Department (Contact Person: Mr Hoffman CHU at Tel.:2399 6933)	
It is noted from Drawing No. 2.5 that a number of existing gates are located in close proximity to the exit arms of the proposed roundabout. The Applicant shall review the design of the proposed roundabout.	Please be advised that the existing 2 gates at the northern exit arm of the junction can be relocated away from the future roundabout since the consent for the proposed road widening works has been obtained from the owner of Lot No. L1118 S.A.R.P. Although there will still be gates (belonging to other existing developments) at the other exit arms, the future traffic condition at the proposed roundabout will be manageable given that: (1) the future traffic demand will be very minimal; and (2) the road space available for vehicle manoeuvring at the junction will be significantly increased by the proposed roundabout. Nonetheless, possible adjustment to the proposed road improvement scheme including the roundabout can be further reviewed for enhancement at the later detailed design stage.
Comments from the Drainage Services Department (Contact Person: Mr Keith LIU at Tel.:2300 1595)	
Opening up the maintenance access for public use is not preferred. Nevertheless, further consideration would be given on the issue subject to the following condition: 1. The road would be designed and upgraded in compliance with relevant standard to satisfy for public use by the applicant.	Noted. The applicant would take up the responsibility design to and upgrade the access road to comply with relevant standard to satisfy for public use.
2. DSD will no longer be the appropriate party to manage and maintain the road if it is open to public. Appropriate authority would be willing to take over the upgraded access.	Noted.

.../3

Your Ref.: TPB/A/NE-KTS/525
Our Ref.: 2105PA-L014.../3
Date: 28th August 2023

Comments	Reply
Comments from the Planning Department (Contact Person: Ms Winsome LEE at Tel.:3168 4044)	
1. Referring to your R-to-C in the Further Information (1) on the private open space which would not be implemented under the current application, please further clarify the uses of the portion of land falling within the "V" and "AGR" zones.	Regarding the remaining portion of existing lots that fall on the nearby "V" and "AGR" zones, this is to clarify that such lands will neither form part of the captioned application, the relevant future land exchange application nor any relevant future building plan submission. In this regard, we write to void the following: 1. Paragraph 4.1 of our planning statement. 2. Our response to DPO comments notation (1) the "Response to Departments' Comments" under our letter ref: 2015PA–L008 dated 19th June 2023. We do not have any proposal regarding the land falling within the "V" and "AGR" zones.
2. Please clarify the building heights of the proposed houses as they are not tally on the application form and section plan.	This is to confirm that the building height is 8m/21.5mPD (for House 1 to 35) and 9m/22.5mPD (for house 36 to 42) respectively. Please refer to attached revised section plan-Section AA' (Plan 9 -Rev. A) for your ease of reference.
3. Whether the proposed access road (Access Road B) would be surrendered to the Government upon completion.	Yes. The access road would be surrendered to the Government upon completion.
Comments from the Water Suppliers Department (Contact Person: Ms Victoria SUEN at Tel.:2152 5752)	
Other Detailed Comments: Existing water mains as shown in the enclosed sketch are inside the proposed lot and will be affected. The applicant is required to either divert or protect the water mains found on site. (Con't)	Noted

Comments	Reply
If diversion is required, existing water mains inside the proposed lot are needed to be diverted outside the site boundary of the proposed development to lie in Government land. A strip of land of minimum 1.5m in width should be provided for the diversion of existing water mains. The cost of diversion of existing water mains upon request will have to be borne by the grantee/applicant; and the applicant shall submit all the relevant proposal to WSD for consideration and agreement before the works commence.	
If diversion is not required, the following conditions shall apply: (a) Existing water mains are affected as indicated on the site plan and no development which requires resiting of water mains will be allowed. (b) Details of site formation works shall be submitted to the Director of Water Supplies for approval prior to commencement of works. (c) No structures shall be built or materials stored within 1.5 metres from the centre line(s) of water main(s) shown on the plan. Free access shall be made available at all times for staff of the Director of Water Supplies or their contractor to carry out construction, inspection, operation, maintenance and repair works. (d) No trees or shrubs with penetrating roots may be planted within the Water Works Reserve or in the vicinity of the water main(s) shown on the plan. No change of existing site condition may be undertaken within the aforesaid area without the prior agreement of the Director of Water Supplies. Rigid root barriers may be required if the clear distance between the proposed tree and the pipe is 2.5m or less, and the barrier must extend below the invert level of the pipe. (e) No planting or obstruction of any kind except turfing shall be permitted within the space of 1.5 metres around the cover of any valve or within a distance of 1 metre from any hydrant outlet. (f) Tree planting may be prohibited in the event that the Director of Water Supplies considers that there is any likelihood of damage being caused to water mains.	Noted.

Your Ref.: TPB/A/NE-KTS/525
Our Ref.: 2105PA-L014…/5
Date: 28th August 2023

Should you have any queries, please do not hesitate to contact the undersigned at 2581 3081.

