此文件在 2025年 09月 2日 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 -2 SEP 2025
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 or Regulated Areas; and**
**位於鄉郊地區或受規管地區土地上及/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 or Regulated Areas**
**位於鄉郊地區或受規管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.tpb.gov.hk/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.tpb.gov.hk/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

250172 18/8 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/TM/601 |
|---|---|---|
| | Date Received 收到日期 | -2 SEP 2025 |

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.tpb.gov.hk/. 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.tpb.gov.hk/)，亦可向委員會秘書處 (香港北角渣華道 333 號北角政府合署 15 樓 – 電話：2231 4810 或 2231 4835)及規劃署的規劃資料查詢處(熱線：2231 5000) (香港北角渣華道 333 號北角政府合署 17 樓及新界沙田上禾輋路 1 號沙田政府合署 14 樓)索取。

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

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## 1. Name of Applicant 申請人姓名/名稱

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

King Brave Limited (宏皇有限公司)

## 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 )

Lawson David & Sung Surveyors Limited (羅迅測計師行有限公司)

## 3. Application Site 申請地點

| | | |
|---|---|---|
| (a) | Full address / location / demarcation district and lot number (if applicable)<br>詳細地址／地點／丈量約份及地段號碼（如適用） | Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, New Territories |
| (b) | Site area and/or gross floor area involved<br>涉及的地盤面積及／或總樓面面積 | ☑Site area 地盤面積 1,852 sq.m 平方米 ☑About 約<br>☑Gross floor area 總樓面面積 370.4 sq.m 平方米 ☑About 約 |
| (c) | Area of Government land included (if any)<br>所包括的政府土地面積（倘有） | NA sq.m 平方米 ☐About 約 |

| | | |
|---|---|---|
| (d) | Name and number of the related statutory plan(s)<br>有關法定圖則的名稱及編號 | Approved Tuen Mun Outline Zoning Plan No. S/TM/41 |
| (e) | Land use zone(s) involved<br>涉及的土地用途地帶 | "Recreation" ("REC") |
| (f) | Current use(s)<br>現時用途 | Vacant Land<br>(If there are any Government, institution or community facilities, please illustrate on plan and specify the use and gross floor area)<br>(如有任何政府、機構或社區設施，請在圖則上顯示，並註明用途及總樓面面積) |

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

The applicant 申請人 –

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

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

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

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

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

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

(b) The applicant 申請人 –

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

| Details of consent of "current land owner(s)"# obtained 取得「現行土地擁有人」#同意的詳情 | | |
|---|---|---|
| No. of 'Current Land Owner(s)' 「現行土地擁有人」數目 | Lot number/address of premises as shown in the record of the Land Registry where consent(s) has/have been obtained<br>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)<br>取得同意的日期 (日/月/年) |
| | | |
| | | |
| | | |

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

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

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

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

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

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

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

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

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

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

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

Others 其他

☐ others (please specify)
其他（請指明）

_____

_____

_____

_____

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

## 6. Type(s) of Application 申請類別

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

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

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

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

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

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

### (i) For Type (i) application 供第(i)類申請

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

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

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

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

| | |
|---|---|
| (a) Operation involved<br>涉及工程 | ☐ Diversion of stream 河道改道<br>☐ Filling of pond 填塘<br>Area of filling 填塘面積 ..... sq.m 平方米 ☐About 約<br>Depth of filling 填塘深度 ..... m 米 ☐About 約<br>☐ Filling of land 填土<br>Area of filling 填土面積 ..... sq.m 平方米 ☐About 約<br>Depth of filling 填土厚度 ..... m 米 ☐About 約<br>☐ Excavation of land 挖土<br>Area of excavation 挖土面積 ..... sq.m 平方米 ☐About 約<br>Depth of excavation 挖土深度 ..... m 米 ☐About 約<br>(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)<br>(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<br>有意進行的用途／發展 | |

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

(a) Nature and scale
性質及規模

☐ Public utility installation 公用事業設施裝置

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

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

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

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

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

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

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

## *(v) For Type (v) application 供第(v)類申請*

| | |
|---|---|
| (a) Proposed use(s)/development<br>擬議用途/發展 | Proposed House Development<br>(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 | 370.4 sq.m 平方米 | ☑About 約 |
| Proposed plot ratio 擬議地積比率 | 0.2 | ☑About 約 |
| Proposed site coverage 擬議上蓋面積 | 11.8 % | ☑About 約 |
| Proposed no. of blocks 擬議座數 | 2 | |
| Proposed no. of storeys of each block 每座建築物的擬議層數 | 1 - 2 storeys 層<br>☐ include 包括_____storeys of basements 層地庫<br>☐ 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 | 32.4 - 36.6 mPD 米(主水平基準上)<br>2.3 - 7 m 米 | ☑About 約<br>☑About 約 |

☑ Domestic part 住用部分

| | | |
|---|---|---|
| GFA 總樓面面積 | 369.451 sq. m 平方米 | ☑About 約 |
| number of Units 單位數目 | 1 | |
| average unit size 單位平均面積 | 369.451 sq. m 平方米 | ☑About 約 |
| estimated number of residents 估計住客數目 | 3 | |

☑ 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 (please specify the number of rooms 請註明房間數目) ..... | ☐About 約 |
| ☐ 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)

Guard Room
(GFA: about 0.949 sq.m.)
.....

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

| | | |
|---|---|---|
| ☑ private open space 私人休憩用地 | 3 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 | G/F - 1/F | House |
| 1 | G/F | Guard Room |
| | | |
| | | |
| | | |

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

Private garden, parking and internal road.
.....
.....
.....
.....

## 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)

2031

## 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?<br>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)<br>有一條現有車路。(請註明車路名稱(如適用))<br>.....<br>☑ There is a proposed access. (please illustrate on plan and specify the width)<br>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)?<br>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)<br>請註明種類及數目並於圖則上顯示)<br>Private Car Parking Spaces 私家車車位 — 2 (2.5m x 5m)<br>Motorcycle Parking Spaces 電單車車位 — NA<br>Light Goods Vehicle Parking Spaces 輕型貨車泊車位 — NA<br>Medium Goods Vehicle Parking Spaces 中型貨車泊車位 — NA<br>Heavy Goods Vehicle Parking Spaces 重型貨車泊車位 — NA<br>Others (Please Specify) 其他 (請列明) — 1 (3.5m x 5m)<br>Disabled Car Parking Space |
| | No 否 | ☐ |
| Any provision of loading/unloading space for the proposed use(s)?<br>是否有為擬議用途提供上落客貨車位？ | Yes 是 | ☑ (Please specify type(s) and number(s) and illustrate on plan)<br>請註明種類及數目並於圖則上顯示)<br>Taxi Spaces 的士車位 — NA<br>Coach Spaces 旅遊巴車位 — NA<br>Light Goods Vehicle Spaces 輕型貨車車位 — 1 (3.5m x 7m)<br>Medium Goods Vehicle Spaces 中型貨車車位 — NA<br>Heavy Goods Vehicle Spaces 重型貨車車位 — NA<br>Others (Please Specify) 其他 (請列明) — NA |
| | 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?<br>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<br>.....<br>.....<br>.....<br>.....<br>..... |
| | No 否 | ☑ |
| Does the development proposal involve the operation on the right?<br>擬議發展是否涉及右列的工程?<br>(Note: where Type (ii) application is the subject of application, please skip this section.<br>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)<br>(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)<br>☐ Diversion of stream 河道改道<br>☐ Filling of pond 填塘<br>Area of filling 填塘面積 ..... sq.m 平方米 ☐About 約<br>Depth of filling 填塘深度 ..... m 米 ☐About 約<br>☐ Filling of land 填土<br>Area of filling 填土面積 ..... sq.m 平方米 ☐About 約<br>Depth of filling 填土厚度 ..... m 米 ☐About 約<br>☐ Excavation of land 挖土<br>Area of excavation 挖土面積..... sq.m 平方米 ☐About 約<br>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 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 the attached Tree Survey Report.
.....
.....
.....
.....
.....

## 10. Justifications 理由

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

Please refer to the planning statement attached.

## 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

Cannis Lee
Name in Block Letters 姓名（請以正楷填寫）

Associate Director (Planning)
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 MPIA

on behalf of 代表 Lawson David & Sung Surveyors Limited
☑ Company 公司 / ☐ Organisation Name and Chop (if applicable) 機構名稱及蓋章（如適用）

Date 日期 18/8/2025 (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 _____

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 _____

Total number of niches 龕位總數 _____

Total number of single niches
單人龕位總數 _____

Number of single niches (sold and occupied)
單人龕位數目 (已售並佔用) _____

Number of single niches (sold but unoccupied)
單人龕位數目 (已售但未佔用) _____

Number of single niches (residual for sale)
單人龕位數目 (待售) _____

Total number of double niches
雙人龕位總數 _____

Number of double niches (sold and fully occupied)
雙人龕位數目 (已售並全部佔用) _____

Number of double niches (sold and partially occupied)
雙人龕位數目 (已售並部分佔用) _____

Number of double niches (sold but unoccupied)
雙人龕位數目 (已售但未佔用) _____

Number of double niches (residual for sale)
雙人龕位數目 (待售) _____

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)

_____

Number. of niches (sold and fully occupied)
龕位數目 (已售並全部佔用) _____

Number of niches (sold and partially occupied)
龕位數目 (已售並部分佔用) _____

Number of niches (sold but unoccupied)
龕位數目 (已售但未佔用) _____

Number of niches (residual for sale)
龕位數目 (待售) _____

Proposed operating hours 擬議營運時間 _____

_____

@ 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.<br>申請編號 | (For Official Use Only) (請勿填寫此欄) |
| Location/address<br>位置／地址 | Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, New Territories |
| Site area<br>地盤面積 | 1,852 sq. m 平方米 ☑ About 約<br>(includes Government land of 包括政府土地 NA sq. m 平方米 ☐ About 約) |
| Plan<br>圖則 | Approved Tuen Mun Outline Zoning Plan No. S/TM/41 |
| Zoning<br>地帶 | "Recreation" ("REC") |
| Applied use/ development<br>申請用途/發展 | Proposed House Development |

| | | | sq.m 平方米 | Plot Ratio 地積比率 |
|---|---|---|---|---|
| (i) | Gross floor area and/or plot ratio<br>總樓面面積及／或地積比率 | Domestic<br>住用 | 369.451 ☑ About 約 ☐ Not more than 不多於 | 0.1995 ☑About 約 ☐Not more than 不多於 |
| | | Non-domestic<br>非住用 | 0.949 ☑ About 約 ☐ Not more than 不多於 | 0.0005 ☑About 約 ☐Not more than 不多於 |
| (ii) | No. of blocks<br>幢數 | Domestic<br>住用 | 1 | |
| | | Non-domestic<br>非住用 | 1 | |
| | | Composite<br>綜合用途 | NA | |

| | | | | |
|---|---|---|---|---|
| (iii) | Building height/No. of storeys<br>建築物高度／層數 | Domestic<br>住用 | 7 | m 米<br>☑ (Not more than 不多於) |
| | | | 36.6 | mPD 米(主水平基準上)<br>☑ (Not more than 不多於) |
| | | | 2 | Storeys(s) 層<br>☑ (Not more than 不多於)<br>*(☐Include 包括/☐ Exclude 不包括*<br>☐ *Carport 停車間*<br>☐ *Basement 地庫*<br>☐ *Refuge Floor 防火層*<br>☐ *Podium 平台)* |
| | | Non-domestic<br>非住用 | 2.3 | m 米<br>☑ (Not more than 不多於) |
| | | | 32.4 | mPD 米(主水平基準上)<br>☑ (Not more than 不多於) |
| | | | 1 | Storeys(s) 層<br>☑ (Not more than 不多於)<br>*(☐Include 包括/☐ Exclude 不包括*<br>☐ *Carport 停車間*<br>☐ *Basement 地庫*<br>☐ *Refuge Floor 防火層*<br>☐ *Podium 平台)* |
| | | Composite<br>綜合用途 | NA | m 米<br>☐ (Not more than 不多於) |
| | | | NA | mPD 米(主水平基準上)<br>☐ (Not more than 不多於) |
| | | | NA | Storeys(s) 層<br>☐ (Not more than 不多於)<br>*(☐Include 包括/☐ Exclude 不包括*<br>☐ *Carport 停車間*<br>☐ *Basement 地庫*<br>☐ *Refuge Floor 防火層*<br>☐ *Podium 平台)* |
| (iv) | Site coverage<br>上蓋面積 | | 11.8 | % ☑ About 約 |
| (v) | No. of units<br>單位數目 | | 1 | |
| (vi) | Open space<br>休憩用地 | Private 私人 | 3 | sq.m 平方米 ☑ Not less than 不少於 |
| | | Public 公眾 | NA | 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 | 3 |
| | | Private Car Parking Spaces 私家車車位 | 2 (2.5m x 5m) |
| | | Motorcycle Parking Spaces 電單車車位 | NA |
| | | Light Goods Vehicle Parking Spaces 輕型貨車泊車位 | NA |
| | | Medium Goods Vehicle Parking Spaces 中型貨車泊車位 | NA |
| | | Heavy Goods Vehicle Parking Spaces 重型貨車泊車位 | NA |
| | | Others (Please Specify) 其他 (請列明) Disabled Car Parking Space | 1 (3.5m x 5m) |
| | | Total no. of vehicle loading/unloading bays/lay-bys 上落客貨車位／停車處總數 | 1 |
| | | Taxi Spaces 的士車位 | NA |
| | | Coach Spaces 旅遊巴車位 | NA |
| | | Light Goods Vehicle Spaces 輕型貨車車位 | 1 (3.5m x 7m) |
| | | Medium Goods Vehicle Spaces 中型貨車位 | NA |
| | | Heavy Goods Vehicle Spaces 重型貨車車位 | NA |
| | | Others (Please Specify) 其他 (請列明) | NA |

**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） Location Plan, Lot Index Plan and Site Photos | ☐ | ☑ |
| **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） Landscape Proposal and Geotechnical Planning Review Report | ☐ | ☑ |

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。

羅迅測計師行
Lawson David & Sung
SURVEYORS LIMITED
Property Consultants • Planning • Valuers • Auctioneers
Estate Agency Licence No. C-006328

Ref: LDS/PLAN/7145

**Section 16 Planning Application**

**Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.**

# Planning Statement

| | | |
|---|---|---|
| **Applicant** | **:** | **King Brave Limited** |
| **Planning Consultant** | **:** | **Lawson David & Sung Surveyors Limited** |
| **Architect** | **:** | **Design Consultants Limited** |
| **Landscape Architect** | **:** | **ADI Limited** |
| **Environmental Consultant** | **:** | **Ramboll Hong Kong Limited** |
| **Traffic Consultant** | **:** | **CKM Asia Limited** |
| **Drainage Consultant** | **:** | **Ho Tin & Associates Consulting Engineers Limited** |
| **Geotechnical Consultant** | **:** | **Fugro (Hong Kong) Limited** |

August 2025

## Executive Summary

This planning statement is submitted to the Town Planning Board (the "Board") in support of a planning application for Proposed House Development ("the proposed development") at Tuen Mun Town Lot No. 550, Tuen Mun, N.T. ("the Application Site").

The Application Site, covering an area of about 1,852 sq.m., falls within an area zoned "Recreation" ("REC") on the Approved Tuen Mun Outline Zoning Plan (OZP) No. S/TM/41 gazetted on 13.6.2025. According to the Notes of the OZP, "House" is a Column 2 use and requires planning permission from the Board.

The Application Site is currently vacant. It was formerly used for agricultural purpose but ceased over 30 years ago. The Application Site, or part of it, is the subject of 2 previous planning applications (Nos. A/TM/399 and 469) and 2 previous rezoning applications (Nos. Y/TM/11 and 31). The last rezoning application (No. Y/TM/31), which was to request rezoning the Application Site from "REC" to "Residential (Group C)" for proposed residential development, was rejected by the Board on 16.2.2024. As remarked by the Chairman of the Rural and New Town Planning Committee, the Applicant might consider submitting a S.16 planning application to pursue a residential development at the Application Site.

As such, the Applicant proposes to erect a single 2-storey house with a maximum plot ratio of 0.2, which aligns with the development restriction for residential development under the existing "REC" zone. With a site area of about 1,852 sq.m., a total GFA of about 370.4 sq.m. is proposed. The site coverage of the proposed development will be about 11.8% whilst the proposed building height of the proposed 2-storey house will not be more than 7m.

A proposed access road from San Shek Wan Road will be connected to the proposed ingress/egress point at the northern boundary of the Application Site. The proposed development will provide 2 private car parking spaces (2.5m x 5m) for residents, 1 disabled car parking space (3.5m x 5m) and 1 loading/unloading space (3.5m x 7m) for light goods vehicle. It is anticipated that the proposed residential development will be completed by 2031.

The justifications of this application are:

1. The previous proposed holiday camp development at the Application Site is no longer viable;
2. The proposed development is in line with Government policy to increase housing supply in Hong Kong;
3. The proposed development is a compatible and suitable development scheme;
4. The proposed development is at acceptable development intensity with sensitive design;
5. The proposed development is responding to changing planning circumstances;
6. The proposed development will encourage better utilization of land resources;
7. The proposed development will not create any interface problem;
8. The proposed development will not generate adverse landscape, environmental, traffic, drainage and sewage impacts to the surrounding areas; and
9. The proposed development will not create any undesirable precedent.

In view of the justifications and planning merits as presented in this planning statement, we sincerely request the Board to give favourable consideration to this application.

# 行政摘要

此規劃報告書向城市規劃委員會(“城規會”)呈交，旨在支持在新界屯門屯門市地段第 550 號(“申請地點”)，作擬議屋宇發展用途(“擬議發展”)的規劃申請。

申請地點的面積約 1,852 平方米，座落於在 2025 年 6 月 13 日刊憲的屯門分區計劃大綱核准圖(圖則編號：S/TM/41)上的「康樂」地帶。根據該大綱圖的註釋，「屋宇」屬「康樂」地帶內的第二欄用途，須先向城規會提出申請。

申請地點現時是一塊空置土地，之前曾用作農業用途，但已於 30 多年前停止耕作。申請地點，或其部分涉及兩宗規劃申請(申請編號：A/TM/399 及 469)以及兩宗改劃土地用途申請(申請編號：Y/TM/11 及 31)。最後一次改劃申請(申請編號：Y/TM/31)，擬議將申請地點由「康樂」改劃為「住宅(丙類)」地帶，以作住宅發展。該申請於 2024 年 2 月 16 日被城規會拒絕。按鄉郊及新市鎮規劃小組委員會主席所提及，申請人可考慮按城規條例第 16 條申請規劃許可，以作住宅發展。

因此，申請人按照「康樂」地帶內可發展住宅的規限，擬議於申請地點興建一幢兩層高，地積比率為 0.2 倍的屋宇。申請地點的面積約 1,852 平方米，將可建約 370.4 平方米的總樓面面積。擬議發展上蓋面積為 11.8%，而建築物高度不會超過 7 米。

擬議發展將興建一條擬議車路，由散石灣路連接至擬議發展北面的出入口。擬議發展將提供 2 個供住客使用的私家車停車位(2.5 米 X 5 米)，1 個傷殘人士停車位(3.5 米 X 5 米)，以及 1 個輕型貨車上落貨位(3.5 米 X 7 米)。擬議發展預計於 2031 年落成。

本規劃申請的理據為：

1. 申請地點早前的度假營發展不再可行；
2. 擬議發展切合政府增加房屋土地供應的政策；
3. 擬議發展與毗鄰土地用途相容，適合位於申請地點；
4. 擬議發展為可接受的發展密度及顧及現有環境的設計；
5. 擬議發展能回應現時規劃情況的轉變；
6. 擬議發展可有效利用寶貴的土地資源；
7. 擬議發展不會與類近地區產生不協調問題；
8. 擬議發展不會對附近地方構成不良的園景、環境、交通、排水及排污影響；及
9. 擬議發展不會被定為不良的先例。

基於本規劃報告書所述的理據，敬希　各城規會委員及有關政府部門從優考慮這宗規劃申請。

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# 1. INTRODUCTION

## A. Purpose

1.1 Pursuant to Section 16 of the Town Planning Ordinance, this Planning Statement Report is submitted to the Town Planning Board ("the Board") in support of a planning application for Proposed House Development (the "proposed development") at Tuen Mun Town Lot (TMTL) No. 550, Tuen Mun, N.T. (hereafter referred to as "the Application Site"). **Figure 1** shows the location of the Application Site and the Lot Index Plan indicating the concerned lot is shown per **Figure 2**.

1.2 The Application Site, covering an area of about 1,852 sq.m., falls within an area zoned "Recreation" ("REC") on the Approved Tuen Mun Outline Zoning Plan (OZP) No. S/TM/41 gazetted on 13.6.2025. According to the Notes of the OZP, 'House' is a 'Column 2' use of the "REC" zone, which requires planning permission from the Board.

1.3 The Applicant is the registered land owner of the Application Site. The Application Site had been formerly used for agricultural purposes but ceased over 20 years ago, and has since been vacant. In light of the deteriorating environmental quality due to prolonged land abandonment, the Applicant intends to propose a private single-house development at the Application Site to address the derelict state of the Application Site.

## B. Background of the Application

1.4 In 1994, the Draft Tuen Mun OZP No. S/TM/8 was exhibited to rezone the land surrounding the Application Site from various statutory zonings to "Other Specified Uses" annotated "Public Recreation and Sports Centre" ("OU(PRSC)"). In determining the rezoning in Tuen Mun Area 45, various considerations had been taken in to account, including land ownership issue, in which the surrounding areas were subsequently resumed by the Government. As the Application Site and its adjacent private lot (i.e. Lot 34 in D.D. 300) were under private ownership, they were zoned "Green Belt" ("GB") and "OU(PRSC)" on the Tuen Mun OZP No. S/TM/8.

1.5 In 2013, a Section 12A rezoning application for the Application Site was submitted by Wing Tung Yick Investment Company Limited, the parent company of the Applicant, to request for amendment to Draft Tuen Mun OZP No. S/TM/30 from "GB" and "OU(PRSC)" zones to "REC" zone to facilitate a proposed holiday camp development subject to a maximum plot ratio (PR) of 0.4, a maximum Gross Floor Area (GFA) of about 722.59 sq.m. and not more than 14 guest rooms (Application No. Y/TM/11).

1.6 The rezoning application (Application No. Y/TM/11) was partially agreed by the Board on 5.4.2013 with 'Holiday Camp' as a Column 2 use and the Application Site being rezoned to "REC" as reflected on the Draft Tuen Mun OZP No. S/TM/32 exhibited on 2.5.2014. On 22.5.2015, a S.16 planning application (Application No. A/TM/469) for the proposed holiday camp use was approved with conditions by the Board on 22.5.2015. Following the subsequent land exchange application, the land grant of the proposed holiday camp was executed on 1.2.2021.

1.7 In view of the transformative impact of the COVID-19 pandemic on the delivery and market demand of recreational facilities and hospitality services in Hong Kong and the free flow of travelers between China and Hong Kong in wake of the epidemic, Hong Kong people have changed their consumption and leisure habits, resulting in the failure to take forward the original holiday camp proposal by the Applicant. Additionally, in consideration of the changing planning circumstances of optimizing use of private land to increase housing land supply in Hong Kong, the Applicant has therefore submitted a second rezoning application in 2023 to request for amendment to Draft Tuen Mun OZP No. S/TM/38 from "REC" zone to "Residential (Group C)" ("R(C)") zone to facilitate a private residential development of three 2-storey houses, subject to a maximum PR of 0.4, a maximum GFA of 739.275 sq.m. (Application No. Y/TM/31).

1.8 While the Planning Department (PlanD) has no in-principle objection to the submitted rezoning application (Application No. Y/TM/31) with no adverse comments from Government departments and all technical issues been resolved, the Rural and New Town Planning Committee ("RNTPC") of the Board has not agreed to the rezoning application on 16.2.2024, based on the rationale that "the Application Site zoned "REC" is encircled by a larger area zoned "OU(PRSC)" intended primarily for the provision of sports and recreation facilities, it is considered appropriate to retain the "REC" zoning of the Site alongside "OU(PRSC) for recreational developments for the use of the general public. There are no strong justifications for the proposed rezoning for residential development at the Site."

1.9 Meanwhile, the Chairman of the RNTPC has also remarked that "Flat" and "House" are Column 2 uses under the existing "REC" zone and the Applicant might consider submitting a S.16 planning application to pursue a residential development at the Application Site.

1.10 As such, the Applicant submits this planning application for a proposed house development at the Application Site, subject to a maximum PR of 0.2 and a maximum building height of 2-storeys, which are in line with the development restriction for residential development within the subject "REC" zone. In support of the present planning application, a development proposal with Master Layout Plan, Landscape Master Plan, Tree Survey and Tree Preservation Proposal, Environmental Assessment (including Air Quality Impact Assessment, Noise Impact Assessment, Water Quality Assessment, Waste Management and Land Contamination Review), Traffic Impact Assessment, Geotechnical Planning Review Report and Drainage Impact Assessment are included for consideration by relevant Government departments and members of the Board.

### C. Organization of the Planning Statement

1.11 Following this introductory chapter, this planning statement contains five further chapters:
- Chapter 2 presents the background details of the Application Site in terms of current land-use characteristics and neighbouring developments;
- Chapter 3 discusses the planning context of the Application Site;
- Chapter 4 outlines the development proposal;
- Chapter 5 elaborates on the technical assessments undertaken for the proposed development;
- Chapter 6 gives account to the justifications of the proposed development; and
- Chapter 7 is the conclusion of the planning statement.

## 2. SITE CONTEXT

### The Application Site and Its Existing Condition

2.1 The Application Site is located near Lung Fu Road and San Shek Wan Road at Area 45, Tuen Mun, New Territories (see **Figure 1**). Topographically, an unnamed knoll is located at the immediate east of the Application Site with a piece of flat land covered by a series of overgrown unsightly vegetation situating at the immediate north of the Application Site. The Application Site was formerly used for agricultural purpose of growing bananas and jackfruit, but all farming activities had been ceased over 30 years ago. The Application Site has since remained vacant.

2.2 The Application Site is currently a piece of vacant land with overgrown wild vegetation. Photos showing the existing condition of the Application Site are included at **Photo Plate 1**.

### Surrounding Land Uses

2.3 The Application Site is situated within a locality of intermixed residential and recreational uses (see **Figure 3**). Several public recreational facilities can be found nearby, including Tuen Mun Golf Centre to the north, Tuen Mun Public Riding School and an Archery Range to the south. A Grade

1 historic building, Hung Lau and the southwestern portion of Shek Kok Tsui Site of Archaeological Interest are located at the "GB" zone to the south of the Application Site. Further to the south of the "GB" zone is Butterfly Beach.

2.4 To the west of the Application Site across Lung Fu Road is a village development known as Tsing Shan Tsuen Shan Shek Wan South along with several village settlements, which is accessible via San Shek Wan Road. Photos taken at the surrounding of the site are included in **Photo Plate 2**.

2.5 To the east and south of the Application Site across Lung Mun Road finds clusters of high-rise residential developments including Melody Garden, Butterfly Estate, Wu King Estate, Siu Shan Court and Sun Tuen Mun Centre with supplementary open space and recreational facilities, as well as the proposed future Tuen Mun South MTR station next to Wu King Estate.

2.6 As observed on the Approved Tuen Mun OZP No. S/TM/41 (see **Figure 1**), the whole piece of land bounded by Lung Fu Road and Lung Mun Road is zoned "OU(PRSC)", except for Hung Lau, which are zoned "GB", and two private lots – the Application Site and its adjacent private lot (i.e. Lot 34 in D.D.300), which are zoned "REC". The other areas bounded by Lung Fu Road and Lung Mun Road zoned "GB" and "REC" are either developed site with park (Hung Lau), or non-distinctive from the adjacent environment that is zoned "OU(PRSC)".

**Accessibility**

2.7 The Application Site is situated at close proximity of the district road network, namely San Shek Wan Road and Lung Mun Road. In addition, there are two Light Rail Transit (LRT) stations (i.e. Butterfly and LRT Depot) within 500m radius distance from the Application Site. Currently, the Application Site is accessible by a trail via San Shek Wan Road (see **Figure 3**).

**Land Status**

2.8 The Applicant is the registered owner of the Application Stie. Upon receipt of planning approval (No. A/TM/469) for a holiday camp development, the Applicant had applied for a land exchange application from the Lands Department (LandsD). The Application Site, with the previous lot known as Lot No. 33 RP in D.D.300, were surrendered in exchange for the current subject lot (i.e. TMTL 550).

2.9 According to the records of Land Registry, the subject lot is held under New Grant No. 22878 for a lease term of 50 years from 1.2.2021. The ownership particulars of the subject lot are as below:-

| | |
|---|---|
| Lot No. | TMTL 550 |
| Registered Owner | King Brave Limited |
| User | A holiday camp of not more than 14 guest rooms together with such other ancillary facilities |

2.10 Should this application be approved by the Board, the Applicant will pursue another land exchange application to the LandsD for the proposed house development.

## 3. PLANNING CONTEXT

**Outline Zoning Plan**

3.1 The Application Site falls within an area zoned "REC" on the Approved Tuen Mun OZP No. S/TM/41 gazetted on 13.6.2025 (see **Figure 1**). The planning intention of "REC" zone is "primarily for recreational developments for the use of the general public. It encourages the development of

active and/or passive recreation and tourism/eco-tourism. Uses in support of the recreational developments may be permitted subject to planning permission."

3.2 According to the Notes of the "REC" zone, "House" is a Column 2 use and requires planning permission from the Board. Meanwhile, under the Remarks in the Notes of the "REC" zone, the development restriction for residential development is subject to a maximum plot ratio of 0.2 and a maximum building height of 2 storeys.

3.3 With reference to the Explanatory Statement of the OZP, to ensure adequate greenery provision to the site and no significant disturbance to the existing landscape resources and character, tree felling should be minimized and a minimum greenery coverage of 30% is required.

**Previous Applications**

3.4 The Application Site is subject to 2 previous planning applications and 2 rezoning applications as below:

**Previous Section 16 Planning Applications**

| Application No. | Applied Use | Location | Decision | Date of Decision |
|---|---|---|---|---|
| A/TM/399 | Proposed Houses | Lot 33 RP in D.D. 300 | Rejected | 10.9.2010 |
| A/TM/469 | Proposed Place of Recreation, Sports or Culture (Holiday Camp) | | Approved with Conditions | 22.5.2015 |

**Previous Section 12A Rezoning Applications**

| Application No. | Proposed Amendments | Location | Decision | Date of Decision |
|---|---|---|---|---|
| Y/TM/11 | Rezoning from "Green Belt", "Other Specified Uses" annotated "Public Recreation and Sports Centre" to "Recreation" | Lot 33 RP in D.D. 300 and Adjoining Government Land | Partially Approved | 5.4.2013 |
| Y/TM/31 | Rezoning from "Recreation" to "Residential (Group C)" | TMTL 550 | Rejected | 16.2.2024 |

## 4. DEVELOPMENT PROPOSAL

**Development Scheme**

4.1 The Applicant intends to develop a private residential development of a single 2-storey house. With a total site area of about 1,852 sq.m. and a plot ratio of not exceeding 0.2, the total GFA proposed in this development scheme will be about 370.4 sq.m. The site coverage of the proposed development will be about 11.8% whilst the proposed building height of the proposed 2-storey house will not be more than 7m (see the master layout plan, floor plan, elevations and sections at **Figures 4-7**).

4.2 A private garden area will be provided behind the proposed house whilst a guard room, as well as the underground septic tank and soak away pit, are provided near the entrance. The Application Site will be fenced off by a 2.3m high boundary wall. Tentatively, it is anticipated that the proposed house development will be completed by 2031. The key development parameters of the proposed development are summarized at **Table 4.1**:-

**Table 4.1: Key Development Parameters**

| | | |
|---|---|---|
| 1. Site Area | : | About 1,852 sq.m. |
| 2. Total PR | : | Not exceeding 0.2 |
| 3. Total GFA<br>- Domestic GFA<br><br>- Non-domestic GFA | : | 370.4 sq.m.**<br>189.135 sq.m. (G/F)<br>180.316 sq.m. (1/F)<br>0.949 (Guardroom) |
| 4. Site Coverage | : | About 11.8% |
| 5. No. of Blocks | : | 2 (House and Guardroom) |
| 6. No. of Storeys | : | 2 (House)<br>1 (Guardroom) |
| 7. Building Height<br>- House<br>- Guard Room | : | <br>Not more than 7m (about 36.6mPD)<br>Not more than 2.3m (about 32.4mPD) |
| 8. Car Parking Provision<br>- Residents and Visitors Private Car Parking | : | 3<br>2 (2.5m x 5m)<br>1 for Disabled (3.5m x 5m) |
| 9. Loading / Unloading Space<br>- Light Goods Vehicle | : | <br>1 (3.5m x 7m) |
| 10. Proposed Greenery | : | Not less than 555.6 sq.m.<br>(30% of the site area) |
| 11. Proposed Open Space | : | Not less than 3 sq.m. |
| 12. Designed Population | : | 3 (Average household size 2.6 adopted) |
| 13. Anticipated Completion Year | : | 2031 |

**GFA for ancillary uses (e.g. fire service tank & pump enclosure, carport, area covered by canopy, stair hood and lift etc.) are disregarded in plot ratio calculation and the exemption for ancillary uses will be applied to the Buildings Department and LandsD)

4.3 The proposed house development will be single family house with a designed population of 3, based on 2.6 persons per flat from the 2021 Population Census of Tuen Mun New Town.

**Access to the Site and Traffic Arrangement**

4.4 There is an existing trail connecting the Application Site and San Shek Wan Road about 80m to the north. The northern portion of existing trail was originally paved for vehicular access to the vacant Government land from San Shek Wan Road which the area was originally occupied by container storage yard a long time ago and site for the storage of construction materials during the construction of Lung Fu Road. It is proposed to widen and enhance the existing access road to a 4.5m wide with 1.6m footpath on the eastern side of the vehicular access road forming the main access to the site. The widening of the associated vehicular access to 6.1m is to meet the emergency vehicular access (EVA) requirement as specified by the Buildings Authority. To provide the proposed access road, the existing passing bay at San Shek Wan Road is proposed to be shifted about 20m to the west. The current condition of the existing trail is shown in **Photo Plate 2**. The indicative alignment of the proposed vehicular access road is illustrated in **Figure 4**.

4.5 The proposed vehicular access road, falling within Government land zoned "OU(PRSC)", is the shortest selected route between the Application Site and the existing road system. Its design and alignment largely follows the existing track to minimize the impact on adjacent landscape resource. Upon approval of this application by the Board, the Applicant will be responsible for the construction, management and maintenance of the proposed access road. Details of the proposed access road will be investigated at the land exchange application stage.

4.6 A horsing trail is running across the western portion of the Application Site from the Tuen Mun Public Riding School with a loop going up the knoll. As seen on **Figure 4**, the existing trail/proposed access road is intersected with the horsing trail right outside the ingress/egress point of the proposed development (see **Photo Plate 1**). In order to improve traffic safety and to minimize the

impact on horse riders and horses, electronic gates will be installed on both sides of the intersecting points so that the drivers must stop and check the traffic condition before entering the horsing trail. Besides, warning signs will also be erected for drivers and horse riders to alert them to pay attention at the road intersection point. Safety measures will also be adopted during the road widening / improvement works of the proposed access road. The Applicant is also committed to arrange ongoing communication and meetings with relevant parties/departments to address their concerns and implement respective measures to handle any further potential issues.

4.7 The car parking spaces provided for the proposed development will comply with the requirement under the HKPSG. The proposed house will provide two proposed parking spaces for private vehicles (2.5m x 5m) for residents / visitors located at the carport at the G/F of the proposed house. One disabled parking space (3.5m x 5m) and 1 loading/unloading space (3.5m x 7m) for light goods vehicle (LGV) will be provided to the north of the proposed house. A security guard will be present at the guard room to manage the traffic flow.

## 5. TECHNICAL ASSESSMENTS

### Tree Survey, Landscape and Tree Preservation Proposal

5.1 A Landscape Proposal and Tree Survey Report (see **Appendix 1**) is prepared by ADI Limited to assess the potential landscape impact on the Application Site and to provide landscape design of the proposed residential development.

Tree Survey

5.2 The Application Site has been vacant for years with no tree exactly located within the site. However, 4 existing trees, a weedy tree Leucaena leucocephala and three Artocarpus heterohpyllus, are located on / very close to the site boundary and seriously leaning into the site, which would be affected by the site formation works for the proposed development. Besides, the proposed access road from San Shek Wan Road to the Application Site would affect another 19 trees outside the Application Site. All of the affected trees are not registered old and valuable trees and with generally fair to poor health conditions. Having considered the species and condition of these affected trees, they are not suitable candidates for tree transplanting, therefore, felling of the above 23 trees is recommended.

5.3 The new tree planting proposal intends to create a good quality of green environment for future residents with proper and good quality planting establishment. A total of 16 new trees of heavy standard stocks would be planted with 1:1 replanting ratio (16 trees felled: 16 new trees planted), with exclusion of the removal of 7 nos. of weedy trees, Leucaena leucocephala.

Landscape Design Proposal

5.4 The landscape design concept for the proposed residential development provides a synthesis between the contemporary design philosophy and sustainable design principle responding to both site context and the proposed nature of the development, and respects the surrounding landscape features. The proposed scheme aims to provide a high-quality living environment for the future residents. The landscape area will be designed with contemporary design language and sustainable principles which will provide private relaxing and recreational space for the residents. A leisure lawn with benches and embraced with trees is set at the front court creating share and comfortable environment for relaxing as well as an intimate garden courtyard for the residents. Upon full establishment of greening measures in the landscape design proposal, the proposed greenery coverage within the development will not be less than 555.6 sq.m. (about 30% of the total site area of 1,852 sq.m.), which complies with the 30% OZP greenery requirement under the subject “REC” zone.

Open Space Provisions

5.5 Adequate open space will be provided in accordance with the requirement of HKPSG for the provision of local open space with the objective of providing high quality passive recreational space that will satisfy the needs of the residents. A leisure lawn of about 3 sq.m. will be proposed at the northern portion of the site as communal open space for the enjoyment of the residents. The proposed scheme is designed to meet the requirement providing minimum 1 sq.m. per person of local open space as required by the HKPSG, i.e. not less than 3 sq.m..

**Environmental Assessment**

5.6 Ramboll Hong Kong Limited was appointed by the Applicant to undertake an Environmental Assessment (EA) (see **Appendix 2**) to examine the impacts associated with the proposed development from environmental point of view and to demonstrate that the proposed development is environmentally acceptable.

5.7 The key environmental issues and concerns of the EA will be air quality, noise, water quality, waste management and land contamination, and will be reviewed by respective assessments as the followings:

Air Quality Impact Assessment

5.8 The air quality impact assessment has been carried out to examine the potential air quality impact that could arise from the construction phase and operation phase of the proposed development.

5.9 Construction activities will bring potential temporary air quality impact to the surrounding areas. As the number of diesel or petroleum-fuelled machinery operating in the Application Site is limited, the emission of pollutants from construction will not be significant when compared with that from road traffic. Therefore, dust is potentially the major source of air quality impact in construction.

5.10 In mitigating the perceived air quality impact from the construction phase, assorted air pollution control measures will be adopted and implemented by the Applicant in compliance with the requirement from HKPSG, Air Pollution Control (Construction Dust) Regulation and the “Recommended Pollution Control Clauses for Construction Contracts” from the Environmental Protection Department (EPD). Therefore, it is anticipated that no adverse air quality impact will be brought to the surrounding environment under good site management.

5.11 In regards of the operation phase, onsite surveys were conducted in June 2025 to verify the presence of chimneys. With no chimney identified within 200m from the site boundary of the Application Site, it is anticipated that the proposed development will not be subject to adverse industrial emission impact.

5.12 On the other hand, the buffer distance between the surrounding road network and proposed new access road is about 70m with no air sensitive uses within the buffer zone, which is in compliance with the requirement under HKPSG (i.e. 10m). Therefore, the future occupants of the Proposed Development will not be subject to significant vehicular emission impact.

Noise Impact Assessment

5.13 The noise impact assessment was carried out to assess the potential industrial noise and road traffic noise impact on the noise sensitive uses of the proposed development.

5.14 Onsite surveys were conducted in June 2025 and no industrial noise sources were identified within 300m from the boundary of the proposed development. Therefore, it is anticipated that the proposed development will not be subject to adverse industrial noise impact.

5.15 A railway noise impact assessment has also been conducted that light rail transit as a potential noise source is identified with distance of about 200m to the southeast of the Application Site. However, the direct line of sight between the proposed development and identified Butterfly light rail station is blocked by natural terrain. In view of the separation distance of 25m is met and existing topographic screening, it is anticipated that the proposed development would not be subject to adverse railway noise impact.

5.16 A road traffic noise impact assessment has been conducted for the proposed development and existing noise sensitive receivers. The result of the assessment indicates that the predicted noise level will comply with the relevant Noise Control Ordinance standard. Therefore, no adverse road traffic noise impact is anticipated on the proposed development.

Water Quality Assessment

5.17 The water quality assessment was carried out to assess the potential impacts arising from the construction and operation phases of the proposed development and their significance on the Water Sensitive Receivers (WSRs).

5.18 Site construction activities will inevitably have the potential to generate wastewater. Potential sources of pollution include construction runoff and drainage, sewage effluent from construction site and liquid spillage such as oil, diesel and solvents, etc. During operation, the irrigation runoff and surface runoff during rainfall events, which is known as non-point source of pollution, may cause potential water quality impact.

5.19 The Applicant will follow the best management practices listed in the assessment, including Professional Persons Environmental Consultative Committee Practice Note (ProPECC PN) No.2/24 “Construction Site Drainage”, ProPECC PN No.1/23 “Drainage Plans Subject to Comment by the EPD” and “Recommended Pollution Control Clauses for Construction Contracts” by EPD. With proper implementation of recommended mitigation measures, good construction site practices as recommended in relevant regulatory guidelines, adverse water quality impacts are not expected at the identified WSRs.

5.20 The Applicant will also install an underground septic tank with soakaway pit at the northern portion of the Application Site during the operation phase, which will be the same system adopted in the previous approved application (No. A/TM/469). Therefore, it is anticipated that the proposed development would not pose significant impact on the water quality of identified WSRs.

Waste Management Assessment

5.21 The waste management assessment was carried out to identify potential waste management issues in connection with the construction of the proposed development.

5.22 The construction activities will generate a variety of wastes including construction and demolition materials from site clearance, site formation works, chemical waste and general refuse.

5.23 Recommended Pollution Control Clauses for Construction Contracts published by EPD would be implemented during the construction phase of the proposed development. Therefore, no unacceptable impacts associated with waste management during the construction and operation phases are envisaged.

Land Contamination Review

5.24 The land contamination review was carried out to assess the potential land contamination impact due to the previous land uses and /or the existing operations.

5.25 According to the finding of the review, the Application Site has been a natural terrain since 1949 and no landuse change related to potential contamination works and activities is observed. Therefore, land contamination issue within the Application Site is not anticipated.

5.26 To conclude, the environmental assessment study confirms the acceptability of proposed development from environmental point of view.

**Traffic Impact Assessment**

5.27 CKM Asia Limited was appointed by the Applicant to undertake a Traffic Impact Assessment (TIA) (see **Appendix 3**) to assess the potential traffic impact on the adjacent road network.

5.28 To analyze the existing traffic conditions, a manual classified traffic count survey was conducted on 13.5.2025 at the nearby major junctions. The AM and PM peaks hours were identified to be between 0730 - 0830 and 1745 - 1845 respectively. Based on the existing traffic flows, all concerned junction were performing satisfactorily.

5.29 The car parking spaces provided for the proposed development will comply with the requirement under the HKPSG. Since the vehicles over 10m in length are prohibited from entering San Shek Wan Road, a LGV loading / unloading bay is provided within the Application Site. A swept path analysis to check the ease of vehicle manoeuvring within the proposed development is conducted and no manoeuvring issue is found.

5.30 An access road connecting from San Shek Wan Road to the Application Site will be provided. The proposed access road has a minimum width of 4.5m with one footpath along the eastern side with minimum width of 1.6m. There will be a 12m-long passing bay at midway of the straight section of proposed access road.

5.31 The proposed development is expected to generate a two-way traffic of 2 pcu/hour during both the AM and PM peak hours. By analyzing the Year 2034 Traffic Flows, which were derived from applying a nominal growth to the existing traffic flow plus the additional traffic generated by the planned/committed developments in the vicinity, the junction capacity assessment results show similar results, with or without the proposed development, in which the junctions will operate with capacities during the AM and PM peak hours.

5.32 A pedestrian impact assessment is also conducted for the footpaths likely used by the residents of the proposed development. The proposed development is expected to generate a two-way traffic of 3 ped/15min during the AM and PM peak periods. By analyzing the Year 2034 Pedestrian Flows, which were derived from applying a nominal growth to the existing pedestrian flow plus the additional pedestrians generated by the planned/committed developments in the vicinity, all surveyed footpaths show similar results, with or without the proposed development, in which all footpaths operate with Level of Service (LOS) A during the AM and PM peak hours. The proposed development has no adverse impact to the footpath assessed.

5.33 Based on the assessment result, it can be concluded the proposed development will not induce significant traffic impact on the surrounding road networks. From traffic engineering grounds, the proposed development is deemed acceptable.

**Geotechnical Planning Review Report**

5.34 Fugro (Hong Kong) Limited was appointed by the Applicant to prepare a Geotechnical Planning Review Report (GPRR) (see **Appendix 4**) to study the impact of the proposed development on the stability of the existing slopes and retaining walls in the area.

5.35 Two man-made features - an unregistered slope partly within the western site boundary and adjacent Government land, and an existing feature No. 5SE-D/C76 abutting the proposed access road alignment are located in the vicinity of the Application Site. The stability of these features could affect and be affected by the proposed development.

5.36 According to the finding of the review, the Application Site meets the alert criteria for carrying out a Natural Terrain Hazard Study (NTHS) and is prone to the natural terrain hazards such as open hillslope failures and topographic depression failures. It is recommended to undertake a NTHS with recommended mitigation measures as part of the proposed development.

5.37 The existing features within the Application Site will be upgraded as part of the site formation work to the current safety standard, based on the requirement of the Master Layout Plan.

5.38 Based on the findings of the review, it can be concluded that the proposed development is considered geotechnically feasible, with the implementation of the appropriate mitigation measures for natural terrain hazards, and proposed site formation works based on detailed ground investigation and stability assessment to be carried out.

**Drainage Impact Assessment**

5.39 Ho Tin & Associates Consulting Engineers Limited was appointed by the Applicant to prepare a Drainage Impact Assessment (DIA) (see **Appendix 5**) to assess the potential drainage impact of the proposed development.

5.40 The Application Site is located at the toe of embankment of Lung Fu Road near the toe of Castle Peak, which would receive surface runoff from adjacent catchment areas in addition to the rain falling directly onto its area. Existing flow paths of the adjacent upstream areas of the Application Site would be maintained in general, in which the proposed development would not cause any blockage to the flows of the adjacent areas.

5.41 In order to properly manage the surface runoff after development of the Application Site, 0.75m setback from the Application Site boundary is reserved for 375mm and 450mm peripheral u-channels with catchpit to collect the surface runoff from the adjacent areas, as well as avoid surface runoff running outside onto the surroundings. The flow inside the channels will be discharged via a purposedly constructed terminal manhole with desilting trap to the existing streamcourse to the west of the Application Site. It should not have implementation problems on construction works and the operation of the drainage system.

5.42 In addition, proposed 300mm u-channels would also be constructed along the western side of the proposed external access to receive surface runoff from the access itself as well as the adjacent area. The collected surface runoff will be conveyed to the existing 375mm u-channel abutting on the edge of San Shek Wan Road. There will also be no change in drainage pattern after completion of the proposed access road.

5.43 With the provision of the proposed drainage system, it is anticipated that the proposed development would not cause adverse drainage impacts to the surrounding areas.

**Sewerage Arrangement**

5.44 At present, there is no public sewer in the vicinity of the Application Site. Given that the development is small in scale, it is proposed to use a septic tank for waste disposal generated from the proposed development. The sewage treatment facilities will be placed underground and treated effluent would be percolated to surrounding subsoil in the soakaway pit. The Applicant will follow ProPECC PN No.1/23 to prevent any water pollution.

## 6. PLANNING JUSTIFICATIONS

### Previous Proposed Holiday Camp Development No Longer Viable

6.1 In wake of the COVID-19 pandemic and increasing free flow of travelers between Hong Kong and China, the consumption and leisure habits of Hong Kong people have changed significantly, which have considerably affected the delivery and market demand of recreational facilities and hospitality services in Hong Kong. The Applicant has therefore failed to take forward the original holiday camp development, which is considered no longer viable. On the contrary, to avoid further land degradation of the Application Site due to prolonged land abandonment, the proposed house development could allow utilization of unused idle land to transform the degraded rural land and improve the existing environment.

### In Line with Government Policy to Increase Housing Supply in Hong Kong

6.2 Over the past five years, ensuring a stable housing supply of both public and private housing in the market has remained a major focus of the Hong Kong Government's policy approach. According to Hong Kong 2030+ - Towards a Planning Vision and Strategy Transcending 2030+, about 510 – 680 hectare of housing land shortfall is projected for future development to meet the needs of the growing and aging population profile of Hong Kong. Additionally, the 2024 Long Term Housing Strategy has also identified a shortage of about 52,000 units in meeting the private housing supply target for the coming decade (from 2025-26 to 2034-35).

6.3 In facing the housing shortage, the Government has adopted a mutli-pronged approach of land searching exercises to convert potential "primitive land" into "spade-ready" sites for residential development such as the development of various New Development Areas / New Town Extension projects, unlocking Tso/Tong lands in the New Territories, rezoning underutilized sites of different zonings and brownfield sites into public housing sites and announcements of Land Sharing Pilot Scheme in 2020 and Northern Metropolis in 2021, etc.

6.4 While the Application Site does not fall into the coverage of the aforementioned policy context, the intention of optimizing the use of private idle land for residential development to foster housing supply in the market will support the Government's housing initiatives and aligns with the Government's policy direction.