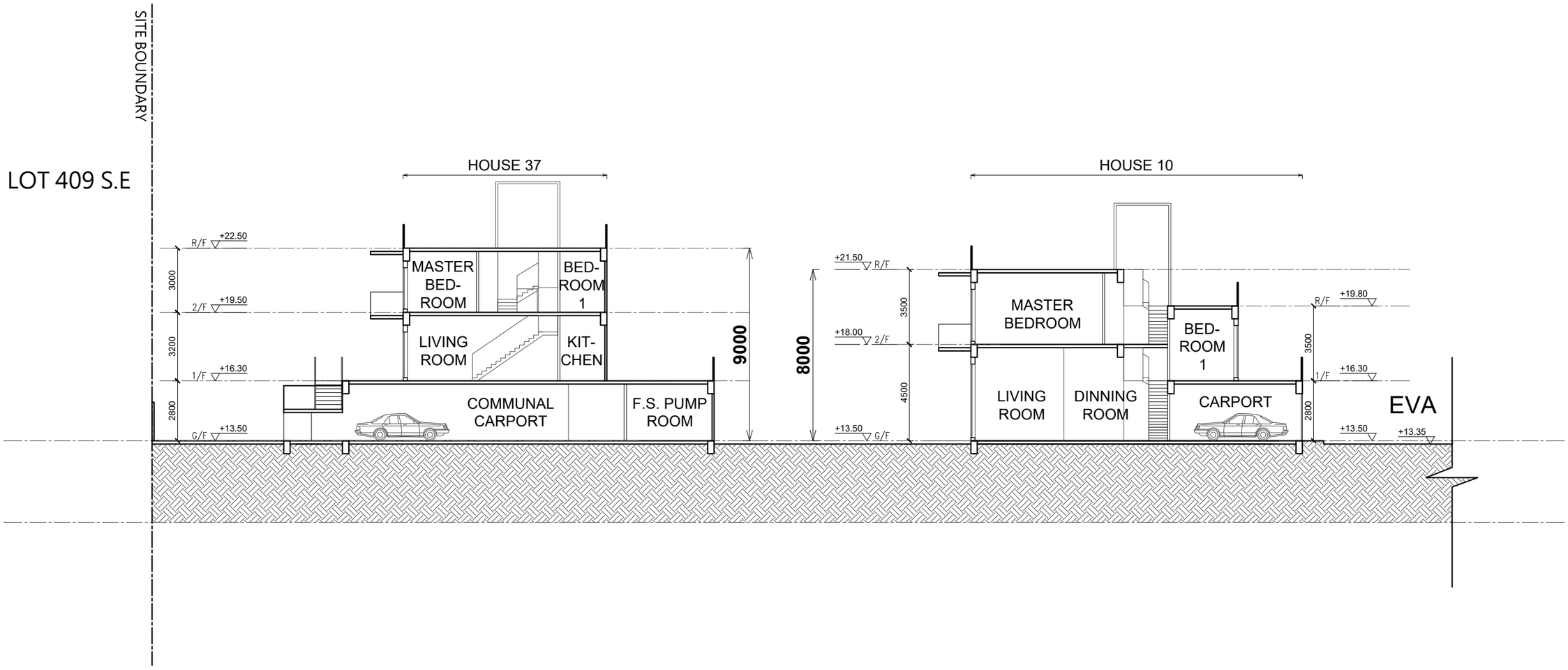
Sincerely Yours,
For and on behalf of
CHIH Design Ltd.



Eric Ming Yuen Chih
Director

EC/fh

c.c. Great Huge Limited – Mr. Wan
(by E-mail) (w/ encl)



PLAN 9

SECTION AA' (Rev.A)

PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT at
Lot 409 RP, 409S.AA, 409S.AB, 409S.AC, 409S.AD, 409S.AE, 409S.AF, 409S.AG, 409S.AH,409S.AI, 409S.AJ, 409S.AK, 409S.AL, 409S.AM, 409S.AN, 409S.AO, 409S.AP, 409S.AQ,409S.AR, 409S.AS, 409S.AT, 409S.AU, 409S.AV, 409S.AW, 409S.AX, 409S.AY, 409S.AZ, 409S.BA, 409S.BB, 409S.BC, 409S.BD, 409S.BE, 409S.BF, 409S.BG, 409S.BH, 409S.BI,409S.BJ, 409S.BK, 409S.BL, 409S.BM, 409S.BN, 409S.BO,4 09S.BP,409S.BQ, 409S.BR, 409S.BS, 409S.BT, 409 S.F. RP, 409 S.F.ss.1, 409 S.F.ss.2, 409 S.F.ss.3, 409 S.F.ss.4, 409 S.F.ss.5, 409 S.F.ss.6, 409 S.F.ss.7, 409 S.F.ss.8, 409 S.F.ss.9, 409 S.F.ss.10, 409 S.F.ss.11, 409 S.F.ss.12, 409 S.F.ss.13, 409 S.F.ss.14, 409 S.F.ss.15, 409 S.F.ss.16, 409 S.F.ss.17, 409 S.F.ss.18, 409 S.F.ss.19, 409 S.F.ss.20, 409 S.F.ss.21, 409S.G, 409S.H, 409S.I, 409S.J, 409S.K, 409S.L, 409S.M, 409S.N, 409S.O, 409S.P, 409S.Q, 409S.R, 409S.S, 409S.T, 409S.U, 409S.V, 409S.W, 409S.X, 409S.Y, 409S.Z in D.D 94, Kwu Tung South, N.T.