### Compatible and Suitable Development Scheme

6.5 The Application Site is situated within a neighbourhood that is intermixed with residential and recreational uses with Tsing Shan Tsuen located to the west of the Application Site, in which a low-rise and low-density house development could be considered as a compatible and suitable scheme. With careful building design and landscape treatment to be incorporated, the proposed house development will blend with its surrounding environment in terms of land use planning and visual quality.

6.6 As the proposed development complies with the development restriction for residential development under the existing "REC" zone, i.e. with a plot ratio of not more than 0.2, a maximum building height of not more than 2 storeys and a minimum greenery coverage of 30%, the proposed development is deemed acceptable in terms of development intensity and therefore justifiable. Meanwhile, in view of existing low-density residential settlements/buildings along San Shek Wan Road in the surrounding areas, the proposed house development, which would incorporate contemporary and sustainable designs that is compatible with the surrounding environment, is therefore considered a compatible and suitable scheme.

**Acceptable Development Intensity with Sensitive Design**

6.7 The proposed development will be under a PR of not more than 0.2, a maximum building height of 2-storeys and greenery coverage of more than 30%, which complies with the development restriction for residential development within the subject "REC" zone. The development intensity of the proposed development will actually be lower than the previously approved holiday camp development (No. A/TM/469) with a lower PR and GFA, and is similar to the built forms in the rural areas of the New Territories. As such, the low-density nature of the proposed development will conform to the rural character and the existing recreation facilities in the vicinity with no adverse visual impact.

6.8 It should be highlighted that the proposed residential development of the last rezoning application (No. Y/TM/31) have received no adverse comments from Government departments with all technical concerns been resolved, which implies that a residential development is technically feasible at the Application Site. Therefore, this planning application, which proposes for a similar residential development, should be considered under an acceptable development intensity.

6.9 Moreover, the proposed development is geared to produce a design that will further enhance the area's qualities. Adequate planting and open space would be introduced throughout the proposed development with a carefully designed interplay between soft landscape and built form so as to minimize the visual impact and provide a pleasant living environment for residents. Landscape area and planting on the periphery of the Application Site will serve as a buffer and strikes a balance between the development and the surroundings. Therefore, the proposed development will not be incompatible with the surrounding rural environment.

**Responding to Changing Planning Circumstances**

6.10 While the previous residential development proposal at the Application Site was deemed undesirable as noted in the previous rejected application (No. Y/TM/31), the transition in the planning circumstances in the surrounding areas and Hong Kong should be included in the consideration of the current application.

6.11 In the recent years, the Government is actively exploring the feasibility of developing underutilized areas in the Tuen Mun areas, such as the recently announced development proposal for Lung Kwu Tan reclamation and the re-planning of Tuen Mun West area in July 2025 and "Study for Developments of Tuen Mun East and Adjacent Green Belt Cluster – Feasibility Study". Additionally, the proposed Tuen Mun South MTR station, with the estimated operation date of 2030, is situated in the same locality of the Application Site. These indicate the Government's intention to fully unleash the development potential of Tuen Mun.

6.12 Furthermore, in the ongoing territory-wide land searching exercise for potential housing sites, various land use review studies have been conducted by the PlanD to assess the development feasibility of unused sites located in zoning that are deemed unsuitable for residential uses such as "GB", "REC", "Government, Institution or Community" ("G/IC") and "Agriculture" ("AGR"). Other than the 8 former "GB" sites of about 255 ha rezoned for residential developments in the 2022 green belt review study, more sites of different zonings have been identified and rezoned for residential development, for instance, San Hing Tsuen in Lam Tei ("Residential (Group E)"), Choi Ha Road and Choi Hing Road in Kowloon Bay ("G/IC") and Texaco Road in Tsuen Wan ("G/IC") etc.

6.13 Therefore, in view of the previous planning history of the Application Site and the current planning circumstances, the subject application complies with the planning restriction of the subject "REC" zone and is in line with the RNTPC's decision of the last application (No. Y/TM/31) to retain the "REC" zone, but is also coherent with current changing planning circumstances to develop idle sites for provision of housing land**.**

**Better Utilization of Land Resources**

6.14 It should be highlighted that the Application Site has been left idle for over three decades. While the Applicant's previous attempt to develop a holiday camp has been unsuccessful in the past years as mentioned in para. 1.7, the proposed residential development actually presents a golden opportunity to revitalize the existing vacant unsightly ground into a viable proposed single house development with enhanced environmental quality and visual interest in the locality.

6.15 Since the proposed development also complies with the existing Government policy to increase housing supply, as well as aligns with the development parameters for residential development under the subject "REC" zone, it can effectively utilize the valuable land resources of the territory by incorporating innovative built-form and proper landscape elements into the entire development. Therefore, from the land use maximization perspective, the proposed development provides a solution to maximize land utilization at the Application Site rather than leaving it idle and deteriorating.

**Will not Create any Interface Problem**

6.16 As highlighted in paragraph 4.6 of this statement, part of the existing horse trail will intersect with the proposed vehicular access of the proposed development. As similar interface concerns have been addressed in the previously approved S.12A (No. Y/TM/11) and S.16 (No. A/TM/469) applications for the proposed holiday camp and respective approval conditions, the Applicant is committed to arrange ongoing communication and meetings with relevant parties/departments to address their concerns and implement respective measures to handle any further potential issues.

6.17 Given the nature of the proposed house development, the presumed number of users and traffic generation will be less than the formerly approved holiday camp. Therefore, the potential impacts and interface problem will in fact be comparatively lower. The Applicant will implement the previously approved safety measures to ensure the safety of the horses and road users as below:

a) installing two electronic gates (see **Figure 4**) on the proposed vehicular access at the intersection of the horse trail so that the drivers will stop and check the traffic condition before proceeding into the intersection;
b) placing a security guard at the gate for managing the traffic flow of the proposed access road and horse trail; and
c) erecting warning signs for drivers and riders.

6.18 In addition, the result of noise impact assessment indicates that the predicted noise level will comply with the relevant Noise Control Ordinance standard. Therefore, no adverse road traffic noise impact is anticipated on the proposed development. The architectural design will incorporate noise and visual mitigation measures such as planting high trees along the sound absorbing wall close to the trail. All human activities are largely restricted indoor. It is believed that there will be no interface problem for the horses, road users and residents.

**Will Not Generate Adverse Impacts to the Surrounding Areas**

6.19 In view of the nature and small scale of the proposed development, with submission of the supporting technical assessments together with this application, no adverse impacts are anticipated on the surrounding areas, as discussed below:-

Landscape

6.20 As referred to the Landscape Proposal (**Appendix 1** refers), the landscape impact of the proposed development is insignificant. With landscaping upgrades of new planting areas and retaining of the

surrounding vegetation, the Application Site can enjoy improvement in landscape terms instead of the ongoing vacancy and land deterioration. Meanwhile, the proposed fallen trees are of insignificant ecological values and the Applicant will compensate by planting 16 new trees in the Application Site to create a good quality of green environment for future residents.

6.21 With the proposed eco-friendly design, the proposed development will fit into the existing rural surrounding with no adverse landscape impact on the surrounding areas. The proposed landscape design also aims to maximizing the opportunities for the soft landscape and establish pleasant landscape areas to meet the varying needs of the residents. Therefore, it can be concluded that the proposed development will have insignificant landscape impact.

Environment

6.22 An EA report (**Appendix 2** refers) is conducted in support of this application. The Applicant will adhere to all the requirements and implement all the recommended measures and practices listed in the EA report to comply with the relevant regulations, standards and guidelines. It is anticipated that no adverse environmental impacts will be generated from the proposed development.

Traffic

6.23 As referred to the TIA report (**Appendix 3** refers), the proposed development will only generate a two-way traffic of 2 pcu/hour and 3 ped/15 min during the AM and PM peak hours respectively with insignificant impact on the traffic flows. It has also illustrated that all surveyed junctions will operate with capacities during both AM and PM peak hours with and without the proposed development. Therefore, it is concluded that the proposed development will result in no adverse traffic impact to the surrounding road networks.

Drainage

6.24 A DIA (**Appendix 5** refers) is submitted together with this planning statement. To collect the stormwater at the Application Site, 375mm and 450mm u-channels are proposed at the periphery of the Site, which would finally be diverted to the existing channel to the west of the Application Site. With no change in the existing flow paths, the existing streamcourse is also assessed to operate with sufficient capacity to convey the total flow of the proposed residential development. With the provision of the proposed drainage system, the proposed development would not cause adverse drainage impacts or increased flooding susceptibility of the surrounding areas.

Sewerage

6.25 It is noted that no public sewerage connection is available at the Application Site. The proposed sewage system will be the same as the last approved planning application for proposed holiday camp (No. A/TM/469). With no adverse comments from the EPD on the proposal from the sewerage planning perspective on the last rezoning application (No. Y/TM/31) and planning application, there would not be any adverse impact foreseen on the sewage disposal.

**No Creation of Undesirable Precedent**

6.26 Having realized the Board is entitled to consider planning applications, there may be concerns about setting an undesirable precedent by approving the current application. The proposed development should be considered an exceptional case given its unique circumstances, which would be difficult to replicate in other cases. The Application Site is located on a relatively small “REC” zone, which only covers the Application Site and the adjacent private lot, and is enveloped by the surrounding Government land of the knoll zoned “OU(PRSC)”. As the Application Site has been abandoned for over 3 decades, the proposed development can encourage maximization of

land utilization and assist the Government in providing private housing supply. With the support of submitted technical assessments along this application, the proposed development will not cause adverse impacts to the surrounding areas.

6.27 As the Board will consider each planning application on its individual merits, which in a sense, physical states of and surrounding the Application Site are always assessed individually and differently even if they are of similar nature. Approving the current application should therefore not entail to the approval of other similar applications under any circumstances.

## 7. CONCLUSION

7.1 The Application Site falls within the "REC" zone on the approved Tuen Mun OZP No. S/TM/41. The Applicant proposes for a single 2-storey house development with the anticipated completion date of around 2031. The proposed development is intended to revitalize the current idled site with environmental improvement and upgrading whilst supporting the Government's policy to increase housing supply in the market.

7.2 The Application Site is located in the close proximity of public road network and LRT stations. Its locality is characterized by residential and recreational developments. The proposed development, which is under an acceptable development intensity with sensitive design, is therefore compatible with the surrounding developments and suitable to be located at the Application Site.

7.3 The implementation of the present proposed development will replace the existing unsightly environment with a carefully designed residential development in terms of proper built-form and landscape arrangement. Thus, it encourages better utilization of land resources whilst responding to the changing planning circumstances in the surrounding areas and Hong Kong.

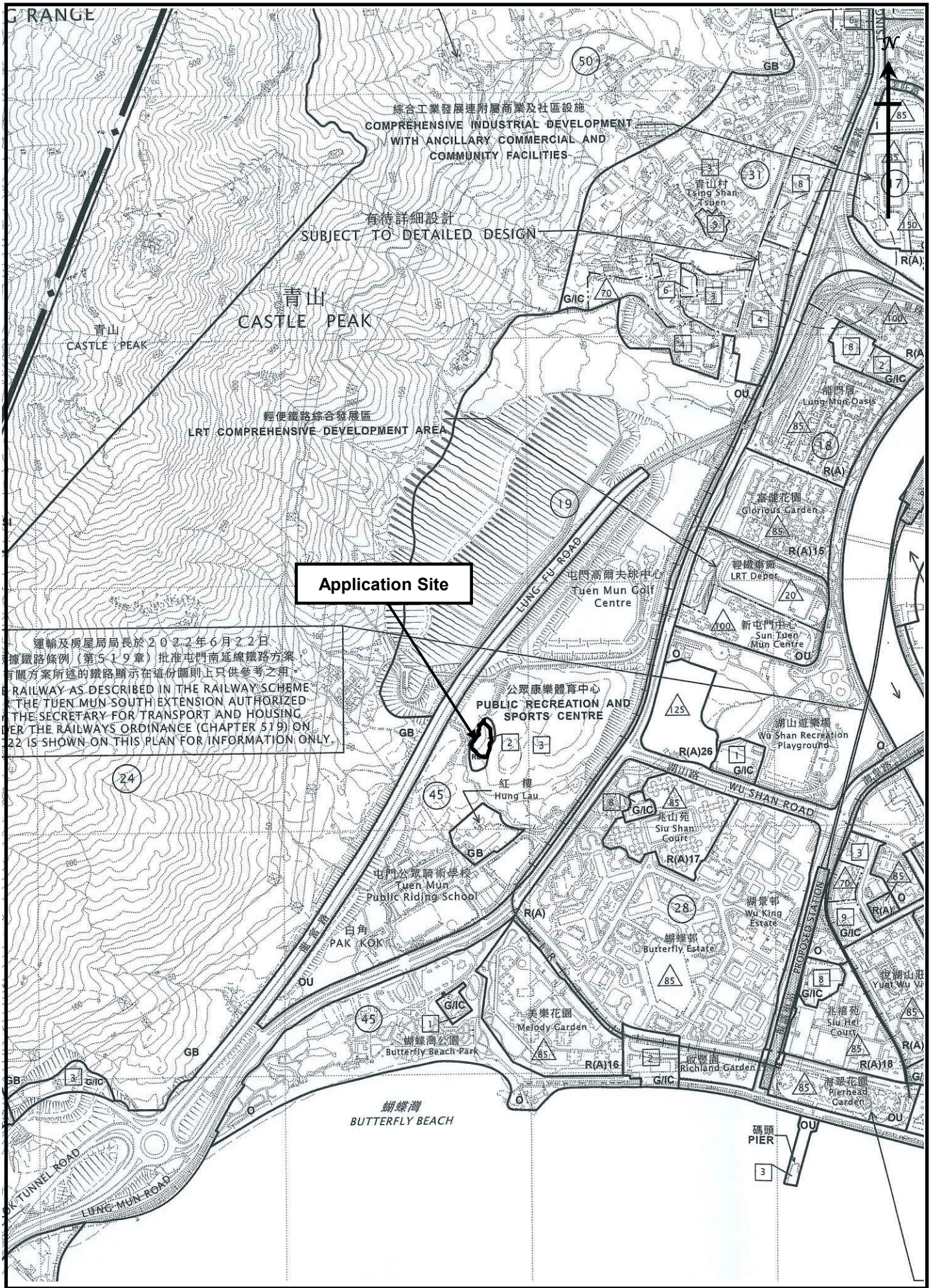
7.4 Technical assessments (Landscape Proposal with Tree Survey Report, EA, TIA, GPRR and DIA) have been conducted to ascertain that the indicative scheme will not result in adverse impacts on its surrounding areas. Sufficient mitigation measures will be carried out during the construction and operation of the proposed development to ensure no interface problem will be created. Given the unique circumstances and background of the application, it will also not create any undesirable precedent.

7.5 In view of the justifications as presented in this planning statement, we sincerely seek the favourable consideration from members of the Board and relevant Government departments to approve this planning application.

Lawson David & Sung Surveyors Ltd.
August 2025

# Figures

Figure 1 Location Plan
Figure 2 Lot Index Plan
Figure 3 The Application Site and its Surrounding
Figure 4 Master Layout Plan
Figure 5 Floor Plans
Figure 6 Elevations
Figure 7 Sections




Location Plan
(Extract from Approved Tuen Mun Outline Zoning Plan No. S/TM/41)

Figure 1

1 : 10000

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SURVEYORS LIMITED
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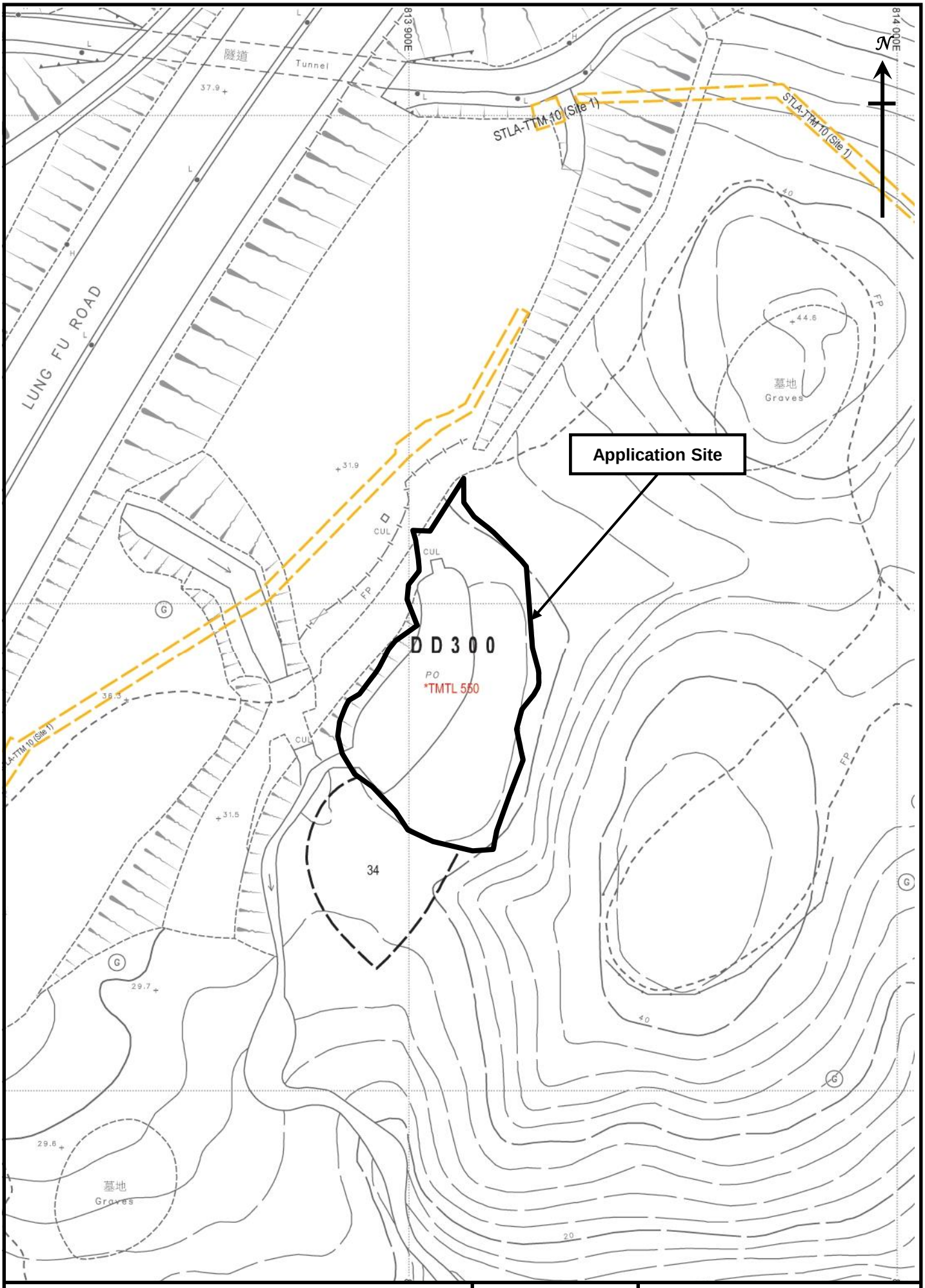
Estate Agency Licence No. C-006328




**Lot Index Plan**

Figure 2

1 : 1000

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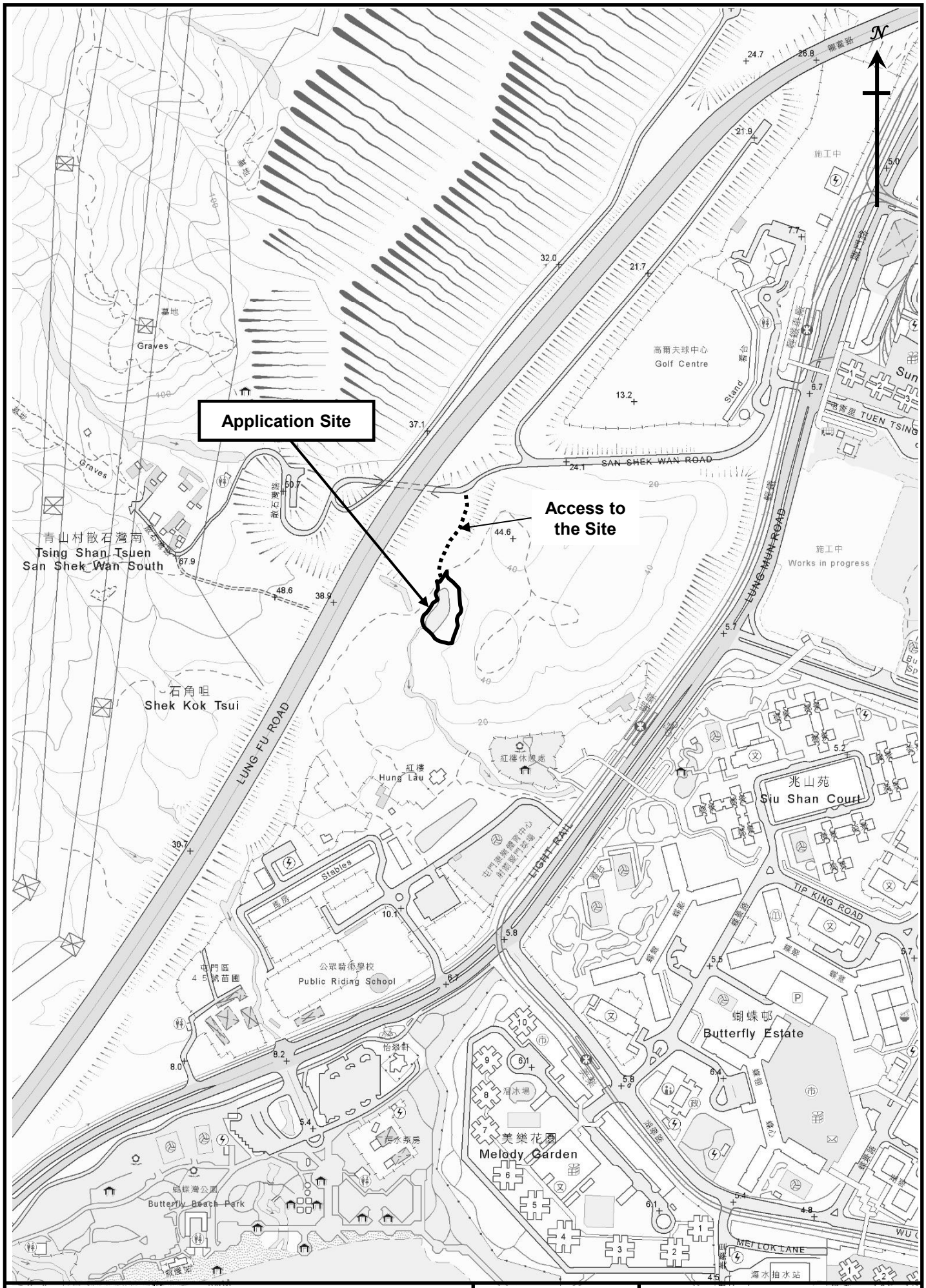


**The Application Site and its Surrounding**

(Extract of Survey Sheet Nos. 5-SE-B and 5-SE-D)

Figure 3

1 : 5000

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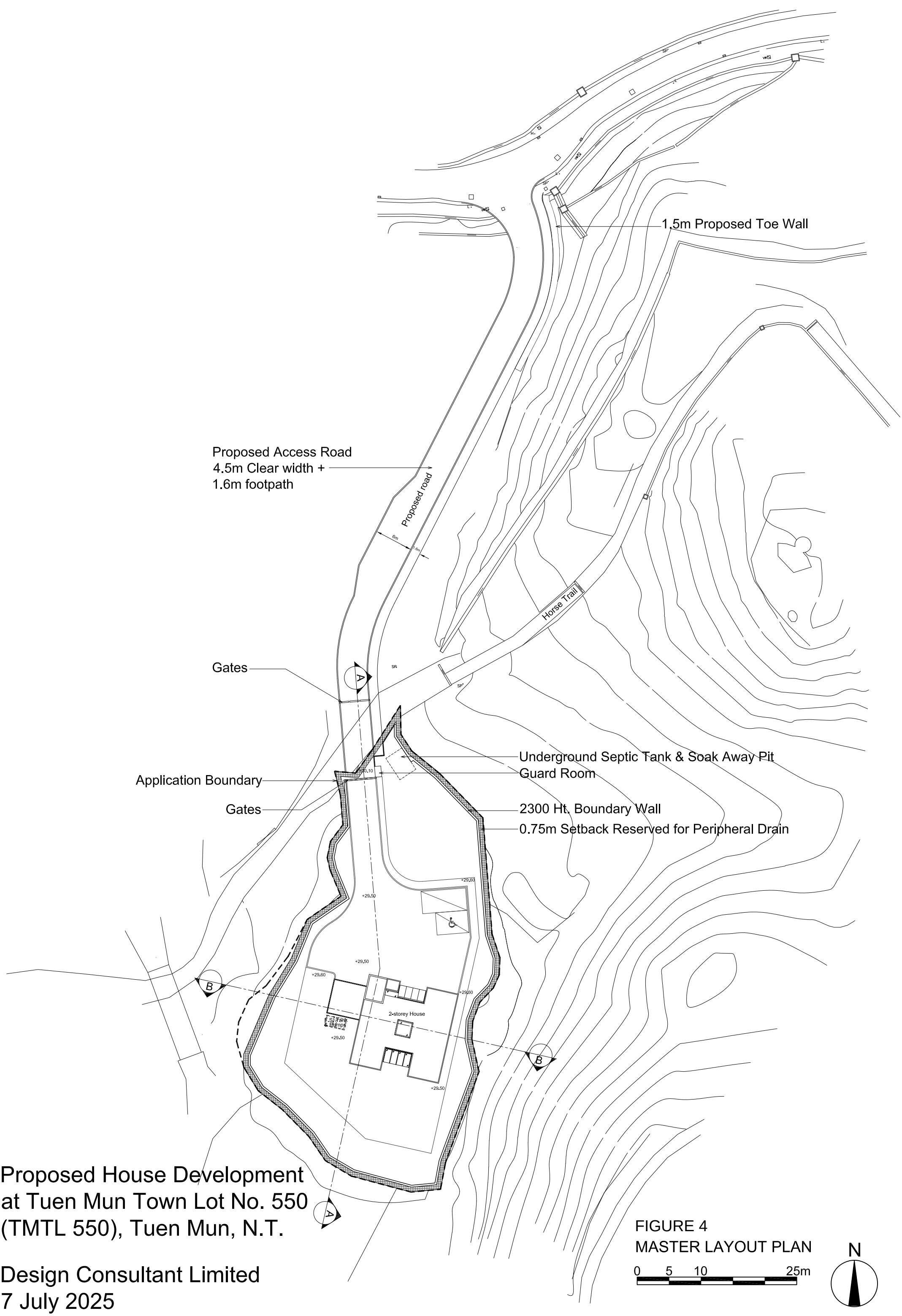
1.5m Proposed Toe Wall
Proposed Access Road
4.5m Clear width +
1.6m footpath
Proposed road
6m
1.6m
Horse Trail
Gates
A
SR
SR*
Underground Septic Tank & Soak Away Pit
Guard Room
Application Boundary
Gates
2300 Ht. Boundary Wall
0.75m Setback Reserved for Peripheral Drain
+29.60
+29.50
B
2-storey House
F.S. Tank & Pumps
+29.50
B
A
Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.
Design Consultant Limited
7 July 2025
FIGURE 4
MASTER LAYOUT PLAN
0 5 10 25m
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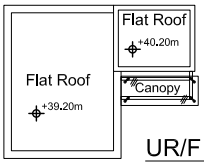
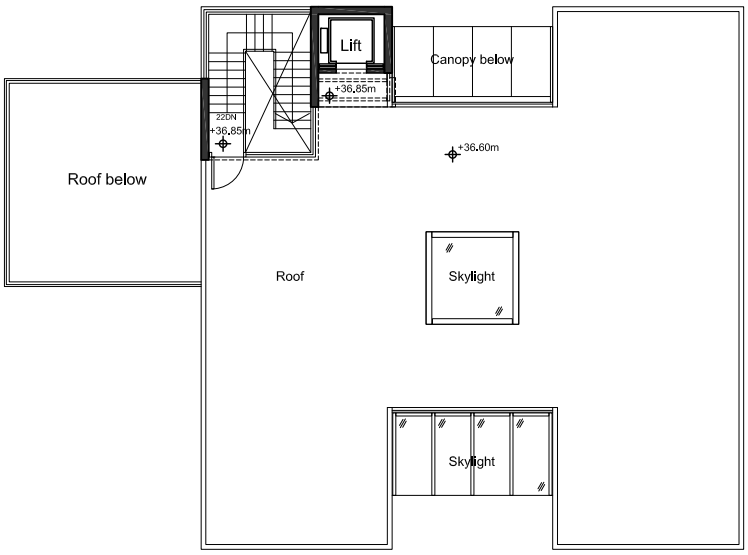



UR/F Plan



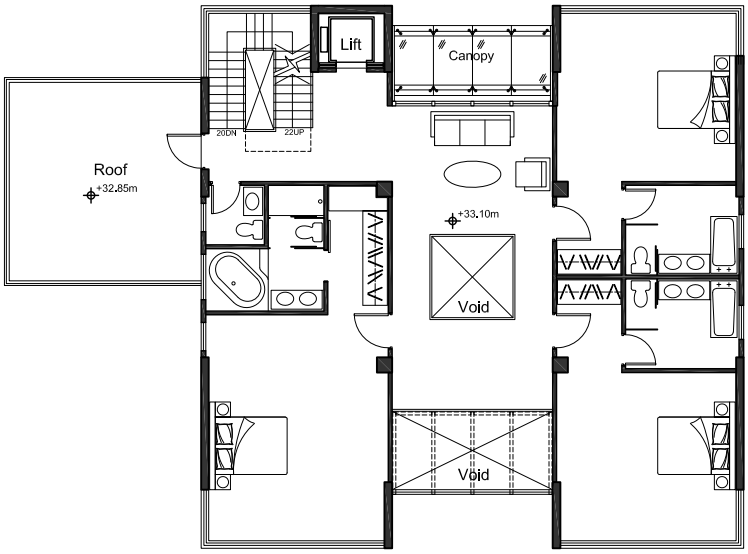

R/F Plan

## GFA & Plot Ratio Calculation

Total GFA
= G/F 189.135 + 0.949 (Guardroom)
[Exemption for F.S. Tank & Pumps Enclosure, Carport (28.60), and area covered by canopy (8.181) to be applied to BD and LD]
+ 1/F 180.316
[Exemption for 1/F Void near South Elevation (8.819) & R/F Stair Hood and Lift (17.723) to be applied to BD and LD]
= 370.400 m2

Site Area
= 1852 m2

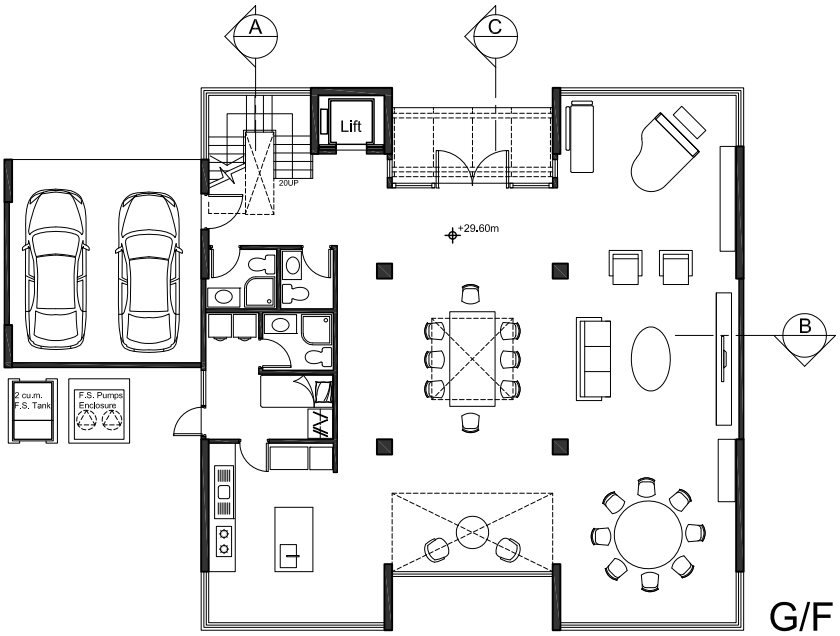
Plot Ratio
= 370.400 / 1852
= 0.2000




1/F Plan

## Site Coverage Calculation

Site Coverage
= (217.735 + 0.949)
[Exemption for area covered by canopy (8.181) to be applied]
/ 1852 x 100%
= 11.808% < 20%




G/F Plan

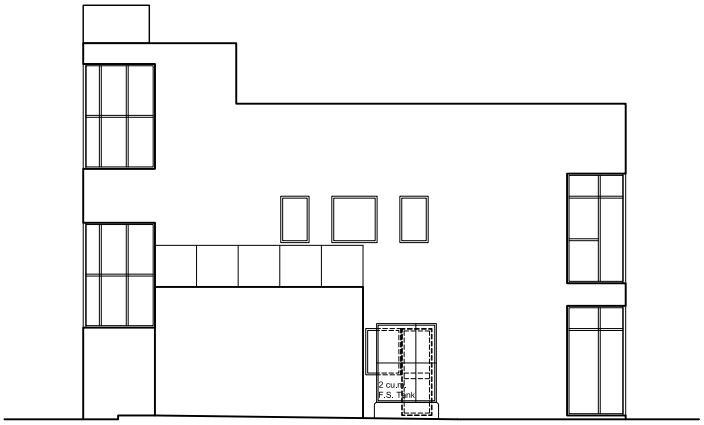
Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.

Design Consultant Limited
27 August 2025

FIGURE 5
FLOOR PLAN

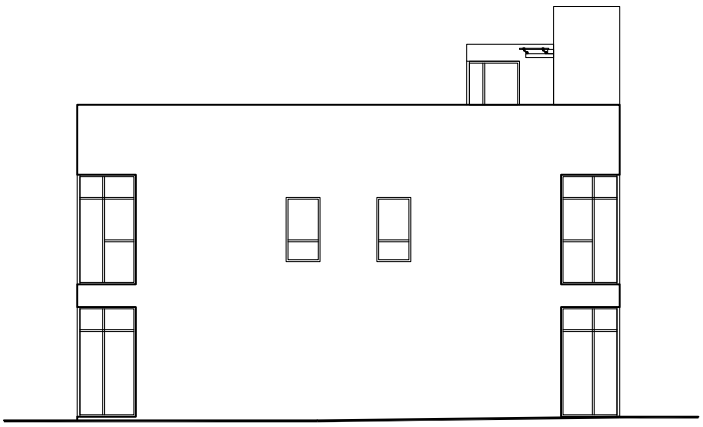
0 2 4 6 8 10m

N




West Elevation

South Elevation



East Elevation

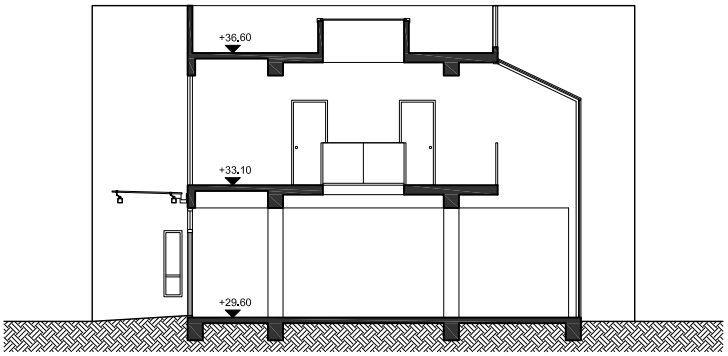
North Elevation

Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.

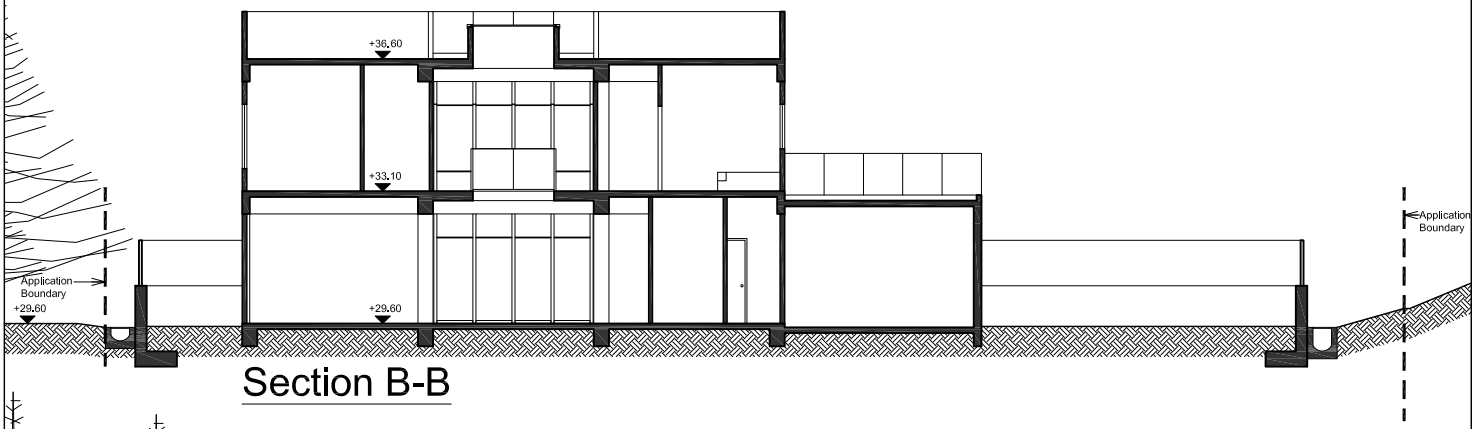
Design Consultant Limited
7 July 2025

FIGURE 6
ELEVATIONS

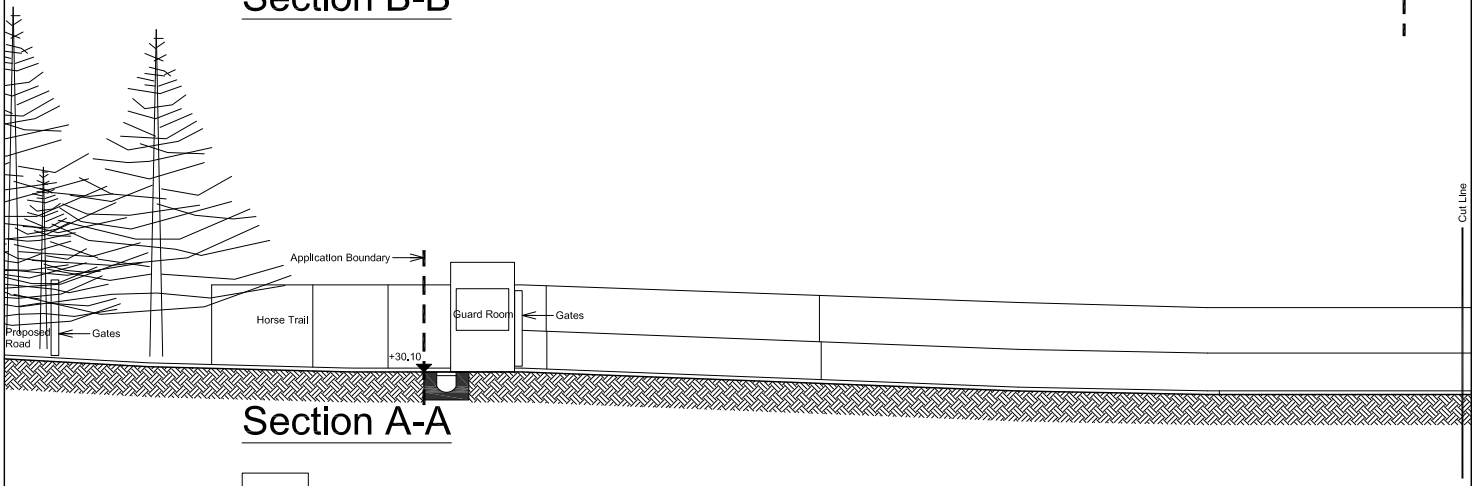
0 2 4 6 8 10m



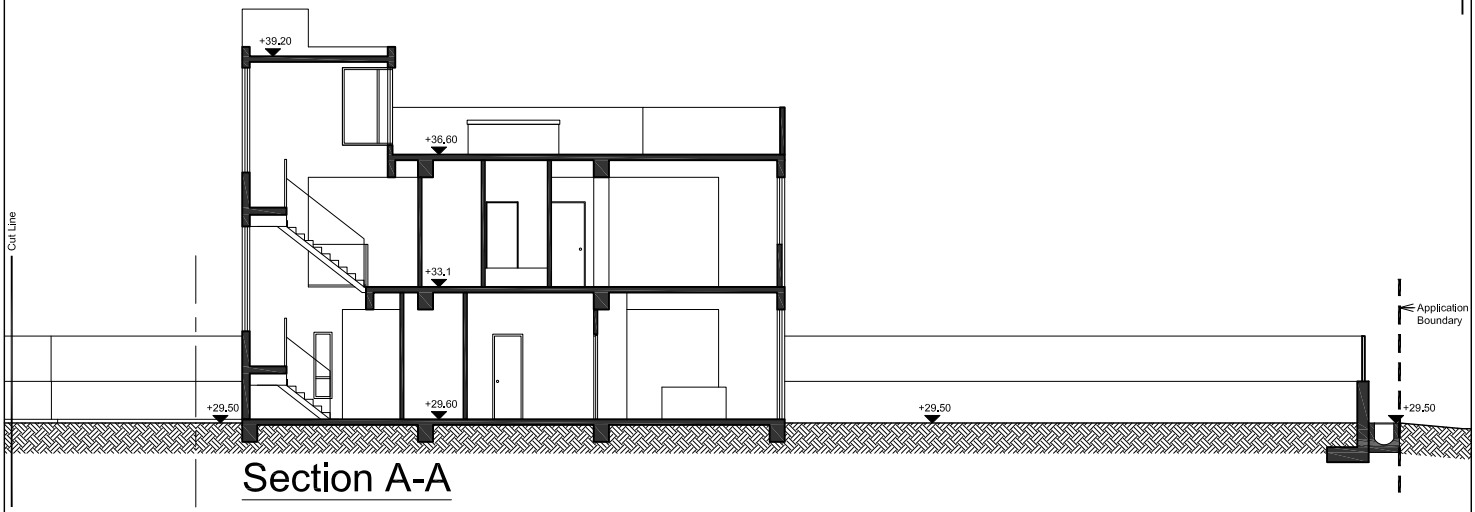

Section C-C




Section B-B




Section A-A




Section A-A

Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.

FIGURE 7
SECTIONS

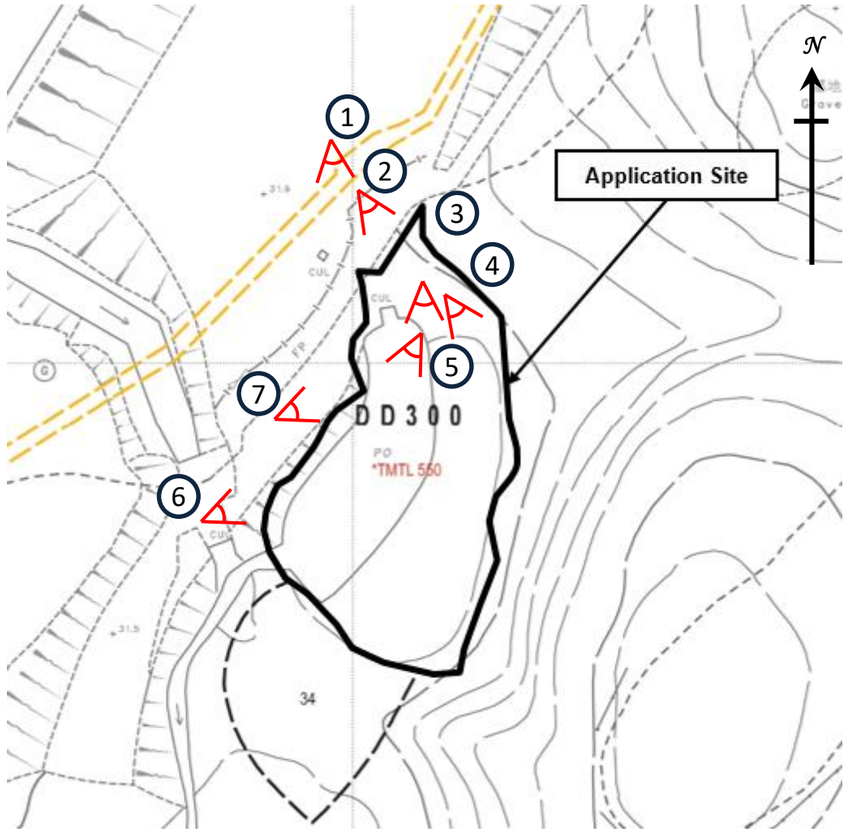
0 2 4 6 8 10m

Design Consultant Limited
7 July 2025

# Site Photos

Photo Plate 1 Existing Conditions of the Application Site

Photo Plate 2 Surrounding Land Uses



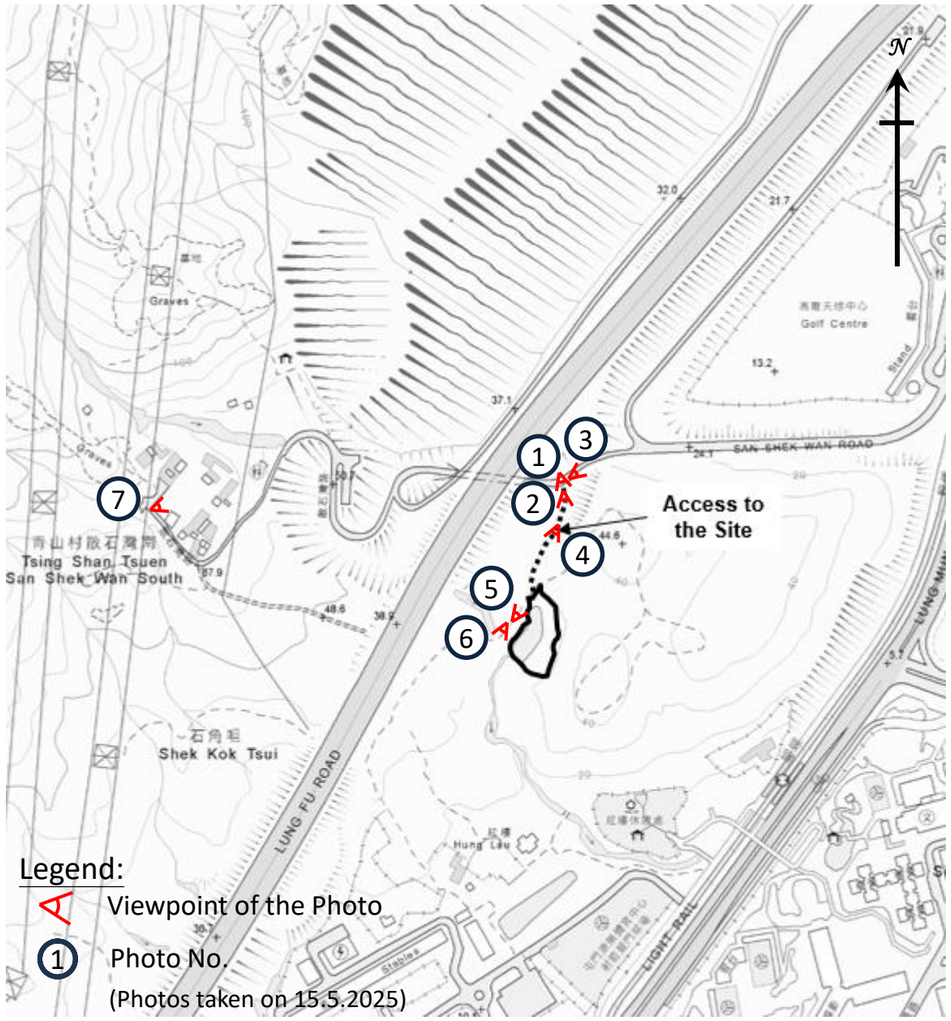

Legend:

- Viewpoint of the Photo
- (1) Photo No.
  (Photos taken on 15.5.2025)

Existing Conditions of the Application Site

**Photo Plate 1**

羅迅測計師行
Lawson David & Sung
SURVEYORS LIMITED
Property Consultants • Planning • Valuers • Auctioneers
Estate Agency Licence No. C-006328



Surrounding Land Uses

**Photo Plate 2**

羅迅測計師行
Lawson David & Sung
SURVEYORS LIMITED
Property Consultants • Planning • Valuers • Auctioneers
Estate Agency Licence No. C-006328

# Appendix 1

Landscape Proposal with Tree Survey Report

# Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

## Landscape Proposal with Tree Survey Report

**July 2025**

Prepared By:

**ADI Limited**

# ADI

| | |
|---|---|
| **Project Title** | Proposed House Development at<br>Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. |
| **Report Title** | Landscape Proposal with Tree Survey Report |
| **Date of Issue** | 24th July 2025 |

| | **Name** | **Signature** | **Date** |
|---|---|---|---|
| **Compiled by** | Elsa Kwong | | 24th July 2025 |
| **Checked by** | Barry Lo | | 24th July 2025 |
| **Approved by** | Alison Lee | | 24th July 2025 |

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### Appendix

Appendix A Tree Survey Report

## 1.0 Introduction

1.1 This Landscape Proposal forms part of the planning statement in support the S16 planning application for proposed house development at Tuen Mun Town Lot No. 550 (TMTL550), Tuen Mun, New Territories. The Application Site (hereafter the site) locates in "Recreation" zone in the Approved Tuen Mun Outline Zoning Plan No. S/TM/41. The Landscape Plans **Figures 1.1 - 1.2** and Landscape Sections **Figures 2.1 and 2.2**, demonstrate the quality and the character of the future exterior environment of the development, its structure and its relationship to the existing landscape context of adjacent horse trail. **Figures 3.0 and 4.0** show the greenery coverage and open space framework of the development site. Typical landscape details are illustrated in **Figure 5.1**. The Tree Survey Report is presented in **Appendix A** in this Report.