CHIH Design Ltd

JOB NO.: 2105PA
DATE : 17 - 08 - 2023
SCALE : 1:200 @A3

CHIH Design Ltd.

Your Ref.: TPB/A/NE-KTS/525
Our Ref.: 2105PA-L015
Date: 18th October 2023

The Secretary (By Courier and Email)
Town Planning Board
C/o Town Planning Board Section
Planning Department
15/F, North Point Government Offices
333 Java Road
North Point, Hong Kong

Dear Sir/Madam,

Re : Response to Departments' Comments
Proposed Residential Development (Houses) and Minor Relaxation of Plot Ratio Restriction at Various Lots in D.D. 94, Hang Tau Tai Po, Kwu Tung South, Sheung Shui, New Territories
(Application No. A/NE-KTS/525)

We refer to your comments dated 17th October 2023. The following responses are submitted herewith for your departmental circulation to address the various departments' comments.

Comments	Reply
Comments from the Transport Department (Contact Person: Mr Hoffman CHU at Tel.: 2399 6933)	
1. Based on the TIA and the FI submitted, we have some road safety concerns over the proposed access road as no footpath is provided under the subject application. It is also noted that a few existing gates are located in close proximity to the exit arms of the proposed roundabout.	Please note that the scattered low-rise village housing in the Hang Tau Tai Po area are being served by the substandard access roads without footpath currently. Although the existing access roads are substandard, the current traffic condition is still found manageable under the single track access road arrangement with sharing used by vehicular and pedestrian traffic since the traffic demand is very low. Given that the net increase in traffic due to the Proposed Development would be minute as reviewed in the TIA, the increases in road spaces under the proposed road improvement scheme would just improve the existing traffic condition for all the road users but not causing any adverse traffic impact. Regarding the concern on the proposed roundabout, it is reviewed that the concerned road junction layout can be further improved by the possible priority junction arrangement as demonstrated in the attached SK1. Please note that the design of junction improvement works will review in detail to ensure smooth maneuver to / from the existing gates after the implementation of the works, and the detailed design of proposed road scheme including the concerned road junction will be further reviewed and submitted to Transport Department and/or the relevant department(s) for approval at the later stage.

.../2

Unit A, 20/F, Morrison Plaza, 5-9A Morrison Hill Road, Wanchai, Hong Kong Telephone (852) 2581 3081 Fax (852) 2742 0622
香港灣仔摩利臣山道5-9A號天樂廣場20樓A室 電話(852) 2581 3081 傳真(852) 2742 0622

Your Ref.: TPB/A/NE-KTS/525
Our Ref.: 2105PA-L015…/2
Date: 18th October 2023

Comments	Reply
2. Since the proposed access road could not fulfill the requirements of the prevailing design standards, TD would not take up the management responsibility of the proposed access road upon its completion.	Noted and such matters will be duly followed at the land exchange application stage.
Comments from the Highways Department (Contact Person: Mr Frankie FAN at Tel.: 2762 3966)	
3. According to proposed access road improvement scheme, the existing local track is proposed to be upgraded to single track with no footpaths at both sides of the carriageway. HyD will not take up the maintenance responsibility of the proposed single track road unless TD takes up its management responsibility.	Noted and such matters will be duly followed at the land exchange application stage.
4. HyD will only take over public roads for maintenance provided that the design meets all the relevant HyD standard, and TD agrees to take up the management role.	Noted.
Comments from the Drainage Services Department (Contact Person: Mr Keith LIU at Tel.: 2300 1595)	
5. No adverse comments in principle on the proposed Alternative Route Access as shown on the submitted plans, which would require opening up a section of DSD's maintenance access for public use, subject to the following: (i) the design and construction of the widening and ancillary works should be in compliance of relevant standards and approved/accepted by appropriate authorities; and (ii) upon the completion of necessary works, the access would be open for public use as a public road. DSD will no longer be the appropriate management and maintenance party. Agreement with appropriate authorities to take up the management and maintenance responsibilities should be achieved in advance.	5(i) Noted and such matters will be duly followed and complied with at the land exchange application stage. (ii)Noted.