## 2.0 Existing Site Condition

2.1 The site is situated approximate 2km to the southwest of Tuen Mun Town Centre. It is bounded by Lung Fu Road (elevated road, +38.9mPD) to the northwest and vegetated knolls to the southeast along Lung Mun Road in a wider context. On the other side of Lung Mun Road, the area is highly developed and dominated by high-rise residential developments including Sun Tuen Mun Centre, Siu Shan Court, Butterfly Estate and Melody Garden. In the local context, the site is surrounding by a vacant government land to the north and the west, another piece of small private land to the south, vegetated knolls to the east. Proposed development covers the TMTL550. The site has an approximate area of 1,852m$^2$, it is a flat vacant land which was utilised for agricultural purposes many years ago. A vacant well and an unused culvert are observed in the east and the north of the site.

2.2 There is an existing footpath connecting the site and San Shek Wan Road to the north of the site. There is a horse trail, operating by the Public Riding School running alongside the west and north outside of the site.

***Landscape Context & Resources***

2.3 The site is located at about +29 to 30mPD lower than the surrounding topography, knolls located to its east and south at varies height from +42 to 44mPD, with over 10m high mature tree plantation on top, which formed a natural green buffer to developments on the other side of Lung Mun Road. The plantation along the horse trail and Lung Fu Road forms another landscape buffer along the west and the north periphery of the site. Given to this setting, the site is relatively enclosed.

2.4 The site is currently vacant for years pending for development and mostly covered by soil and weeds.

2.5 Having considered the retention of exiting trees surrounding the site, the access road alignment, the boundary wall/ retaining wall treatment and drainage proposal of the proposed development have been carefully planned to minimise the effect on the existing trees in particular those on vegetated slope, given that the proposed scheme has been maximised the tree preservation opportunities.

2.6 Proposed house development and associated landscape proposal would enhance the local landscape quality though planting of new trees which would create a seamless transition from the house development to surrounding green context. Given the scale of development is very small, responsive site planning for tree preservation, the local landscape context and character will largely remain unchanged upon full establishment of the planting proposal. The proposed development will be compatible with the sub-urban landscape context.

***Existing Trees***

2.7 The site is vacant. Refers to the recent topographical survey update of existing tree location, there is no tree (base level) exactly located within the site. However, there are 4 nos. of existing trees, A136, A149, A150 and A162 which located on/very close to the site boundary, and which have been contained in the previous and the recent tree survey. The main trunk of these 4 existing trees and majority of their crown spread are seriously leaning into the site, which will be affected by the site formation works for proposed boundary wall/ retaining wall and/or periphery drainage system which are required by the proposed development. Besides, another 19 trees are observed along the existing track connecting San Shek Wan Road and the site which will be affected by the proposed EVA/new access road to the site.

2.8 No registered Old and Valuable Trees (DEVB TC(W) No. 5/2020 Registration and Preservation of Old and Valuable Trees) and no protected specimen under Endangered Species of Animals and Plants Ordinance Cap. 586, the Rare and Precious Plants of Hong Kong (Status in China), and under China Plant Red Data Book exists on site or being affected.

2.9 Existing trees condition and their treatment as result of proposed development refer to **Appendix A Tree Survey Report.**

2.10 Having considered the tree species, which are weedy trees, poor condition of these affected trees, trees have unrecoverable defects, the affected trees are not suitable candidate for tree transplanting, and therefore tree felling is recommended. According to the tree survey findings, unrecoverable defects are frequently found in many existing trees. Defects include seriously leaning, epicormic sprouts, unbalanced crown/form, exposed and restricted rooting area that are unfavourable and not recommended to be retained. The proposal concludes that 16 trees are required of tree felling plus the removal of 7 weedy trees, Leucaena leucocephala. Trees of low amenity value and/or having defects will be replaced by a combination of high quality broadleaf and ornamental trees in the proposed development.

2.11 The new tree planting proposal intends to create a good quality of green environment for future residents with proper and good quality planting establishment. A total of 16 new trees of heavy standard stocks would be planted with 1:1 replanting ratio (16 trees felled: 16 new trees planted) with excluding the removal of 7 no. of *Leucaena leucocephala*.

2.12 The selection of good quality species will enhance the visual amenity of the site, improves bio-diversity in the local landscape context and provides a high quality living environment for the future residents. Tree planting opportunities have been maximised within the proposed development in balance with the provision of other facilities, utilities and traffic layout arrangement necessarily required for the residents. Implementation of planting proposal will create a high quality living environment, and will establish the character and identity for the future development. With the full establishment of the planting proposal, the local landscape context and visual amenity would be enhanced.

## 3.0 Project Description

3.1 The site is proposed for for a house development comprises of a 2-storey house, a guard room, an underground septic tank, car parking spaces and associated landscape areas. The development also involves an EVA/new access road connecting to San Shek Wan Road.

## 4.0 Landscape Design Proposal

4.1 The concept underpinning the landscape design of proposed development is to provide a synthesis between the contemporary design philosophy and sustainable development

principle responding to both site context and the proposed nature of the development, and respects the surrounding landscape features.

4.2 Proposed scheme aims to provide a high quality living environment for the future residents. The landscape area will be designed with contemporary design language and sustainable principles which will provide private relaxing and recreational space for the residents.

4.3 The landscape design proposal is described in terms of the main design objectives followed by a description of the key landscape components, and finally the landscape elements including the proposed hard and soft landscape, which form the palette of materials.

## 5.0 Landscape Design Objectives

5.1 The following design objectives are taken into account in the formulation of development scheme and landscape proposal:

- Integrate the proposed development from a landscape and visual perspective with the surrounding landscape context;
- Provide a quality and sustainable living environment for the future residents;
- Provide adequate open space for the future residents;
- Respond to the character of the architectural scheme and its suburban landscape context with an aesthetically appropriate treatment;
- Provide a landscape framework for the development for softening of the built-form to the surrounding vegetated knolls;
- Maximise opportunities for the planting of new trees and shrubs within the development to enhance the amenity value of local landscape context; and
- Maximise opportunities for the greenery within the development.

## 6.0 Greenery Coverage

6.1 Upon full establishment of greening measures in the above landscape design proposal, greenery coverage within the development will not be less than 30% of the total site area of 1,852m$^2$ (not less than 555.6m$^2$), which is complied with the OZP greenery requirement for this “Recreation” zone. The greenery coverage is shown in **Figure 3.0** Greenery Coverage.

## 7.0 Open Space Proposals

7.1 Adequate open space will be provided in accordance with the requirements of HKPSG for the provision of local open space with the objective of providing high quality passive recreational space that will satisfy the needs of the residents. **Figure 4.0** shows the open space framework of proposed development which is designed for the enjoyment of the residents only, and will be managed and maintained by the property management of the development. The proposed scheme is designed to meet the requirement providing minimum 1m$^2$ per person of local open space as required by the HKPSG i.e. not less than 3m$^2$.

## 8.0 Landscape Design Components

***Residential Landscape***

8.1 Planting with broadleaf native trees (*Bischofia javanica*) at the entrance of the site will integrate with the character of surrounding vegetated slopes, highlights the entrance threshold of the development and establishes the identity for the development. This tree planting proposal extends continuously at the site periphery to visually soften the

development edge and provides screening for the privacy of the proposed development.

8.2 A leisure lawn with benches is embraced by trees is set at the front court creating shade and comfortable environment for relaxing as well as an intimate garden courtyard for residents to appreciate different form and texture of greenery linking to the surrounding vegetated slopes. Planting of broadleaf trees/ flowering trees with fragrance, such as *Bischofia javanica* and *Osmanthus fragrans,* would provide shade and enrich the senses of the users. A paved courtyard is set at the back of the house provides flexible gathering space for the residents.

## 9.0 Landscape Design Elements

***Soft Landscape***

9.1 The landscape design has been maximised the opportunities for tree and shrub planting to enhance the character of the development and the local landscape context. The basis for the proposed planting scheme would provide a green and comfortable environment for the residents. Shade trees with dense canopy and flowering shrubs would be used to emphasise the character of landscaped areas and sitting-out area described above. The use of well combination of evergreen, broadleaf and/or ornamental trees and/or flowering shrubs will also screen and visually soften the appearance of the development. Infilled native tree/shrub species will enhance the integration to the surrounding landscape context.

9.2 Whilst the landscape design is subject to review during the detailed design stage of the project, the following description seeks to establish some guiding principles that are important for implementing the landscape as part of the overall scheme and in ensuring its feasibility.

9.3 The plant species for the landscaped areas will be selected to provide colour throughout the year with seasonal variation. This will be achieved through the selection of species with an interesting form, colour and texture of their foliage and through the use of flowering species to provide an architectural highlight. Shade tolerant species will be considered in the planting area with less exposure of sunlight.

9.4 In order to achieve the landscape character at this initial stage, new trees will be specified with larger sized tree stock. The following species in **Table 9.1** will form the basis of the planting design proposals and subject to develop at detailed design stage.

***Table 9.1: Proposed Planting Mix***

| Botanical Name | Size (mm) | Spacing (mm) |
|---|---|---|
| **Tree** | | |
| **Bischofia javanica* | Heavy Standard | 5000 |
| *Osmanthus fragrans* | | 4000 |

Note:* denotes native tree species.

| Botanical Name | Height x Spread (mm) | Spacing (mm) |
|---|---|---|
| **Shrub** | | |
| *Allamanda cathartica* | 500H x 500S | 400 |
| *Bougainvillea spectabilis* | 600H x 500S | 500 |
| *Camellia japonica* | 600H x 500S | 400 |
| *Duranta repen 'Golden Leave'* | 300H x 300S | 200 |

| Botanical Name | Height x Spread (mm) | Spacing (mm) |
|---|---|---|
| *Fagraea ceilanica 'Variegata'* | 500H x 500S | 400 |
| *Ligustrum sinense variegatum* | 700H x 500S | 500 |
| *Agalzaia odorata* | 700H x 500S | 300 |
| *Pittosporum tobira* | 500H x 400S | 400 |
| *Melastoma candidum* | 300H x 300S | 200 |
| *Michelia figo* | 300H x 300S | 250 |
| *Nephrolepis exaltata* | 300H x 300S | 250 |
| *Melastoma candidum* | 300H x 300S | 200 |
| *Phyllanthus myrtifolius* | 200H x 300S | 200 |
| *Rhododendron pulchrum* | 600H x 400S | 350 |

| Botanical Name | Height x Spread (mm) | Spacing (mm) |
|---|---|---|
| **Ground Cover** | | |
| *Alternanthera dentata* | 200H x 200S | 300 |
| *Cuphea hyssopifolia* | 150H x 150S | 200 |
| *Lantana mista* | 200H x 300S | 500 |
| *Ophiopogon japonicus 'variegatum'* | 100H x 150S | 250 |

| Botanical Name | Height x Spread (mm) | Spacing (mm) |
|---|---|---|
| **Lawn** | | |
| *Zoysia japonia* | 300 x 300 Turf | even density |

***Soil Depth for Planting Areas***

9.5 In order to ensure that these planting proposals are feasible, it is proposed that an adequate planting medium be incorporated into the design of the soft landscape areas. For example, the tree planting in planter or planting area will utilise a minimum 1200mm depth of planting medium, 600mm depth of soil will be required for shrub areas and a minimum soil depth of 300mm for lawn. These are minimum soil depths required in planting areas and planters with exclusion of structural and drainage layers to ensure healthy plant establishment.

***Irrigation and Drainage***

9.6 The proposed irrigation system will be via manual water point operation, covering the entire planting area within the site. The proposed source of water supply is subject to final approval from the Water Supplies Department. Sub-soil drainage shall be provided for all planting areas.

***Feature Paving***

9.7 The paving will be an important element of the open space design, both in aesthetic terms and in producing a hardwearing landscape for usage by the future residents. These surfaces would be constructed of high quality materials in feature patterns achieved through the use of colour, texture and finishes designed to establish themes across the development site.

9.8 Non-slip and durable paving materials will be selected. Concrete paving blocks will be utilised on EVA / driveway. Recycled paving blocks will be used on pedestrian alongside of access road to HyD standards.

***Lighting***

9.9 The lighting design concept for the landscaped areas will be designed to contribute to the quality of the development in nocturnal views providing an aesthetically pleasing environment through the creation of mood and highlighting of the landscape elements. Open spaces will be provided with sufficient illumination to meet the required lighting standards. Lighting designed for all open space will be carefully designed to avoid glare and shall be effective in energy saving. A timer switch control system shall be provided and where possible the lighting will be designed to avoid spillage and potential glare impacts.

***Treatment of Slopes and Retaining Walls***

9.10 Engineering structures will be aesthetically enhanced through the use of soft landscape works to give man-made slopes a more natural appearance blending into surrounding landscape setting such as (1) Hydroseeding on sloping area, and/or (2) Shade tolerant species will be planted under understory of trees, and/or (3) Tree/shrub plantings alongside of the wall to disguise its functional appearance.

## 10.0 Landscape Management and Maintenance

10.1 Upon completion of the construction works, a 12-months defect liability period will be implemented which applies to both hard and soft landscaping works. The soft landscape specialist contractor will be responsible for the maintenance of planting during this first year following practical completion to ensure proper establishment of planting works. Ultimately the property management team of proposed development will employ maintenance staff to take care of all landscape areas including hard and soft landscape works as described below:

***Hard Landscape Elements***

**I - Routine Maintenance (Daily –Weekly)**

a. Rubbish and litter removal;
b. Sweeping and cleaning;
c. Water feature cleaning; and
d. Damage inspection and repair for site furniture and light bulb replacement.

**II – Annual / Long Term Maintenance**

a. Repainting;
b. Resurfacing of worn pavements;
c. Replacing worn parts site furniture, lighting fixture and other facilities;
d. Replacement of worn landscape furniture; and
e. Landscape hard elements.

***Soft Landscape Elements***

10.2 The softworks contractor will be responsible for a 12-month establishment period of plants after practical completion of the planting works. It allows a period of time for proper establishment of the plants.

10.3 Upon the end of the 12-months establishment period, the developer will employ maintenance staff to take care of all landscape areas within the development.

# Figures

## Legend

- Application Site Boundary
- Lawn
- Shrub
- Bench
- New Tree Planting 16 nos.
- +4.50 Proposed Level
- Pedestrian Entrance/Exit
- Vehicular Entrance/Exit

1. Tree planting highlights the entrance threshold of the development.
2. Leisure Lawn is embraced with trees and benches which provides shaded and comfortable area for relaxing.
3. Continuous edge plantings to soften the development edge.
4. Proposed access road aligns in areas with less tree impact.

**Development Site : 1,852m²**
**Private Open Space for Residents: Total not less than 3m²**
(For estimated population of 3 people)

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Landscape Plan - Sheet 1 of 2

| | | | |
|---|---|---|---|
| SCALE | AS SHOWN | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | Figure 1.1 | REV | - |

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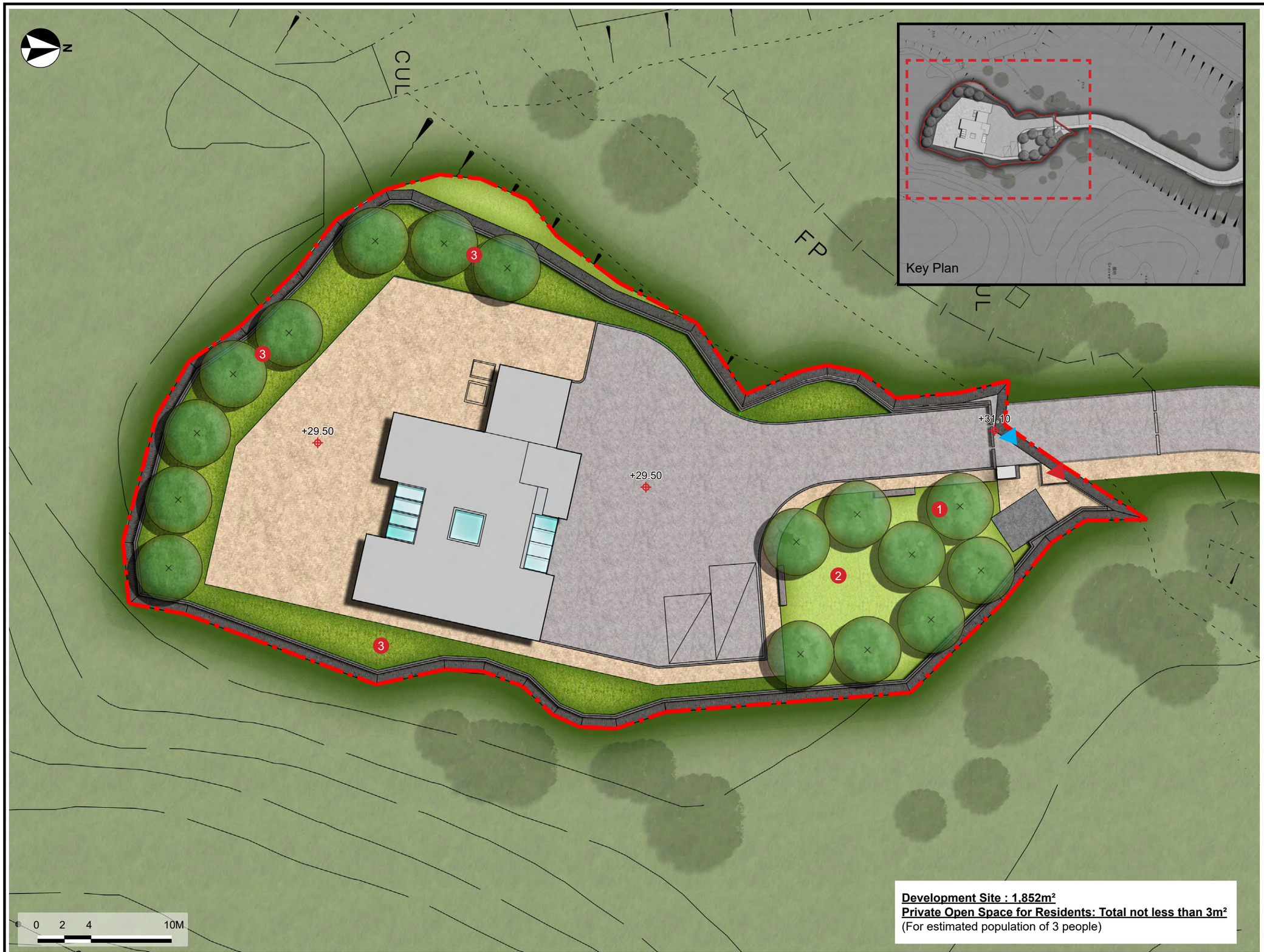
國際環境管理、城市規劃及設計、園景建築顧問服務
[redacted]




## Legend

- Application Site Boundary
- Lawn
- Shrub
- Bench
- New Tree Planting 8nos.
- +4.50 Proposed Level
- Pedestrian Entrance/Exit
- Vehicular Entrance/Exit

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Landscape Plan - Sheet 2 of 2

| | | | |
|---|---|---|---|
| SCALE | AS SHOWN | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | Figure 1.2 | REV | - |

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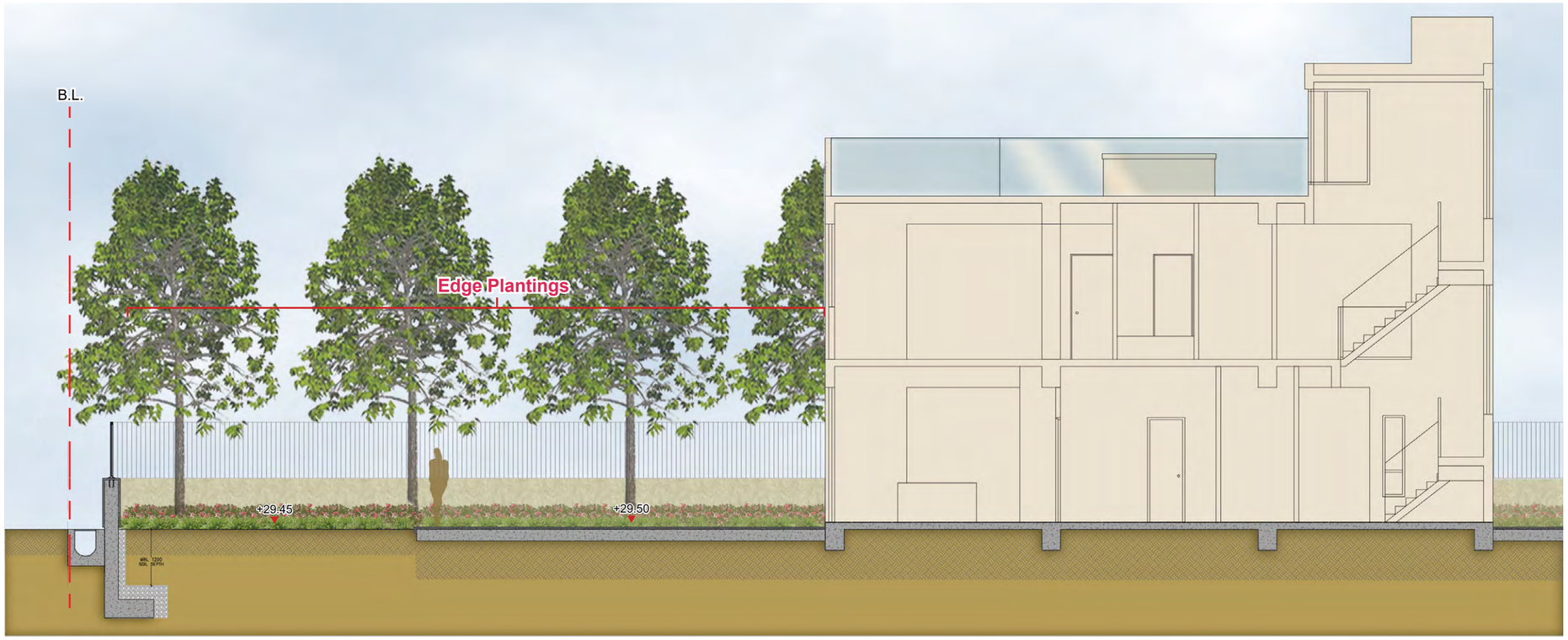
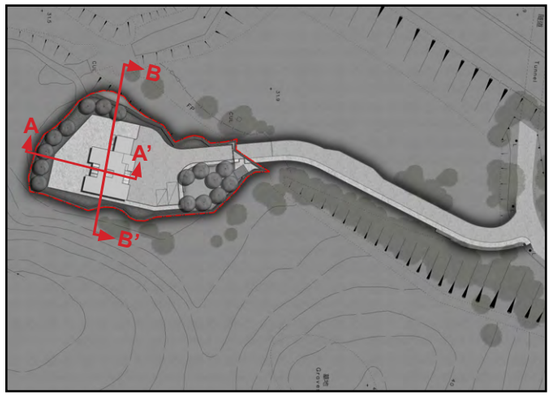
[redacted]




A

A'

0 1 2 5M




KEY PLAN




B

B'

0 1 2 5M

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Landscape Section A-A' and B-B'

| | | | |
|---|---|---|---|
| SCALE | AS SHOWN | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | Figure 2.1 | REV | - |

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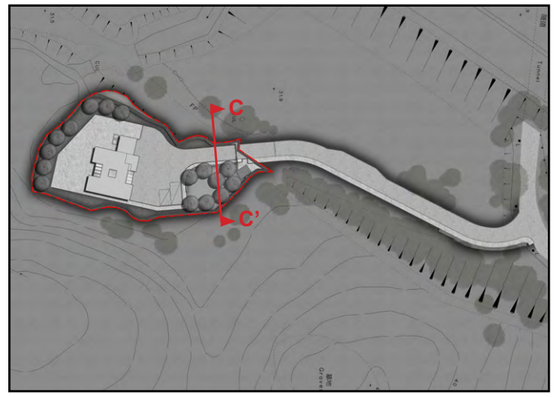
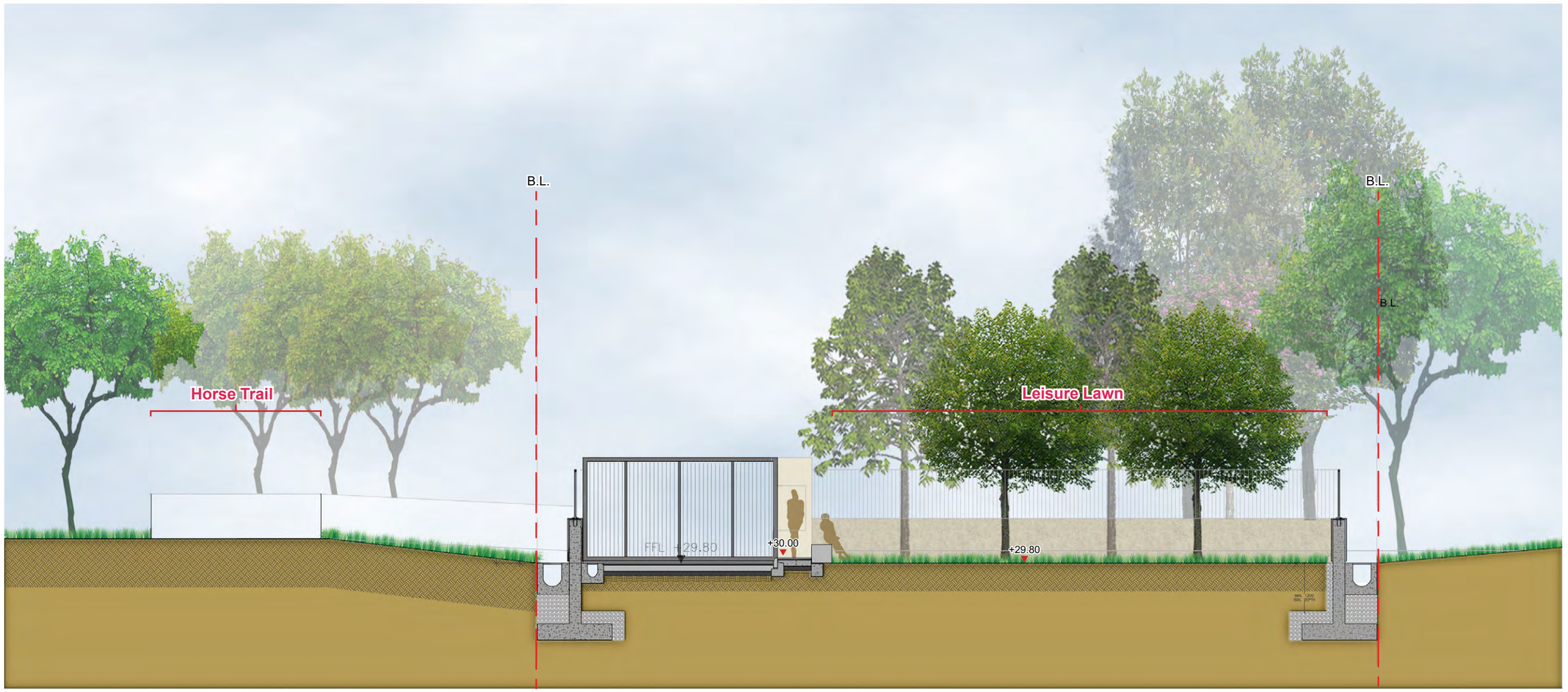



**KEY PLAN**




Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Landscape Section C-C'

| | | | |
|---|---|---|---|
| SCALE | AS SHOWN | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | Figure 2.2 | REV | - |

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## Legend

- Application Site Boundary
- +4.50 — Proposed Level
- Greenery Coverage (Uncovered)

Note:
Greenery Provision
Total not less than 555.6m²
30% of the Site Area (1,852m²)
complied with ozp requirement.

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Greenery Coverage

| | | | |
|---|---|---|---|
| SCALE | AS SHOWN | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | Figure 3.0 | REV | - |

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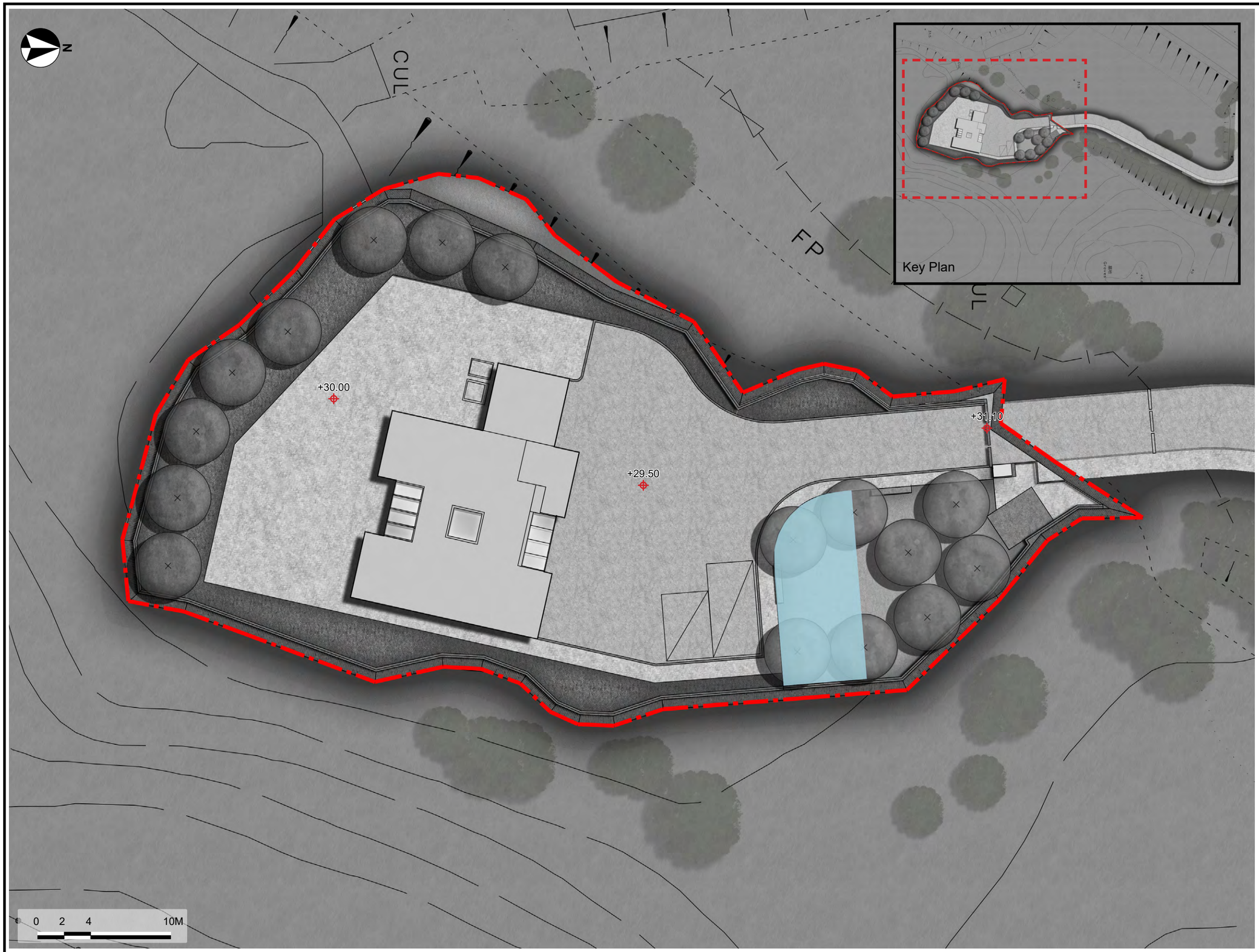


## Legend

- Application Site Boundary
- +4.50 Proposed Level
- Private Open Space (for Passive Recreation)

Note: Total Not less than 3m²
Following HKPSG requirement (1m²/person) for estimated population of 3

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Open Space Framework

| | | | |
|---|---|---|---|
| SCALE | AS SHOWN | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | Figure 4.0 | REV | - |

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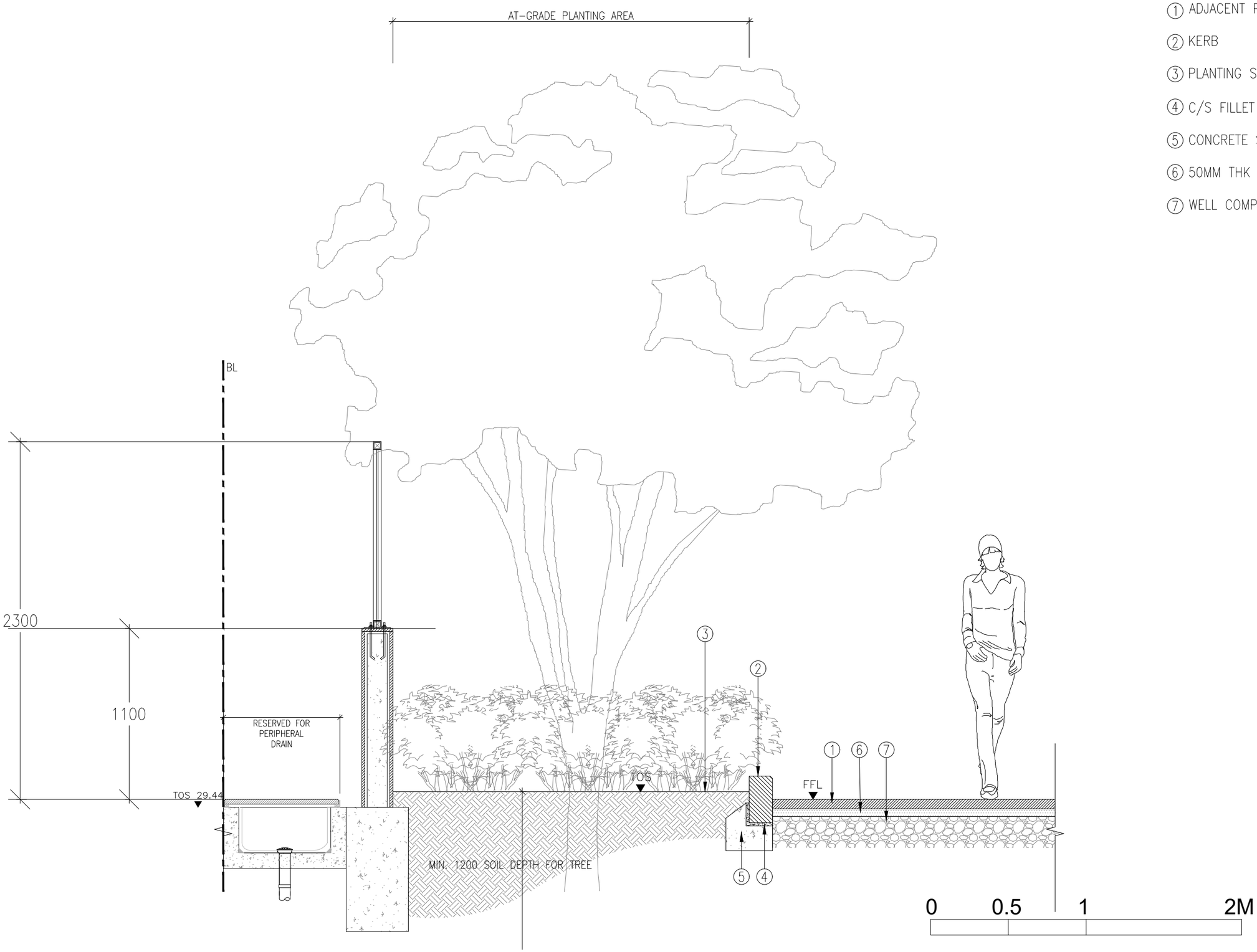
[redacted]




1. ADJACENT PAVING AS SPECIFIED
2. KERB
3. PLANTING SOIL MIXTURE
4. C/S FILLET
5. CONCRETE SETTING BED BY ENGR.
6. 50MM THK COMPACTED SAND BASE
7. WELL COMPACTED SUB BASE

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Typical PlanterDetail - At-Grade

| | | | |
|---|---|---|---|
| SCALE | AS SHOWN | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | Figure 5.1 | REV | - |

ADI LIMITED
LANDSCAPE ARCHITECTURE, URBAN DESIGN AND MASTER PLANNING
[redacted]
雅博奧頓國際設計有限公司
國際環境管理, 城市規劃及設計, 園景建築顧問服務
[redacted]

# Appendix A

Tree Survey Report

## Appendix A

## Tree Survey Report

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## 1.0 Introduction

1.1 ADI Limited has been commissioned by the Applicant to carry out an individual tree survey to support the S16 planning application for proposed house development at Tuen Mun Town Lot No. 550 (TMTL550), Tuen Mun, New Territories. The objective of this tree survey report is to provide a picture of the existing trees within and adjacent to the lot boundary and make recommendations to their treatment aiming for minimal disturbance to existing trees and creating eventual high quality landscape setting. This report should be read in conjunction with the landscape proposal.

1.2 The tree survey has been completed in broad accordance with Practice Note for Professional Persons No. 1/2019 Processing and Compliance Checking of Landscape Submissions related to Planning Applications. This report outlines the approach and findings of the tree survey, the type and extent of vegetation that will be affected by the proposed development and the proposed treatment of the vegetation. A formal Tree Preservation and Removal Proposal (TPRP) according to LAO Practice Note Issue No. 6/2023 Tree Preservation and Tree Removal Application for Building Development in Private Projects will be prepared during the detailed design stage of the project and submitted to the relevant government departments for approval at that time. The survey approach is presented as **Appendix I – Tree Survey Methodology.**

1.3 The tree survey was undertaken in June 2025 to reflect the current condition of existing trees within and adjacent to the application site, and to reflect any potential impact caused on existing trees due to the proposed house development and associated vehicular access/EVA from San Shek Wan Road.

1.4 The application site is proposed for a house development comprises of a 2-storey house, a guard room, an underground septic tank, car parking spaces and associated landscape areas. The development also involves an EVA/new access road connecting to San Shek Wan Road. Detail of existing trees within the site/ close to the site being affecting, and their treatment are presented in **Annex II – Tree Treatment Schedule, Annex III – Tree Treatment Plan, Annex IV – Photographic Record of Existing Trees**.

## 2.0 Existing Condition

2.1 The Application Site (hereafter the site) is situated approximate 2km to the southwest of Tuen Mun Town Centre. It is bounded by Lung Fu Road (elevated road, +38.9mPD) to the northwest and vegetated knolls to the southeast along Lung Mun Road in a wider context. On the other side of Lung Mun Road, the area is highly developed and dominated by high-rise residential developments including Sun Tuen Mun Centre, Siu Shan Court, Butterfly Estate and Melody Garden. In the local context, the site is surrounding by a vacant government land to the north and the west, another piece of small private land to the south, vegetated knolls to the east. Proposed development covers the TMTL550. The site has an approximate area of 1,852m$^2$, it is a flat vacant land which was utilised for agricultural purposes many years ago. A vacant well and an unused culvert are observed in the east and the north of the site.

2.2 There is an existing footpath connecting the site and San Shek Wan Road to the north of the site. There is a horse trail, operating by the Public Riding School running alongside the west and north outside of the site.

2.3 The site is located at about +29 to 30mPD lower than the surrounding topography, knolls located to its east and south at varies height from +42 to 44mPD, with over 10m high mature tree plantation on top, which formed a natural green buffer to developments on the other side of Lung Mun Road. The plantation along the horse trail and Lung Fu Road forms another landscape buffer along the west and the north periphery of the site. Given to this setting, the site is relatively enclosed.

## 3.0 Existing Vegetation

3.1 The site is vacant. Refers to the recent topographical survey update of existing tree location, there is no tree (base level) exactly located within the site. However, there are 4 nos. of existing trees, A136, A149, A150 and A162 which located on/very close to the site boundary, and which have been contained in the previous and the recent tree survey. The main trunk of these 4 existing trees and majority of their crown spread are seriously leaning into the site, which are potentially affected by the site formation works for proposed boundary wall/ retaining wall and/or periphery drainage system which are required by the proposed development. Besides, another 19 trees are observed along the existing track connecting San Shek Wan Road and the site which are potentially affected by the proposed EVA/new access road to the site.

3.2 A total of 7 tree species were identified in the survey. About 26% of existing trees are self-seeded weedy trees, *Leucaena leucocephala.* Another 43% are also self-seeded trees with prolific nature, such as *Bauhinia variegata and Macaranga tanarius* var. tomentosa. The remaining are fruit tree, native/ exotic plantation species that are commonly found in Hong Kong and are few in numbers. **Table A2.1** below listed the tree species surveyed and their relative abundance. Tree composition contains 3 native species and the other 4 are exotic species which accounts for 22% and 78% of total tree number respectively.

3.3 No registered Old and Valuable Trees (DEVB TC(W) No. 5/2020 Registration and Preservation of Old and Valuable Trees) and no protected specimen under Endangered Species of Animals and Plants Ordinance Cap. 586, the Rare and Precious Plants of Hong Kong (Status in China), and under China Plant Red Data Book exists on site or being affected.

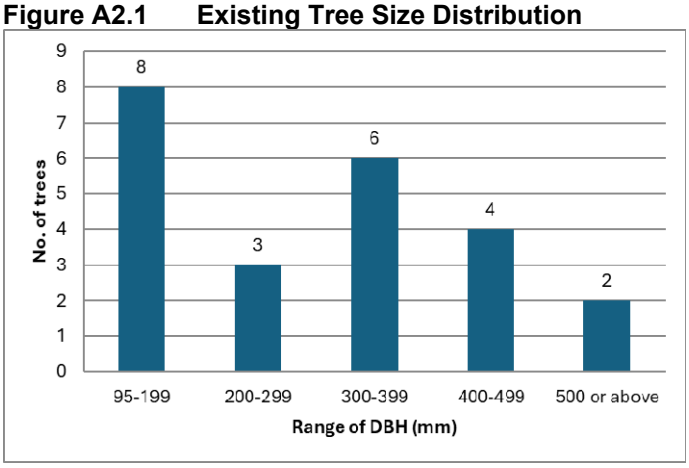
3.3 The existing tree locations are illustrated on **Annex III – Tree Treatment Plan**. Identification of tree species, form and health condition of these trees are reviewed in the following paragraphs and listed in **Annex II - Tree Treatment Schedule**. A **Photographic Record of Existing Trees** is enclosed in **Annex IV.**

**Table A2.1 Summary of Existing Tree Species**

| Botanical Name | Chinese Name | No. of Trees | % | Native (N)/ Exotic (E) |
|---|---|---|---|---|
| *Artocarpus heterohpyllus* | 波蘿蜜 | 4 | 18% | E |
| *Bauhinia variegata* | 宮粉羊蹄甲 | 7 | 31% | E |
| *Eucalyptus torelliana* | 毛葉桉 | 1 | 4% | E |
| *Leucaena leucocephala* | 銀合歡 | 6 | 26% | E |
| *Macaranga tanarius* var. tomentosa | 血桐 | 3 | 13% | N |
| *Mallotus paniculatus* | 白楸 | 1 | 4% | N |
| *Sterculia lanceolata* | 假蘋婆 | 1 | 4% | N |
| **Total** | | **23** | **100%** | |

3.4 The average DBH of the surveyed trees is about 295mm, with average height of 8.3m and average crown spread of 6.4m which indicates their fast growing nature of weedy trees or fruit trees. **Figure A2.1 Existing Tree Size Distribution** below shows that over half of existing trees have a DBH less than 300mm which indicates that they are relatively young and are trees recently self-seeded in the area. The fruit tree/ weedy tree, such as *Artocarpus heterohpyllus* and *Leucaena leucocephala,* have larger DBH over 500mm regarding their fast growing nature. Given the dense growing condition, the average crown spread of the plantation species on slope is relatively small while their tree growth is constrained by adjacent trees, low live crown ratio and “lion tail”/ “poor taper” are common evidences observed on these trees.

**Figure A2.1 Existing Tree Size Distribution**




3.5 In general, a high percentage of these trees have a poor form, their structural and health condition are generally fair to poor. Defects on these trees are observed including leaning, contorted trunk, poor taper, epicormic sprout on branch, broken branch with dead wood, restricted and exposed root, and codominant trunk. **Table A2.2** below shows the summary of tree condition.

**Table A2.2 Summary of Tree Condition**

| Assessment Criteria | Status of Trees | % Trees |
|---|---|---|
| **Form** | Good | 0% |
| | Fair | 22% |
| | Poor | 78% |
| | | |
| **Health Condition** | Good | 0% |
| | Fair | 65% |
| | Poor | 35% |
| | | |
| **Structural Condition** | Good | 0% |
| | Fair | 52% |
| | Poor | 48% |
| | | |
| **Anticipated Survival Rate after Transplanting** | High | 0% |
| | Medium | 13% |
| | Low | 87% |

## 4.0 Recommendations

4.1 The proposed development considered the spatial constraints of the site, proposed house, proposed access road/EVA, car parking facilities, utilities, and necessary ancillary facilities for the development, boundary wall/retaining wall and site formation, drainage system and flooding prevention works etc., therefore existing tree surveyed and mentioned above would be inevitability being affected. The recommendation for the treatment of existing trees and new tree planting concept are illustrated in **Annex II – Tree Treatment Schedule**, **Annex III – Tree Treatment Plan**, **Annex IV – Photographic Record of Existing Trees** and **Annex V – New Tree Planting Proposal**.

***Tree Retention***

4.2 Having considered the retention of exiting trees surrounding the site, the access road alignment, the boundary wall/ retaining wall treatment and drainage proposal, have been carefully planned to minimise the effect on the existing trees in particular those on vegetated

slope, given that the proposed scheme has been maximised the tree preservation opportunities.

***Tree Felling***

3.4 The site is vacant for years, there is no tree (base level) exactly located within the site. However, there are 4 nos. of existing trees, A136, A149, A150 and A162 which located on/very close to the site boundary, and which have been contained in the previous and the recent tree survey. The main trunk of these 4 existing trees and majority of their crown spread are seriously leaning into the site, which are inevitably affected by the site formation works for proposed boundary wall/ retaining wall and/or periphery drainage system which are required by the proposed development. Besides, another 19 trees are observed along the existing track connecting San Shek Wan Road and the site which will be affected by the proposed EVA/new access road to the site.

4.3 Having considered the tree species, which are weedy trees, poor condition of these affected trees, trees have unrecoverable defects, the affected trees are not suitable candidate for tree transplanting, and therefore tree felling is recommended.

4.4 According to the tree survey findings, unrecoverable defects are frequently found in the majority of existing trees. Defects include seriously leaning, epicormic sprouts, unbalanced crown/form, exposed and restricted rooting area that are unfavourable and not recommended to be retained. The proposal concludes that 16 trees are required of tree felling plus the removal of 7 weedy trees, *Leucaena leucocephala.*

4.5 The removal of trees will be compensated and replaced by high quality broadleaf/evergreen/ornamental trees and suitable greening treatment in proposed development by maximising the landscape and greening opportunities. Upon full establishment of proposed planting, the local landscape context will be enhanced.

## 5.0 New Tree Planting Concept

5.1 As described above, the loss of existing trees will be replaced by broadleaf/evergreen/ ornamental trees creating a good quality residential landscape that would enhance the visual amenity of the local context, benefiting both the future residents, pedestrians and their neighbourhoods. The New Tree Planting Concept is presented in **Appendix V**. The planting proposal has sought to:

- Provide physical and visual integration with the surrounding neighbourhoods;
- Provide screening of the built-form and softening the development edge;
- Provide quality and sustainable residential environment for the future residents;
- Provide compensation for felling of existing trees; and
- Maximise opportunities for the planting of new tree as well as other forms of greening measures.

5.2 The planting proposal provides a green environment, good quality communal spaces, and good quality planting establishment for the proposed development. A total of 16 new trees will be planted within the site for compensate the tree loss with excluding the removal of 7 nos. of *Leucaena leucocephala*. A replanting ratio in term of quantity of minimum 1:1 would be achieved (16 trees felled: 16 new planted). Heavy standard size tree stock will be utilised to create an instant greening effect. This proposal has been maximised the opportunity of greening within the development.

5.4 The selection of good quality species will enhance the local landscape context upon full establishment. These trees form part of the overall landscape design proposal which will be further developed during the detailed design stage of the project. A summary of the new tree planting proposal is provided in **Table A5.1** below.

**Table A5.1 Tree Planting Mix**

| Compensatory Tree Planting | Size (mm) Height x Spread x Diameter | Spacing (mm) |
|---|---|---|
| **Bischofia javanica* | Heavy Standard | 5000 |
| *Osmanthus fragrans* | | 4000 |

Note:* denotes native tree species.

5.5 Trees with Heavy Standard are defined as follow:

**Heavy Standard:**

- A sturdy straight stem at least 2000mm high from the root collar to the lowest branch;
- Total height above the root collar exceeding 3500mm but not exceeding 6000mm;
- Stem diameter exceeding 75mm but not exceeding 150mm measured at a height of 1300mm from the root collar;
- According to the species, either a well-balanced branching head, or a well-defined straight and upright leader with branches growing out from the stem with good symmetry, and a minimum length of 800mm;
- A rootball not less than 750mm in diameter and 400mm in depth;
- Grown in a container not less than 750mm in diameter and 600mm in depth; and
- Free from any kind of pest, fungi, disease and parasitic plants.

5.6 The height of all trees shall be measured above the root collar, and the diameter of all stems to be measured at a height of 1300m above ground level.

## 6.0 Conclusion

6.2 The site is vacant. Refers to the recent topographical survey update of existing tree location, there is no tree (base level) exactly located within the site. However, there are 4 nos. of existing trees, A136, A149, A150 and A162 which located on/very close to the site boundary, and which have been contained in the previous and the recent tree survey. The main trunk of these 4 existing trees and majority of their crown spread are seriously leaning into the site, which will be affected by the site formation works for proposed boundary wall/ retaining wall and/or periphery drainage system which are required by the proposed development. Besides, another 19 trees are observed along the existing track connecting San Shek Wan Road and the site which will be affected by the proposed EVA/new access road to the site.

6.3 No rare or protected tree species (Cap 96 refers) is found to exist in the site. No registered Old and Valuable Trees (DEVB TC(W) No. 5/2020 Registration of Old and Valuable Trees, and Guidelines for their Preservation) is found in the survey.