Your Ref.: TPB/A/NE-KTS/525…/3
Our Ref.: 2105PA-L015
Date: 18th October 2023

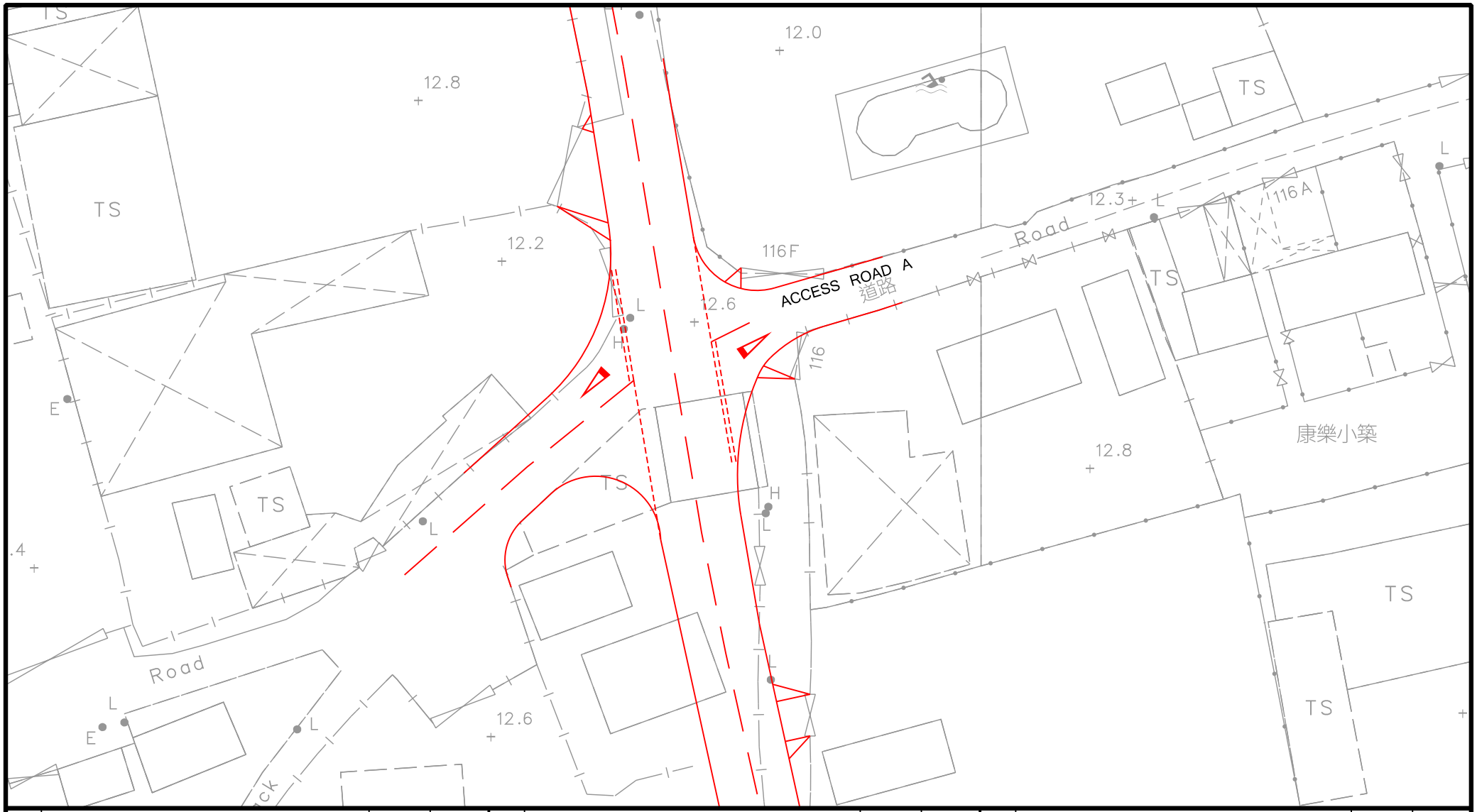
Should you have any queries, please do not hesitate to contact the undersigned at 2581 3081.

Sincerely Yours,
For and on behalf of
CHIH Design Ltd.

Eric Ming Yuen Chih
Director

EC/fh

c.c. Great Huge Limited – Mr. Wan
(by E-mail) (w/ encl)



-	-	-	-	-	-	-	-	-	-	-	-
Rev.	Description	Checked	Date	Rev.	Description	Checked	Date	Rev.	Description	Checked	Date

Project Title

SECTION 16 PLANNING APPLICATION FOR
PROPOSED PRIVATE RESIDENTIAL DEVELOPMENT
AT VARIONS LOTS IN D.D. 94, KWU TUNG SOUTH

Drawing Title

POSSIBLE ALTERNATIVE JUNCTION LAYOUT AND ARRANGEMENT

Designed	Checked	Scale	Date	Drawing No.	Rev.
LYK	CHC	1:500(A4)	OCT 2023	SK1	-

SYSTRA MVA

CHK50682710/TIA/SK1.DGN/HHY/17OCT23

Original Size : A4

Previous Application covering the Site

Approved Applications

Application No.	Proposed Developments	Zoning	Date of Consideration	Approval Conditions
A/NE-KTS/81	Holiday Camp with Sports Training Facilities	"REC"	19.3.1999 (upon review)	(a) to (g)

Approval Conditions

(a) The submission and implementation of improvement works in respect of the access road from the application site to the Hang Tau Road.
(b) The provision of sewage treatment and disposal facilities.
(c) The submission of soil contamination assessment and the implementation of mitigation measures.
(d) The provision of fire safety installations to the development.
(e) The provision of drainage facilities.
(f) The submission and implementation of landscaping proposals.