6.4 Having considered the retention of exiting trees surrounding the site, the access road alignment, the boundary wall/ retaining wall treatment and drainage proposal, have been carefully planned to minimise the effect on the existing trees in particular those on vegetated slope, given that the proposed scheme has been maximised the tree preservation opportunities.

6.5 Having considered the tree species, which are weedy trees, poor condition of these affected trees, trees have unrecoverable defects, the affected trees are not suitable candidate for tree transplanting, and therefore tree felling is recommended. According to the tree survey findings, unrecoverable defects are frequently found in many existing trees. Defects include seriously leaning, epicormic sprouts, unbalanced crown/form, exposed and restricted rooting area that are unfavourable and not recommended to be retained. The proposal concludes that 16 trees are required of tree felling plus the removal of 7 weedy trees, *Leucaena leucocephala*. Trees of low amenity value and/or having defects will be replaced by a combination of high quality broadleaf and ornamental trees in the proposed development.

6.6 The new tree planting proposal intends to create a good quality of green environment for future residents with proper and good quality planting establishment. A total of 16 new trees

of heavy standard stocks would be planted with 1:1 replanting ratio (16 trees felled: 16 new trees planted) with excluding the removal of 7 no. of *Leucaena leucocephala*.

6.7 The selection of good quality species will enhance the visual amenity of the site, improves bio-diversity in the local landscape context and provides a high quality living environment for the future residents. Tree planting opportunities have been maximised within the proposed development in balance with the provision of other facilities, utilities and traffic layout arrangement necessarily required for the residents. Implementation of planting proposal will create a high quality living environment, and will establish the character and identity for the future development. With the full establishment of the planting proposal, the local landscape context and visual amenity would be enhanced.

# Annexes

# Annex I

## Tree Survey Methodology

## Appendix I

### 1.0 Tree Identification Survey Methodology

The method of the tree survey adheres to the guidelines stipulated in the following guidelines and practice notes:

- Practice Note for Professional Persons No. 1/2019 Processing and Compliance Checking of Landscape Submissions related to Planning Applications
- DEVB TC(W) No. 4/2020 Tree Preservation
- LAO Practice Note Issue No. LAO PN No. 6/2023 Tree Preservation and Removal Proposal for Building Development in Private Projects.
- DEVB TC(W) No. 5/2020 Registration and Preservation of Old and Valuable Trees.

### 1.1 **Key (Individual tree survey)**

Trees surveyed individually are included in schedule following the methodology and identify the following information:

| | |
|---|---|
| Tree ID: | A plant is defined as a “tree” to be surveyed if its trunk diameter measures 95mm or more at a height of 1.3m (i.e. Diameter at Breast Height (DBH)) above ground level.<br>Tree ID determined by ADI Limited and corresponding to the Tree Survey Plan for identification. |
| Tree Species: | The botanical name in scientific and Chinese names is used and refers to the Guidance on proper use of scientific name of plants is given in the AFCD’s Nature Conservation Practice Note (NCPN) No. 3 “The Use of Plant Names” |
| DBH: | Trunk diameter of a tree refers to its diameter at breast height (DBH); i.e. measured at 1.3m above ground level. Measured in millimetres (mm). DBH Measuring method refers to the Nature Conservation Practice Note No. 2 Measurement of Diameter at Breast Height (DBH). |
| Overall Tree height: | Measured in metres (m). |
| Average Crown spread: | Diameter of the tree canopy at its widest extent. Measured in metres (m). Tree canopy should be drawn proportional to the spread of the tree with reasonable presentation of its physical form. |
| Soil level at base of tree: | Top of soil level above root collar. |
| Form: | Graded good, fair or poor. Form of a tree will take account of the overall tree size, shape and any special feature. |
| Health condition: | Graded good, fair or poor. |
| Structural Condition: | Graded good, fair or poor. |
| Anticipated Survival Rate after Transplanting: | Graded high, medium or low. |
| Conservation Status: | Indicated rarity and protection status under relevant ordinances of a species in Hong Kong. References such as Rare and Precious Plants of Hong Kong3, the IUCN Red, List of Threatened Species4 and the Forestry Regulations (Cap.96A) may be used. |

Location: Location of tree if it is growing on flat or sloping location.

Tree treatment/assessment criteria and considerations include form, health condition, structural condition, suitability for tree transplanting and conservation status described in the following sections.

The date of completion of the tree treatment/assessment schedule and tree survey plan should be within 2 years (24 months) prior to initial submission.

**Tree Form** assessment is classified as follows:

**Good** Trees with well-balanced form, upright, evenly branching, well-formed head and generally in accordance with the standard form for its species.

**Fair** Trees with generally balanced form with natural compensations for loss of branches or leaning trunks.

**Poor** Trees with very unbalanced form, leaning, suffering loss of major branches with general damage and growing close to adjacent trees.

1.2 **Health Condition** assessments considered the following factors:

a) Foliage
- Colour and small size indicating possible damage to roots.
- Insect and fungal infections.
- Damage caused by typhoons despite trees being usually able to recover from this within one growing season.

b) Twigs
- Poor shoot growth and die-back in the crown are often symptoms of root problems caused by a change in the water table level or soil compaction resulting from site formation work.
- Insect and fungal infections on twigs and branches.
- Twig damage to be noted particularly if the crown of the tree is unbalanced.

c) Branches
- Inspect for dead or crossing branches.
- Heavy horizontal branches may make the tree unstable
- Broken, damaged or cut branches to be noted as a possible site for infections, calluses may protect the wounds.
- Damaged branches may make the tree unbalanced and unstable.
- Edge trees exposed as a result of the removal of adjacent trees often has an unbalanced crown and may be hazardous.

d) Trunk
- Tightly forked trunks are a source of weakness in trees
- Cavities or internal rot can be revealed by discoloured bark, moisture seeping through the bark or bracket fungi.
- inspect for open cavities and bark damage.

Assessment of tree health condition involves inspections for the above features and classification as follows:

**Good** Trees with a low incidence of the less serious features listed above and a high chance of a fast recovery from such features.

**Fair** Trees with a higher incidence of the less serious features and a medium chance of recovery.

**Poor** Trees with more serious health features and with a low chance of recovery, even with remedial measures.

1.3 **Structural Condition** of tree is related to the presence and significance of defects (e.g. large cavity or codominant branches with included bark) that can lead to tree failure causing collapse of tree parts or the whole tree. The review considered the incidence and degree of defects found on tree including cracks on tree trunks/major branches/ root flare, root plate movement, degree of leaning from vertical (with or without self-correction), dieback and crossing branches, live crown ratio, size and location of the cavity/decay, topping and excessive pruning etc.

Assessment of tree structural condition involves visual inspections for the above defects and classification as follows:

**Good** Trees with incidence of nil or only a few defects listed above and with a high chance of recovery and self-correction.

**Fair** Trees with incidence of intermediate extent of defects listed above and with change of recovery with remedial measures and self-correction.

**Poor** Trees with more serious defects listed above and with a low chance of recovery, even with remedial measures.

1.4 **Anticipated Survival Rate after Transplanting** is one of the factors in assessing the feasibility of the transplanting proposal, the transplanting survival rate is determined by tree species, its age, form and health condition and the extent of roots, for example, species have a low tolerance to the effects of transplantation will have a low transplanting survival rate. In addition to the survival rate, other factors such as the accessibility of tree location, construction program and future character of the site also determine the feasibility of the transplanting proposal, these criteria is described in the following section. The transplant survival rate is graded High, Medium and Low in the tree schedule. This assessment is based on the following criteria:

**High** Very likely to survive after transplantation.

**Medium** >50% possibility of survival after transplantation.

**Low** Unlikely to survive due to poor health/form; or
tree species has very little tolerance to the effects of transplanting; or difficult to transplant.

1.5 **Conservation Status** indicates rarity and protection status of a surveyed tree, if any, under relevant ordinances of a species in Hong Kong such as Rare and Precious Plants of Hong Kong, the IUCN Red List of Threatened Species and the Forests and Countryside Ordinance (Cap. 96).

## 2.0 Effects of Development on Existing Trees and Treatment of Trees

2.1 **Key**

Recommended tree treatment are described in the written report and schedule following the methodology and identify the following information:

| | |
|---|---|
| Proposed Treatment | Identified as Retain, Transplant or Fell. |
| Justification : | Identify source of impacts on existing trees such as site formation, building works, drainage works or access road etc.. Indicated the reasons of tree removal due to weedy species or dead tree identified, unrecoverable tree defects etc.. |
| Remarks | Indicated special features/character/defect observed on tree, poor tree form and health condition, hazardous tree, registered/potential OVT, amenity and historical significance, growing condition etc.. |

## 2.2 **Possible Treatment for Trees**

The treatment proposed for tree is dependent on the following considerations:

### a) Retain

The feasibility of tree retention has been considered with regard to the followings:

- Proximity to the area of building works/ site formation works and associated slope stabilisation and/or road works and/or utilities works and potential damage to trees as a result of the works.
- Change to ground level on a macro scale which affects the ground water table and may cause severe stress.
- Special construction and protection method to maintain the existing ground level surround the tree are also considered.
- Conflict between tree roots and construction works.
- Existing trees to be retained will be protected during construction in accordance with DEVB GLTM Guidelines on Tree Preservation during Development.

### b) Transplant

In situations where it is impossible to retain trees then transplanting them is the first consideration. The criteria upon which the assessment of transplanting trees base on the following:

- **Species:** Previous experience and arboriculture knowledge point to some species having a higher tolerance to the effects of transplantation than others. Rare Hong Kong species are particularly important considered to be preserved or transplanted.

- **Condition of the tree:** Trees with balanced form, good health and with high amenity value are considered for transplantation. Trees growing on slopes or in close proximity to one another generally have a poor form, and trees with unrecoverable defects or poor vigour with low ability to withstand changes, do not make good specimens for transplant.

- **Tree age:** There is a direct correlation between the age of a tree and its predicted survival rate post transplantation: older trees are sensitive to disturbance and resulting physiological stress associated with the transplanting operation; younger trees have greatest vigour to tolerate change and to recover from root and crown pruning required during the operation. As the tree matures, its ability to tolerate change decreases and so the maintenance of a stable environment around the tree is vital to its continued health.

- **Access:** Large machinery is required to lift trees as part of the transplantation procedure and so ease of access is important. Access to trees on steep slope for transplanting and related preparation works might not be technically feasible, and with high risk and not cost-effective.

- **Extent of the roots:** Tree root development and its disposition respond to site condition and are often unique to each situation. For some situations, it is not technically feasible to prepare a viable root ball for transplanting and lower the survival rate. Trees on slopes have a higher proportion of roots uphill for anchoring and sloping root system as the root ball usually forms itself to the angle of the slope. Irregular and structurally less stable root ball is resulted in restricted rooting area such as being close to built structure, underground utility, with limiting growing medium or at hard-paved location. In addition the roots of trees growing in close proximity to one another often share the same space within the ground and so the excavation required as part of the rootball preparation is likely to cause significant damage to the adjacent trees.

- **Construction Programme:** Large trees require adequate time for the phased pruning of the roots so as to allow the tree to recover between pruning episodes and hence the impact of physiological stress to the trees.

- **Future character of the site:** Also considered was the future landscape character of the site.

- **Cost-effectiveness for transplanting operation:** considered the size of the tree, machinery accessibility to the transplant tree, transport limitation from the existing tree location to final tree recipient site, setting up of temporary holding nursery for transplant tree and their maintenance cost before replanting to final location.

When considering the need for transplanting tree described above there is no need to transplant tree with the following features under normal circumstances:

- Low amenity value;
- Poor health, structure or form;
- Irrecoverable form after transplanting (e.g. transplanting requires substantial
- crown and root pruning);
- Low chance of survival upon transplanting;
- undesirable weedy species (e.g. *Leucaena leucocephala* which is an invasive, exotic and self-seeding tree);
- Trees grown under poor conditions which have limited the formation of proper root ball necessary for transplanting.
- Preservation or transplanting is unsuitable or impracticable;
- The tree has been irreparably damaged by inclement weather/ insect/fungus/disease which unrecoverable defects observed.
- Dead tree(s); or
- Any other justifications or circumstances.

**c) Fell**

Trees in direct conflict with building, site formation, associated slope stabilisation and/or road works, such as required change of ground level, are not technical viable for tree retention/ transplanting and having no option other than to be felled.

Trees that are not directly in conflict with the works shall be considered in terms of their form, health and structural condition. Dead, hazardous or trees with contiguous disease or unrecoverable defects are also proposed to be felled. Woodland trees which have adjacent trees removed and with unbalanced form or which are at risk of being blown over due to loss of supporting trees are considered for felling.

# Annex II

## Tree Treatment Schedule

**Tree Treatment Schedule**
Address: TMTL 550, Tuen Mun, N.T
Prepared by Pang Shun Chin, Howard Pang (Certified ISA No. HK-0520A)
Field Survey conducted in 20 June, 2025
To be read in conjunction with drawing numbers: LDSS03A -TT01 to TT03

| Tree ID | Photo No. | Tree Species | | Trunk diameter (mm) | Overall Height (m) | Average Crown Spread (m) | Top of soil level above root collar (mPD) | Form | | | Health Condition | | | Structural Condition | | | Anticipated Survival Rate after Transplanting | | | Location | | Conservation Status | Proposed Treatment | | | Justification | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Scientific Name | Chinese Name | | | | | Good | Fair | Poor | Good | Fair | Poor | Good | Fair | Poor | High | Med | Low | Flat | Slope | | Retain | Transplant | Fell | | |
| A035 | A035 | *Leucaena leucocephala* | 銀合歡 | 600 | 15 | 8 | 31.35 | | | 1 | | 1 | | | 1 | | | | 1 | 1 | | Not listed | | | 1 | B,E | Included bark, sparse leaves, codorminant trunk,leaning 10° |
| A036 | A036 | *Bauhinia variegata* | 宮粉羊蹄甲 | 335 | 10 | 7 | 30.62 | | | 1 | | 1 | | | 1 | | | | 1 | 1 | | Not listed | | | 1 | B,E | Multi-stem, codominant trunk, crooked branch,sucker |
| A037 | A037 | *Macaranga tanarius* var. tomentosa | 血桐 | 300 | 7 | 6 | 31.34 | | | 1 | | 1 | | | | 1 | | | 1 | | 1 | Not listed | | | 1 | B,E | Root exposed, leaning 15°, attached to concrete structure, broken branch with dead wood |
| A061 | A061 | *Bauhinia variegata* | 宮粉羊蹄甲 | 360 | 7 | 6 | 30.77 | | | 1 | | 1 | | | | 1 | | | 1 | 1 | | Not listed | | | 1 | B,E | Codominant trunk forked at base, sucker at base, one trunk broken |
| A115 | A115 | *Eucalyptus torelliana* | 毛葉桉 | 450 | 10 | 7 | 29.95 | | | 1 | | 1 | | | 1 | | | | 1 | 1 | | Not listed | | | 1 | B,E | Contorted trunk, bending trunk 5°, codominant trunk, one broken & decay trunk |
| A135 | A135 | *Artocarpus heterohpyllus* | 波蘿蜜 | 500 | 10 | 7 | 29.96 | | | 1 | | 1 | | | 1 | | | | 1 | 1 | | Not listed | | | 1 | B,E | Imbalance crown, wounds on trunk |
| A136 | A136 | *Leucaena leucocephala* | 銀合歡 | 300 | 5 | 5 | 31.12 | | | 1 | | | 1 | | | 1 | | | 1 | 1 | | Not listed | | | 1 | B,E | main trunk broken, imbalance form, epicormics on trunk, bending |
| A147 | A147 | *Macaranga tanarius* var. tomentosa | 血桐 | 130 | 7 | 6 | 30.05 | | | 1 | | 1 | | | | 1 | | | 1 | 1 | | Not listed | | | 1 | B,E | Imbalacne crown, bending trunk, Leaning 15°, wound on trunk |
| A149 | A149 | *Artocarpus heterohpyllus* | 波蘿蜜 | 400 | 9 | 6 | 29.92 | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | Not listed | | | 1 | B,E | Imbalance crown, leaning 15° |
| A150 | A150 | *Artocarpus heterohpyllus* | 波蘿蜜 | 430 | 12 | 7 | 29.26 | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | Not listed | | | 1 | B,E | Imbalance crown, leaning 10° |
| A162 | A162 | *Artocarpus heterohpyllus* | 波蘿蜜 | 450 | 8 | 7 | 29.59 | | | 1 | | 1 | | | | 1 | | | 1 | | 1 | Not listed | | | 1 | B,E | Imbalance crown, leaning 20° |
| B002 | B002 | *Leucaena leucocephala* | 銀合歡 | 170 | 8 | 6 | 30.27 | | | 1 | | 1 | | | | 1 | | | 1 | | 1 | Not listed | | | 1 | B,E | Forked at base. 2 contorted trunks |
| B003 | B003 | *Mallotus paniculatus* | 白楸 | 100 | 6 | 3 | 31.21 | | 1 | | | 1 | | | 1 | | | | 1 | 1 | | Not listed | | | 1 | B | |
| B014 | B014 | *Macaranga tanarius* var. tomentosa | 血桐 | 250 | 9 | 9 | 30.88 | | | 1 | | | 1 | | 1 | | | | 1 | | 1 | Not listed | | | 1 | B,E | Sprase foliage, leaning, suppressed by adjacent trees |
| B015 | B015 | *Bauhinia variegata* | 宮粉羊蹄甲 | 160 | 7 | 6 | 30.51 | | | 1 | | | 1 | | 1 | | | | 1 | 1 | | Not listed | | | 1 | B,E | Fork at base, sprase foliage, leaning 5°, suppressed by adjacent trees |
| B016 | B016 | *Leucaena leucocephala* | 銀合歡 | 290 | 6 | 7 | 31.51 | | | 1 | | | 1 | | | 1 | | | 1 | 1 | | Not listed | | | 1 | B,E | Fork at base, heavy leaning 45° |
| B017 | B017 | *Leucaena leucocephala* | 銀合歡 | 230 | 8 | 10 | 31.67 | | | 1 | | | 1 | | | 1 | | | 1 | 1 | | Not listed | | | 1 | B,E | Fork at base, heavy leaning 45° |
| B018 | B018 | *Leucaena leucocephala* | 銀合歡 | 390 | 11 | 12 | 31.59 | | | 1 | | | 1 | | | 1 | | | 1 | 1 | | Not listed | | | 1 | B,E | Heavy leaning 45° |
| B018A | B018A | *Bauhinia variegata* | 宮粉羊蹄甲 | 300 | 9 | 8 | 31.82 | | 1 | | | 1 | | | 1 | | | | 1 | 1 | | Not listed | | | 1 | B,E | Imbalance crown, sparse foliage, suppressed by adjacent tree |
| B018B | B018B | *Sterculia lanceolata* | 假蘋婆 | 110 | 6 | 3 | 31.82 | | 1 | | | 1 | | | 1 | | | 1 | | 1 | | Not listed | | | 1 | B | |
| B019 | B019 | *Bauhinia variegata* | 宮粉羊蹄甲 | 160 | 9 | 5 | 30.64 | | | 1 | | 1 | | | 1 | | | | 1 | 1 | | Not listed | | | 1 | B,E | Taper, contorted trunk, developed from collapsed trunk |
| B022 | B022 | *Bauhinia variegata* | 宮粉羊蹄甲 | 180 | 7 | 3 | 30.54 | | | 1 | | | 1 | | | 1 | | | 1 | 1 | | Not listed | | | 1 | B,E | Developed from collapsed tree, exposed root, contorted trunk, taper |
| B023 | B023 | *Bauhinia variegata* | 宮粉羊蹄甲 | 190 | 5 | 3 | 30.35 | | | 1 | | | 1 | | | 1 | | | 1 | 1 | | Not listed | | | 1 | B,E | Developed from collapsed tree, exposed root, one trunk collapsed, suppressed by adjacent tree |
| | | | | | | | | 0 | 5 | 18 | 0 | 15 | 8 | 0 | 12 | 11 | 0 | 3 | 20 | 19 | 4 | | 0 | 0 | 23 | | **23** |
| | | | | | | | | 0% | 22% | 78% | 0% | 65% | 35% | 0% | 52% | 48% | 0% | 13% | 87% | 83% | 17% | | 0% | 0% | 100% | | **Total of existing trees surveyed** |
| | | | | | | | | **Good** | **Fair** | **Poor** | **Good** | **Fair** | **Poor** | **Good** | **Fair** | **Poor** | **High** | **Med** | **Low** | **Flat** | **Slope** | | **Retain** | **Trans** | **Fell** | | |

**Summary Table**

| | Number of Tree(s) within TMTL550 | Number of Tree(s) affected boudnary wall works | Number of Tree(s) affected by roadworks |
|---|---|---|---|
| **Tree to be Retained** | **0** | **0** | **0** |
| **Tree to be Transplanted** | **0** | **0** | **0** |
| **Tree to be Felled** | **0** | **3** | **13** |
| ***Leucaena leucocephala* to be Removed** | **0** | **1** | **6** |
| **Total Number of Existing Tree(s)** | **0** | **4** | **19** |

**Legend**

**Tree Species**

Guidance on proper use of scientific name of plants is give in the AFCD's Nature Conservation Practice Note (NCPN) No. 3 "The Use of Plant Names"

**DBH**

DBH of a tree refers to its diameter at breast height (i.e. measured at 1.3m above ground level).
"mm" stands for millimetre and "m" stands for metre.

**Top of soil level above root collar**

This figure provides the existing soil level; when trees retained in-situ, the soil level should be maintained and not cover the root collar.

**Tree Form/ Health Condition/ Structural Condition**

- **G** Good
- **F** Fair
- **P** Poor

Form of a tree will take account of the overall tree size, shape and any special feature.

**Anticipated Survival Rate after Transplanting**

- High Very likely to survive after transplant
- Medium >50% possibility of survival after transplantation
- Low Unlikely to survive due to poor health/form; or tree species has little tolerance to the effects of transplanting; or difficult to transplant

**Location**

Location of tree if it is growing on flat or sloping location.

**Conservation Status**

Indicated rarity and protection status under relevant ordinances of a species in Hong Kong/ in Mainland China/ of nationally importance.

**Justification for Tree Recommendation**

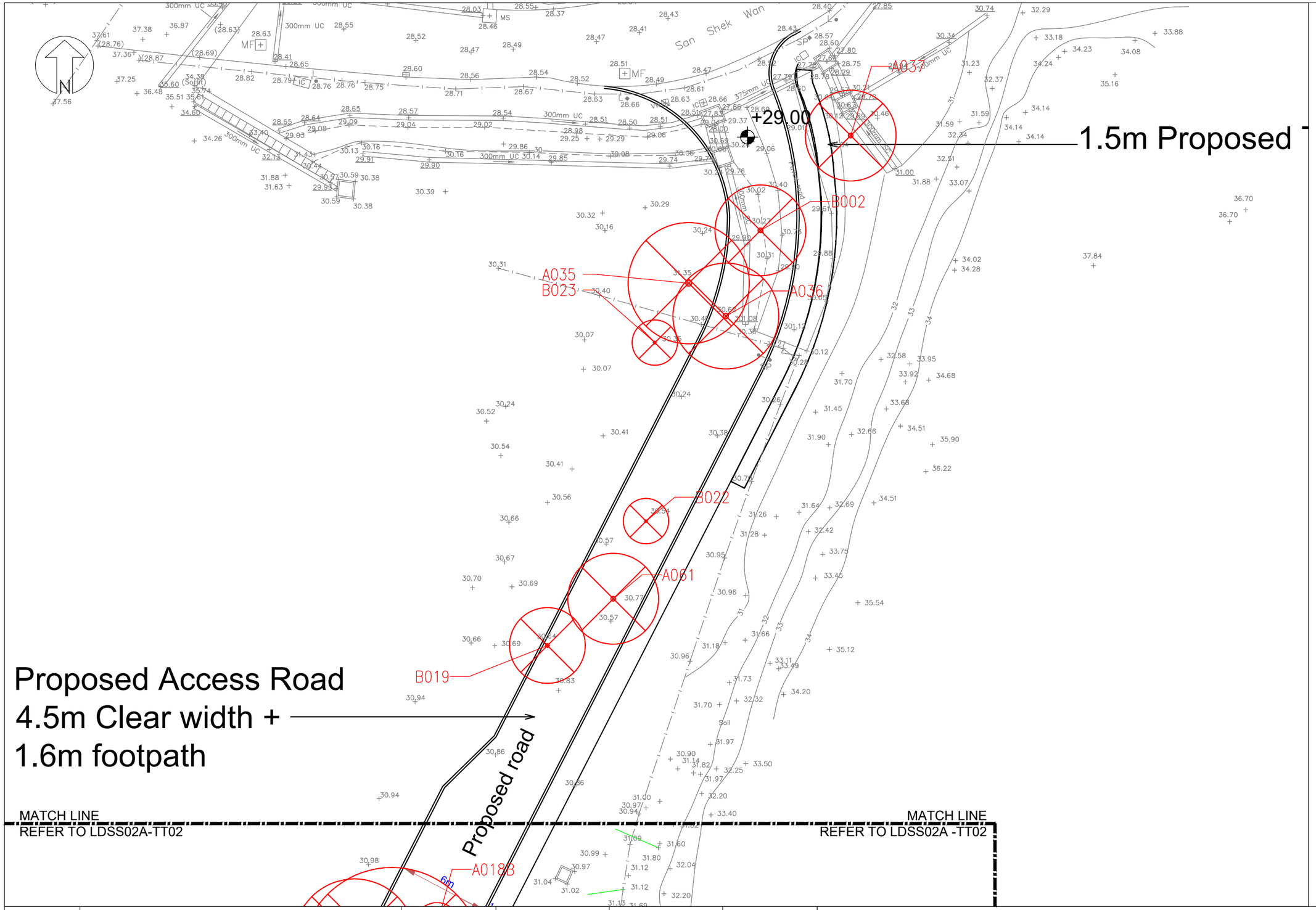
- A Tree retention recommended
- B Felling recommended as tree is directly in conflict with the building and/or site formation works and/or access road works
- C Tree transplanting recommended as tree is affected by the building and/or site formation works
- D Dead tree to be removed
- E Weedy species or tree has unrecoverable defect

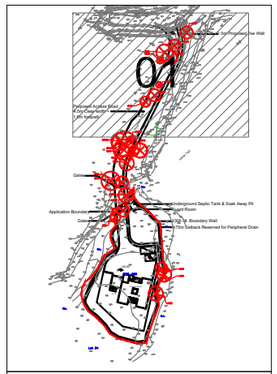
**Remarks**

The tree status whether the registered OVT, the TPI, the Precious or rare or endangered species; amenity or ecological value; anticipated root-ball size to be preserved (with Ø. x depth in mm); historical significance and any other on-site conditions, etc. within and/or adjacent to the site is likely to be affected by the proposed development.
Special characteristics of tree form and health condition, any evidence of broken trunk/ leaning trunk/ trunk decay or water sprouts will be recorded in the remarks of the Tree Survey Schedule.