Rejected Applications

	Application No.	Proposed Developments	Zoning	Date of Consideration	Rejection Reasons
1.	A/NE-KTS/31	Hotel with Recreation Facilities	"REC"	15.12.1995	(a) to (f)
2.	A/NE-KTS/208	Elderly Home	"REC"	27.5.2005	(a), (b), (g), (h)
3.	A/NE-KTS/432	Proposed House (New Territories Exempted House - Small House)	"REC"	9.12.2016	(i), (j)
4.	A/NE-KTS/433	Proposed House (New Territories Exempted House - Small House)	"REC"	9.12.2016	(i), (j)
5.	A/NE-KTS/434	Proposed House (New Territories Exempted House - Small House)	"REC"	9.12.2016	(i), (j)
6.	A/NE-KTS/435	Proposed House (New Territories Exempted House - Small House)	"REC"	9.12.2016	(i), (j)
7.	A/NE-KTS/436	Proposed House (New Territories Exempted House - Small House)	"REC"	9.12.2016	(i), (j)
8.	A/NE-KTS/437	Proposed House (New Territories Exempted House - Small House)	"REC"	9.12.2016	(i), (j)

	Application No.	Proposed Developments	Zoning	Date of Consideration	Rejection Reasons
9.	A/NE-KTS/438	Proposed House (New Territories Exempted House - Small House)	"REC"	9.12.2016	(i), (j)
10.	A/NE-KTS/439	Proposed House (New Territories Exempted House - Small House)	"REC"	9.12.2016	(i), (j)
11.	A/NE-KTS/440	Proposed House (New Territories Exempted House - Small House)	"REC"	9.12.2016	(i), (j)
12.	A/NE-KTS/461	Proposed House (New Territories Exempted House - Small House)	"R(D)"	23.8.2019 (upon review)	(i), (k)
13.	A/NE-KTS/462	Proposed House (New Territories Exempted House - Small House)	"R(D)"	23.8.2019 (upon review)	(i), (k)
14.	A/NE-KTS/489	Proposed 6 Houses (New Territories Exempted Houses - Small Houses)	"R(D)"	23.10.2020	(i)

Rejection Reasons

(a) The proposed development was not in line with the planning intention of "Recreation" zone which was primarily for recreational developments for the use of the general public.

(b) The scale and intensity of the proposed development are excessive in a rural setting/ within the "Recreation" zone.

(c) The proposed development will aggravate the traffic condition of the existing Hang Tau Road and the adjoining access road to the site which are substandard, do not have footpaths and will pose safety hazards to both motorists and pedestrians.

(d) The road improvements to Hang Tau Road and the adjoining access road to the site are considered inadequate to cater for the proposed hotel development.

(e) There are interface problems between the existing industrial activities and the proposed development and such aspect have not been addressed in the environmental impact assessment submitted.

(f) The sewage treatment standards re considered not appropriate, in particular nitrification and disinfection of the effluent are required to minimize the discharges.

(g) Insufficient information had been provided in the submission to demonstrate that the proposed development would not have adverse traffic and water quality impacts on the surrounding areas.

(h) The approval of the application would set an undesirable precedent for other similar applications within the "Recreation" zone which would result in a cumulative loss of areas for recreational purpose.

(i) Land is still available within the "Village Type Development" zone of Hang Tau Village which is primarily intended for Small House development. It is considered more appropriate to concentrate the proposed Small House development close to the existing village cluster of Hang Tau for more orderly development pattern, efficient use of land and provision of infrastructures and services.

(j) The applicant failed to demonstrate that the proposed development would not be subject to adverse environmental impacts and existing industrial/residential interface problems.

(k) Approval of the application would set an undesirable precedent for similar applications within the "Residential (Group D)" zone. The approval of similar applications would result in adverse cumulative traffic impacts on the surrounding areas.

Similar Applications within the Same "Residential (Group D)" Zone
in the Vicinity of the Site

Approved Applications

	Application No.	Proposed Use(s) / Development(s)	Date of Consideration	Approval Conditions
1.	A/NE-KTS/460	Proposed Houses	21.12.2018	(a), (b), (c), (d), (g), (h)
2.	A/NE-KTS/466	Proposed Residential Development and Minor Relaxation of Plot Ratio and Building Height Restrictions	13.12.2019	(a) to (f)
3.	A/NE-KTS/528	Proposed House Development	9.6.2023	(b), (c), (d), (e), (g)

(a) The submission of a Noise Impact Assessment and implementation of the mitigation measures identified therein.

(b) The submission of a revised Sewerage Impact Assessment and implementation of a sewerage connection proposal identified.

(c) The submission and implementation of a drainage proposal.

(d) The provision of water supplies for firefighting and fire service installations/submission and implementation of fire service installations and water supplies for fire-fighting.

(e) The design and provision of vehicular access, car parking and loading/unloading facilities for the proposed development.

(f) The design and provision of pedestrian crossing at Hang Tau Road outside the application site and a public footpath along the eastern boundary abutting the local road.

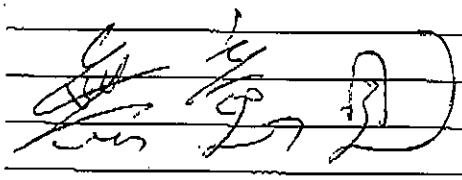
(g) The submission and implementation of landscape proposal.

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/NE-KTS/525

意見詳情 (如有需要，請另頁說明)
Details of the Comment (use separate sheet if necessary)



「提意見人」姓名/名稱 Name of person/company making this comment 侯志強

簽署 Signature  日期 Date 2023.6.

2

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	230321-095958-04019
提交限期 **Deadline for submission:**	31/03/2023
提交日期及時間 **Date and time of submission:**	21/03/2023 09:59:58
有關的規劃申請編號 **The application no. to which the comment relates:**	A/NE-KTS/525
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. 侯福達

意見詳情
Details of the Comment :

反對申請編號A/NE-KTS/525

因應疫情影響，居民出外較少，但在繁忙時段，坑頭的交通仍然擠塞，周邊環境配套不足，更何況現在是復常階段，大部分坑頭路段，是單線雙程行車，造成交通加倍阻塞。加上，周邊有多個住宅屋苑，人口密度頗高，若果再增加住宅發展項目，居民相對增加，但交通配套不足，導致交通嚴重擠塞。雖然，提交了環境評估(噪音、空氣及污水處理問題)，但未有實際數據支持，故本人強烈反對此項申請。

加上，古洞北的發展，已有多項工程進行中，青山公路古洞段，車輛流量已不斷增加，而公營房屋發展令人口急增，擠塞情況更趨嚴重。在該地段發展42幢屋宇及85個車位，是一項大型發展，屆時車輛及人口暴增，令該處的出入口出現樽頸地帶，導致擠塞，阻礙附近的居民上班及上學，日常生活也受影響，需要謹慎考量。

☐ Urgent ☐ Return Receipt Requested ☐ Sign ☐ Encrypt ☐ Mark Subject Restricted ☐ Expand personal&publi

A/NE-KTS/525 DD 94 Hang Tau Tai Po
31/03/2023 02:44

From: [redacted]
To: tpbpd <tpbpd@pland.gov.hk>
File Ref:

A/NE-KTS/525

Various Lots in D.D. 94, Hang Tau Tai Po, Kwu Tung South

Site area: About 12,100sq.m

Zoning: "Res (Group D)"

Applied development: Proposed MR of PR / 42 houses / Clubhouse / PR .48 (.4) / 2,015sq.m OS / 85 Vehicle Parking

Dear TPB Members,

According to the application:

There is no existing sewerage system serving the Application Site. The nearest manhole is around 415m away from the Application Site and various private lots are situated in between. Therefore, ***it is considered not practicable to connect with the existing sewerage system*** .

So a substantial residential complex would be development that would be dependent on a glorified septic tank alternative? Where would the effluent be disposed of?

Every day we are bombarded with propaganda about Hong Kong's intention to become a 'hub' for all sorts of innovation and technology. But in reality with projects like this the reality is more like a rural community in some remote location.

Mary Mulvihill

Recommended Advisory Clauses

(a) to note the comments of the District Lands Officer/North, Lands Department (LandsD) that:

(i) generally, with a view to ensuring the compliance with any proposed additional conditions under lease, it is the LandsD's requirement that any proposed additional conditions would only be considered to be incorporated under lease provided that there is a relevant bureau/department (B/D) requesting for or in support of such additional conditions. Such B/D would be responsible for monitoring the grantee's compliance with such additional conditions. In the absence of such B/D's request or support, no additional conditions would be proposed and incorporated under lease for the proposed works;

(ii) the applicant has to apply to LandsD for a land exchange to implement the approved planning scheme;

(iii) majority of the Site encroaches onto the 'Village Environs' ('VE') of Hang Tau, which is primarily preserved for small house development by indigenous villagers under the Small House Policy. Non-Small House Policy land exchanges within the 'VE' should be fully justified;

(iv) every application submitted to LandsD would be considered on its own merits by LandsD at its absolute discretion acting in its capacity as a landlord and there is no guarantee that the land exchange application would eventually be approved by LandsD. If the application for land exchange is approved by LandsD, it would be subject to such terms and conditions as may be imposed by LandsD at its absolute discretion, including payment of premium and administrative fee;

(v) any land exchange application should be submitted by all owners of the concerned lots and the titles have to be unified prior to surrender;

(vi) according to the proposal, improvement of existing access road is proposed. The existing access road leading from Hang Tau Road to the Site as indicated passes through Government land and private lot such as Lot No. 409 S.F s.s. 19 in D.D. 94. The applicant is advised to noted that no right of access is granted under the lease governing the private lots;

(vii) road improvement works comprising carriageway widening, provision of pedestrian walkway and modification to road intersections etc. are proposed on the said existing access road and an alternative access road. As the said improvement works are proposed outside the boundary of the Site and even on private lots, such requirements would not be incorporated into the lease. For the uninterrupted use of the road access, the applicant should also demonstrate consent from the concerned private lot owners had been obtained. For the proposed vehicular access and junction improvement to and emergency vehicular access (EVA) of the Site pass through adjoining private lots, the applicant should also demonstrate consent from the concerned lot owners had been obtained; and

(viii) the applicant should note that the existing third-party private lots would neither be governed by nor subject to the future land grant of such land exchange application (if approved). In other words, such land grant would not mandate or stipulate any access arrangement involving their-party private lots. To demonstrate the viability of the proposed scheme, the applicant is the party to secure agreement directly from the concerned private lot owners to gain access via (and carry out road improvement works with) such third-party private lots, apart from reaching agreement on the management and maintenance role. Advice of TD and HyD should also be sought on whether the concerned parts of private lots should be surrendered to the Government for the purpose of the proposed road improvement works.

(b) to note the comments of the Commissioner for Transport that the maintenance and management responsibility on the proposed access road should be sorted. The applicant is reminded to ensure smooth maneuver to/from the existing gates after the implementation of the junction improvement works.

(c) to note the comments of the Chief Highway Engineer/New Territories East, Highways Department (HyD) that the existing access leading from Hang Tau Road to the Site and the existing local track running aside Sheung Yue River are not maintained by HyD. If the applicant is required to gain access from this existing access to the Site, the applicant should sort out the access issue with the lands authority.

(d) to note the comments of the Director of Environmental Protection that the design and construction of the proposed on-site Sewerage Treatment Plant needs to comply with relevant guidelines and requirements set out in Professional Persons Environmental Consultative Committee Practice Notes (ProPECC PN) 5/93 issued by the Environmental Protection Department.

(e) to note the comments of the Chief Engineer/Mainland North, Drainage Services Department (DSD) that:

(i) the implemented sewerage related works should be properly maintained to ensure that the proposed development will not cause adverse impact to the adjacent area and public drainage network;

(ii) the applicant should be advised that the limited desk-top checking by the Government on the drainage proposal covers only the fundamental aspects of the drainage design which would by no means relieve his obligation to ensure that (i) the proposed drainage works would not cause any adverse drainage or environmental impact in the vicinity; and (ii) the proposed drainage works and the downstream drainage systems have adequate capacity and are in good conditions to receive the flows collected from his lot and all upstream catchments. The lot owner shall effect any subsequent upgrading of these proposed works and the downstream drainage system whenever necessary;

(iii) all stormwater drainage facilities to be completed under the proposed development, whether within private lots or Government Lands, shall be constructed and solely maintained by the applicants and successive owners of the proposed development at their own resources. The applicant shall be liable

for and indemnify claims and demands arising out of damage or nuisance caused by any inadequate construction or maintenance of the drainage facilities completed under the development;

(iv) the applicant shall allow all time free access for the Government and its agent to conduct site inspection on his completed drainage works, if necessary;

(v) the applicant and the successive owners of the proposed development shall allow connections from the adjacent New Territories Exempted House (NTEH) to the completed drainage works on Government Land when so required;

(vi) the applicant shall take extreme care when working in the vicinity of any existing drainage works in order not to disturb, interfere would or cause damage to them. Any blockage or damage to the said works due to the proposed development shall be made good at the applicant's cost;

(vii) for drainage works to be undertaken outside the lot boundary, the applicant should obtain prior consent and agreement from relevant department and/or the relevant private lot owners;

(viii) as the proposed stormwater drainage facilities are to be connected to the existing drainage facilities not maintained by DSD, the applicant shall identify the relevant owners or parties who are responsible for maintenance of such existing facilities and seek their consent and keep relevant Government departments informed;

(ix) the applicant shall submit the as-built drawings showing the completed proposed drainage facilities for record purpose;

(x) if walls are to be erected or kerbs are to be laid along the site boundaries, adequate openings should be provided at the wall/kerbs to allow existing overland flow passing through the site to be intercepted by the drainage system of the proposed NTEH development, unless the proposal justifies otherwise;

(xi) peripheral U-channels with CI grated cover with levels matching the adjacent ground to intercept any surface runoff flowing across the lot boundary should be provided. The applicant should be required to review his submission to provide adequate peripheral channels; and

(xii) the applicant shall check and ensure that the proposed channel covers are at right levels to collect the existing overland flow from the adjacent land, if any;

(f) to note comments of the Chief Building Surveyor/New Territories West, Buildings Department (BD) that:

(i) the Site shall be provided with means of obtaining access thereto from a street under Regulation 5 of the Building (Planning) Regulations (B(P)R) and EVA shall be provided under Regulation 41D of the B(P)R;

(ii) if the Site is not abutting on a specified street having a width not less than 4.5m, the development intensity shall be determined by the Building Authority under Regulation 19(3) of the B(P)R at building plan submission stage;

(iii) if the existing structures are erected on leased land without approval of BD (not being a NTEH), they are unauthorised under the Buildings Ordinance (BO) and should not be designated for any approved use under the application;

(iv) before any new building works (including drainage works) are to be carried out on the Site, prior approval and consent of the Building Authority (BA) should be obtained unless they are exempted building works or commenced under the simplified requirement under the Minor Works Control System. Otherwise, they are Unauthorised Building Works (UBW). An Authorised Person (AP) should be appointed as the coordinator for the proposed building works in accordance with the BO;

(v) for UBW erected on leased land, enforcement action may be taken by the BA to effect their removal in accordance with BD's enforcement policy against UBW as and when necessary. The granting of any planning approval should not be construed as an acceptance of any existing building works or UBW on the Site under the BO;

(vi) any temporary shelters or converted containers for any uses considered as temporary buildings are subject to the control of Part VII of the B(P)R;

(vii) the applicant's attention is drawn to the provision under Regulations 40 and 41 of the Building (Standards of Sanitary Fitments, Plumbing, Drainage Works and Latrines) Regulations in respect of disposal of foul water and surface water respectively;

(viii) the applicant may wish to note that in general there is no requirement under the BO in respect of provision of car parking spaces for a proposed development. However, the applicant's attention is drawn to the provision of accessible car parking spaces designated for the use of persons with a disability as per the requirements under the Regulation 72 of the B(P)R and Division 3 of Design Manual: Barrier Free Access 2018 if barrier free access requirements are applicable to the subject development;

(ix) criteria under PNAP APP-2 Appendix C shall be complied with if gross floor area (GFA) of car parking, loading and unloading areas under Regulation 23(3)(b) of the B(P)R is to be excluded;

(x) sustainable building design requirements and pre-requisites under PNAP APP-151 and APP-152 shall be complied with if GFA concession for green and amenity features and non-mandatory/non-essential plant rooms and services is to be exempted/disregarded; and

(xi) formal submission under BO is required for any proposed new works, including any temporary structure, site formation works like filling of ponds and land and site formation drainage works. Detailed comments under BO on individual

sites for private developments such as permissible plot ratio, site coverage, EVA, private streets and/or access roads, barrier free access and facilities, compliance with the Sustainable Building Design Guidelines etc., would be formulated at the formal building plan submission stage.

(g) to note the comments of the Director of Fire Services that:

(i) water supplies for firefighting and fire service installations shall be provided to the satisfaction of the D of FS. Detailed fire services requirements will be formulated upon receipt of formal submission of general building plans; and

(ii) the emergency vehicular access provision shall comply with the standard as stipulated in Section 6, Part D of the Code of Practice for Fire Safety in Buildings 2011, which is administered by the Buildings Department.

(h) to note the Comments of the Chief Engineer/Construction, Water Supplies Department (WSD) that:

(i) the existing water mains are inside the proposed lot and would be affected. The applicant is required to either divert or protect the water mains found on site;

(ii) if diversion is required, existing water mains inside the Site are needed to be diverted outside the site boundary of the proposed development to lie in Government land. A strip of land of minimum of 1.5m in width should be provided for the diversion of existing water mains. The cost of diversion of existing water mains upon request would have to be borne by the grantee/applicant; and the applicant shall submit all the relevant proposal to WSD for consideration and agreement before the works commence;

(iii) if diversion is not required, the following conditions shall apply:

(1) existing water mains are affected and no development which requires resiting of water mains would be allowed;

(2) details of site formation works shall be submitted to the Director of Water Supplies (DWS) for approval prior to commencement of works;

(3) no structures shall be built or materials stored within 1.5m from the centre line(s) of the water main(s). Free access shall be made available at all times for staff of DWS or their contractor to carry out construction, inspection, operation, maintenance and repair works;

(4) no trees or shrubs with penetrating roots may be planted within the Water Works Reserve or in the vicinity of the water main(s). No change of existing site condition may be undertaken within the aforesaid area without the prior agreement of DWS. Rigid root barriers may be required if the clear distance between the proposed tree and the pipe is 2.5m or less, and the barriers must extend below the invert level of the pipe;

(5) no planting or obstruction of any kind except turfing shall be permitted within the space of 1.5 metres around the cover of any valve or within a distance of 1 metre from any hydrant outlet; and

(6) tree planting may be prohibited in the event that DWS considers that there is any likelihood of damage being caused to water mains.