# Annex III

## Tree Treatment Plan




LEGEND:

- PROPOSED SITE BOUNDARY
- PROPOSED HOUSE DEVELOPMENT
- PROPOSED ACCESS ROAD
- 30.00 EXISTING LEVEL
- +30.00 PROPOSED LEVEL
- T164 TREE TO BE FELLED
- T158 TREE NOT FOUND
- T163 TREE ADJACENT TO BOUNDARY TO BE RETAINED

| REVISION 校訂 | DESCRIPTION 內容摘要 | DRAWN 繪圖 | DATE 日期 | CHECKED 審核 | APPROVED 審批 |
|---|---|---|---|---|---|
| | | | | | |

DO NOT SCALE FROM THIS DRAWING 勿按圖量比例

PROJECT 工程項目
PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. 550 (TMTL 550),TUEN MUN, N.T.

DRAWING TITLE 圖紙名稱
TREE TREATMENT PLAN
SHEET 1 OF 3

SCALE 比例 1:250
DATE 日期 JULY 2025
REVISION 校訂
DRAWING NUMBER 圖號 LDSS02A-TT01

DESIGNED 設計 TEAM
DRAWN 繪圖 CADD
CHECKED 審核 ELK
APPROVED 審批 ALL

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[redacted]

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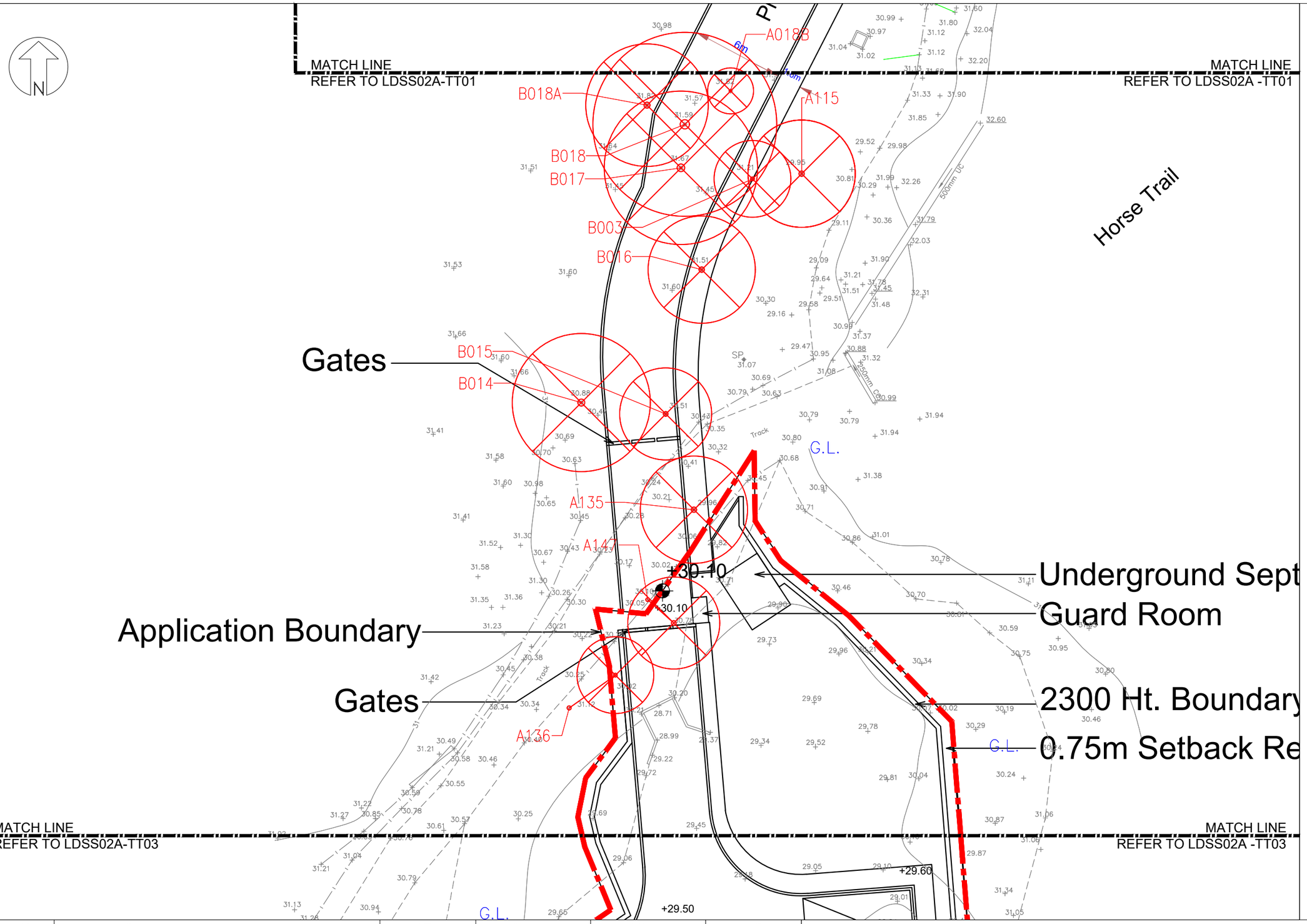


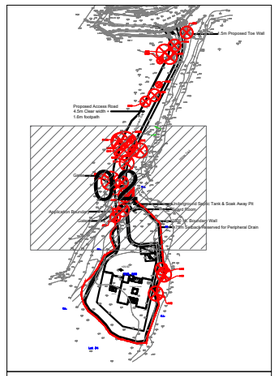


LEGEND:

- PROPOSED SITE BOUNDARY
- PROPOSED HOUSE DEVELOPMENT
- PROPOSED ACCESS ROAD
- 30.00 EXISTING LEVEL
- +30.00 PROPOSED LEVEL
- T164 TREE TO BE FELLED
- T158 TREE NOT FOUND
- T163 TREE ADJACENT TO BOUNDARY TO BE RETAINED

| REVISION 校訂 | DESCRIPTION 內容摘要 | DRAWN 繪圖 | DATE 日期 | CHECKED 審核 | APPROVED 審批 |
|---|---|---|---|---|---|
| | | | | | |

DO NOT SCALE FROM THIS DRAWING 勿按圖量比例

PROJECT 工程項目
PROPOSED HOUSE DEVELOPMENT
AT TUEN MUN TOWN LOT NO. 550
(TMTL 550),TUEN MUN, N.T.

DRAWING TITLE 圖紙名稱
TREE TREATMENT PLAN
SHEET 2 OF 3

SCALE 比例: 1:250
DATE 日期: JULY 2025
REVISION 校訂:
DRAWING NUMBER 圖號: LDSS02A-TT02

DESIGNED 設計: TEAM
DRAWN 繪圖: CADD
CHECKED 審核: ELK
APPROVED 審批: ALL

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[redacted]

CAD FILENAME : LDSS03A_TT_20250715.dwg

MATCH LINE
REFER TO LDSS02A-TT02

MATCH LINE
REFER TO LDSS02A -TT02

N

G.L.

+29.50

+29.60

TMTL 550

2-storey House

F.S. Tank & Pumps

+29.50

+29.60

+29.50

+29.60

+29.50

G.L.

G.L.

Lot 34

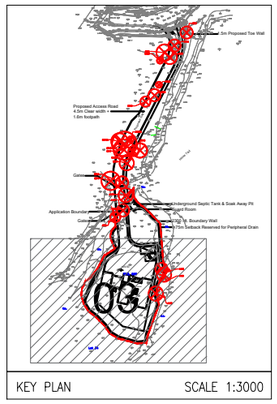
Track

300mm CUC

A149

A150

A162




KEY PLAN SCALE 1:3000

LEGEND:

- PROPOSED SITE BOUNDARY
- PROPOSED HOUSE DEVELOPMENT
- PROPOSED ACCESS ROAD
- 30.00 EXISTING LEVEL
- +30.00 PROPOSED LEVEL
- T164 TREE TO BE FELLED
- T158 TREE NOT FOUND
- T163 TREE ADJACENT TO BOUNDARY TO BE RETAINED

| REVISION 校訂 | DESCRIPTION 內容摘要 | DRAWN 繪圖 | DATE 日期 | CHECKED 審核 | APPROVED 審批 |
|---|---|---|---|---|---|
| | | | | | |

DO NOT SCALE FROM THIS DRAWING 勿按圖量比例

PROJECT 工程項目
PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. 550 (TMTL 550),TUEN MUN, N.T.

DRAWING TITLE 圖紙名稱
TREE TREATMENT PLAN
SHEET 3 OF 3

SCALE 比例 1:250
DATE 日期 JULY 2025
REVISION 校訂
DRAWING NUMBER 圖號 LDSS02A-TT03

DESIGNED 設計 TEAM
DRAWN 繪圖 CADD
CHECKED 審核 ELK
APPROVED 審批 ALL

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[redacted]

CAD FILENAME : LDSS03A_TT_20250715.dwg

# Annex IV

## Photographic Record of Existing Trees

A035 (OVERALL)

A035 (TRUNK)

A035 (BASE)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS01 | REV | - |

ADI

A035 (CROWN)

A035 (DEFECT)

A035 (DEFECT)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS02 | REV | - |

ADI

A036 (OVERALL)

A036 (TRUNK)

A036 (BASE)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS03 | REV | - |

ADI

A036 (CROWN)

R-Retain T-Transplant F-Fell

| | | | | |
|---|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS04 | REV | - |

ADI

A037 (OVERALL)

A037 (BASE)

A037 (TRUNK)

A037(DEFECT)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS05 | REV | - |

ADI

A037 (CROWN)

R-Retain T-Transplant F-Fell

| | | | | |
|---|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS06 | REV | - |

ADI

A061 (OVERALL)

A061 (TRUNK)

A061 (BASE)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS07 | REV | - |

ADI

A061 (CROWN)

A061 (DEFECT)

R-Retain T-Transplant F-Fell

| | | | | |
|---|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS08 | REV | - |

ADI

A061 (DEFECT)

A061 (DEFECT)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS09 | REV | - |

ADI

A115 (CROWN)

A115 (TRUNK)

A115 (BASE)

A115 (DEFECT)

R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS10 | REV | - |

ADI

A115 (OVERALL)

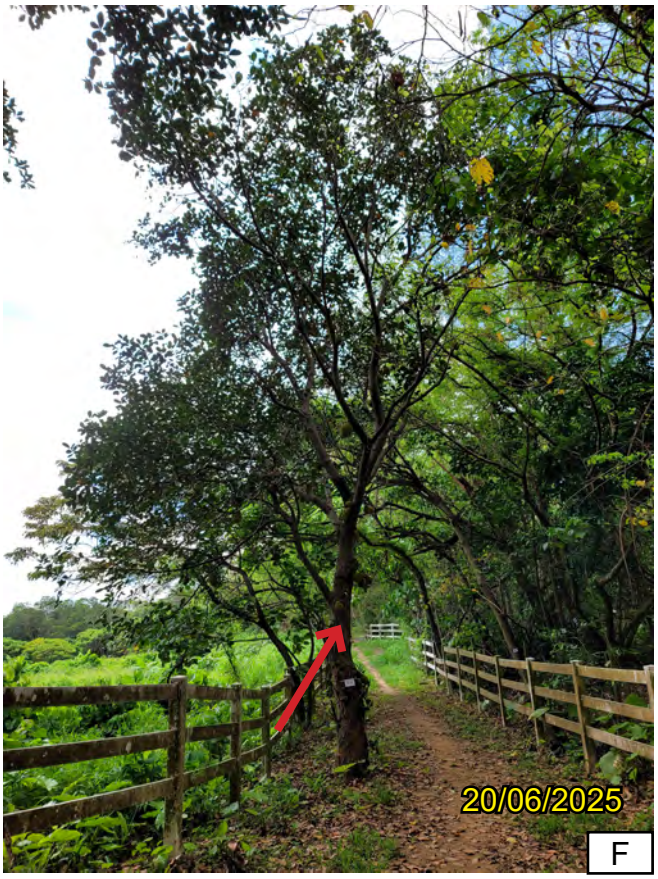
R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS11 | REV | - |

ADI




A135 (OVERALL)

A135 (TRUNK)

A135 (BASE)

A135 (DEFECT)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS12 | REV | - |

ADI

A135 (CROWN)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS13 | REV | - |

ADI

A136 (OVERALL)

A136 (TRUNK)

A136 (BASE)

R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS14 | REV | - |

ADI

A136 (CROWN)

A136 (DEFECT)

R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS15 | REV | - |

ADI

A147 (BASE)

A147 (TRUNK)

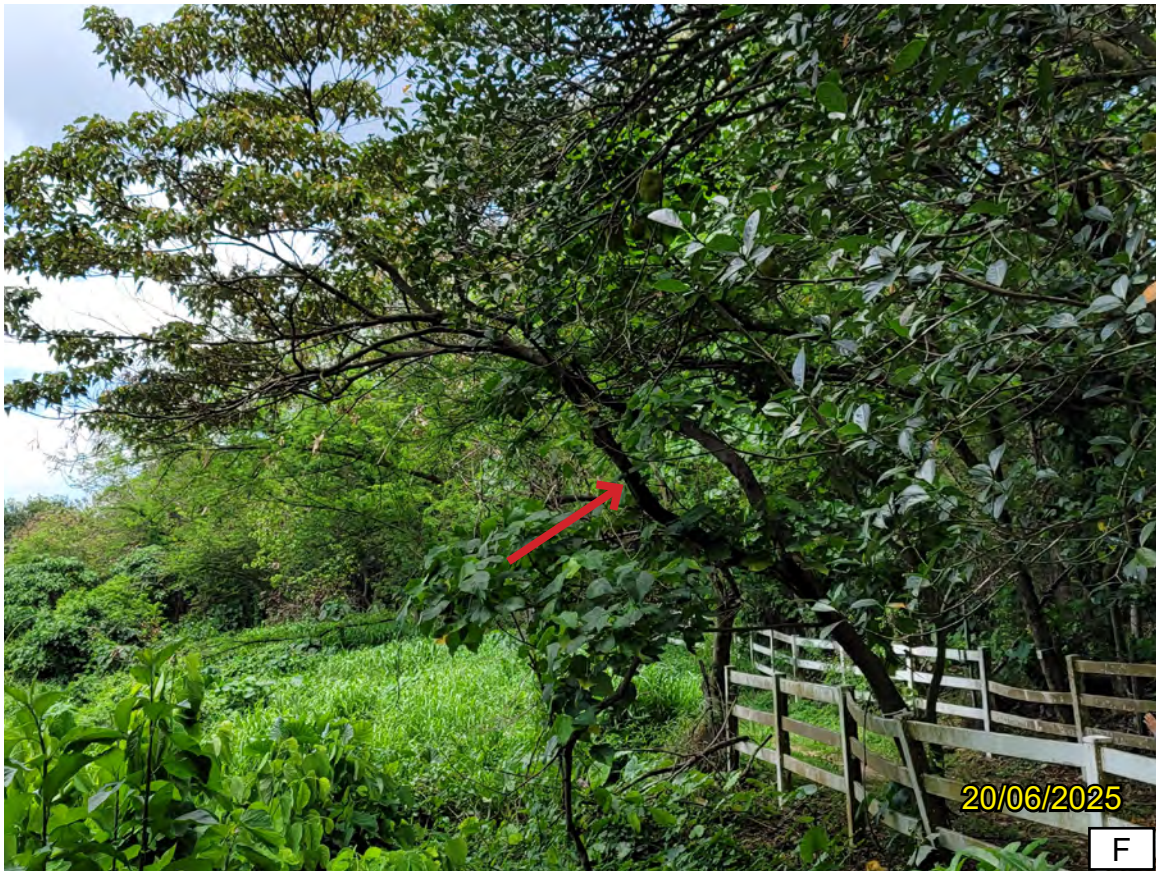
A147 (DEFECT)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS16 | REV | - |

ADI

A147 (CROWN)




A147 (OVERALL)

R-Retain T-Transplant F-Fell

| | | | | |
|---|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS17 | REV | - |

ADI

A149 (OVERALL)

A149 (TRUNK)

A149 (BASE)

A149 (TRUNK)

R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS18 | REV | - |

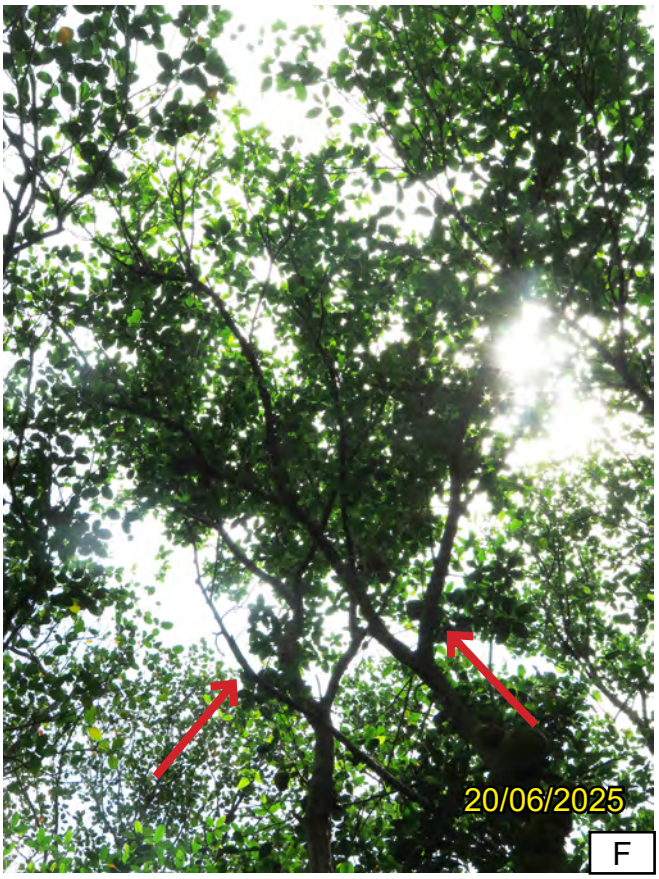
ADI

A149 (CROWN)

R-Retain T-Transplant F-Fell

| | | | | |
|---|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS19 | REV | - |

ADI




A150 (CROWN)

A150 (TRUNK)

A150 (BASE)

A150 (TRUNK)

R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS20 | REV | - |

ADI

A150 (OVERALL)

R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS21 | REV | - |

ADI

A162 (OVERALL)

A162 (TRUNK)

A162 (BASE)

A162 (TRUNK)

R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS22 | REV | - |

ADI

A162 (CROWN)

R-Retain T-Transplant F-Fell

| | | | | |
|---|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS23 | REV | - |

ADI

B002 (OVERALL)

B002 (TRUNK)

B002 (BASE)

B002 (TRUNK)

R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS24 | REV | - |

ADI

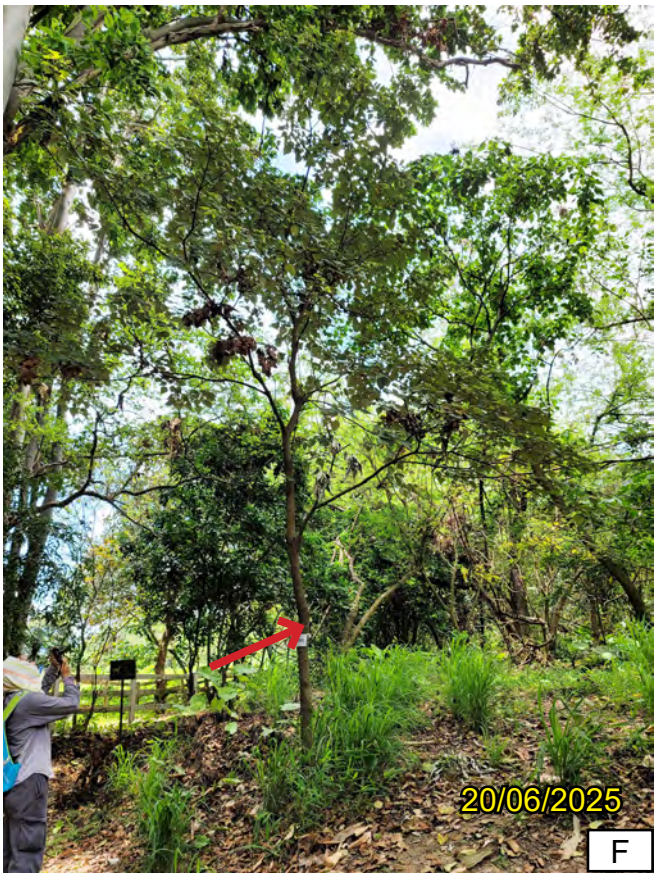
B002 (TRUNK)

B002 (CROWN)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS25 | REV | - |

ADI




B003 (OVERALL)

B003 (TRUNK)

B003 (OVERALL)

B003 (TRUNK)

R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS26 | REV | - |

ADI

B003 (CROWN)

R-Retain T-Transplant F-Fell

| | | | | |
|---|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS27 | REV | - |

ADI

B014 (OVERALL)

B014 (TRUNK)

B014 (BASE)

R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS28 | REV | - |

ADI

B014 (CROWN)

R-Retain T-Transplant F-Fell

| | | | | |
|---|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS29 | REV | - |

ADI

B015 (OVERALL)

B015 (TRUNK)

B015 (BASE)

B015 (TRUNK)

R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS30 | REV | - |

ADI

B015 (CROWN)

R-Retain T-Transplant F-Fell

| | | | | |
|---|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS31 | REV | - |

ADI

B016 (CROWN)

B016 (BASE)

R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS32 | REV | - |

ADI

B016 (TRUNK)

B016 (TRUNK)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS33 | REV | - |

ADI

B016 (OVERALL)

R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS34 | REV | - |

ADI

B017 (CROWN)

B017 (TRUNK)

B017 (BASE)

B017 (TRUNK)

R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS35 | REV | - |

ADI

B017 (OVERALL)

R-Retain T-Transplant F-Fell

| | | | | |
|---|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS36 | REV | - |

ADI

B018 (CROWN)

B018 (TRUNK)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS37 | REV | - |

ADI

B018 (BASE)

B018 (OVERALL)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS38 | REV | - |

ADI

B018A (OVERALL)

B018A (TRUNK)

B018A (BASE)

B018A (CROWN)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS39 | REV | - |

ADI

B018B (OVERALL)

B018B (TRUNK)

B018B (BASE)

B018B (CROWN)

R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS40 | REV | - |

ADI

B019 (OVERALL)

B019 (TRUNK)

B019 (BASE)

B019 (CROWN)

R-Retain T-Transplant F-Fell

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Photographic Record of Tree Survey

| | | | |
|---|---|---|---|
| SCALE | N.T.S. | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | LDSS03A-TS41 | REV | - |

ADI

B022 (OVERALL)

B022 (OVERALL)

B022 (CROWN)

B022 (BASE)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS42 | REV | - |

ADI

B022 (TRUNK)

B022 (TRUNK)

B022 (DEFECT)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS43 | REV | - |

ADI

B023 (OVERALL)

B023 (TRUNK)

B023 (CROWN)

B023 (BASE)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS44 | REV | - |

ADI

B023 (CROWN)

B023 (DEFECT)

R-Retain T-Transplant F-Fell

| | | | |
|---|---|---|---|
| Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. | SCALE | N.T.S. | DATE | JULY 2025 |
| | CHECKED | ELK | DRAWN | TEAM |
| Photographic Record of Tree Survey | FIGURE NO. | LDSS03A-TS45 | REV | - |

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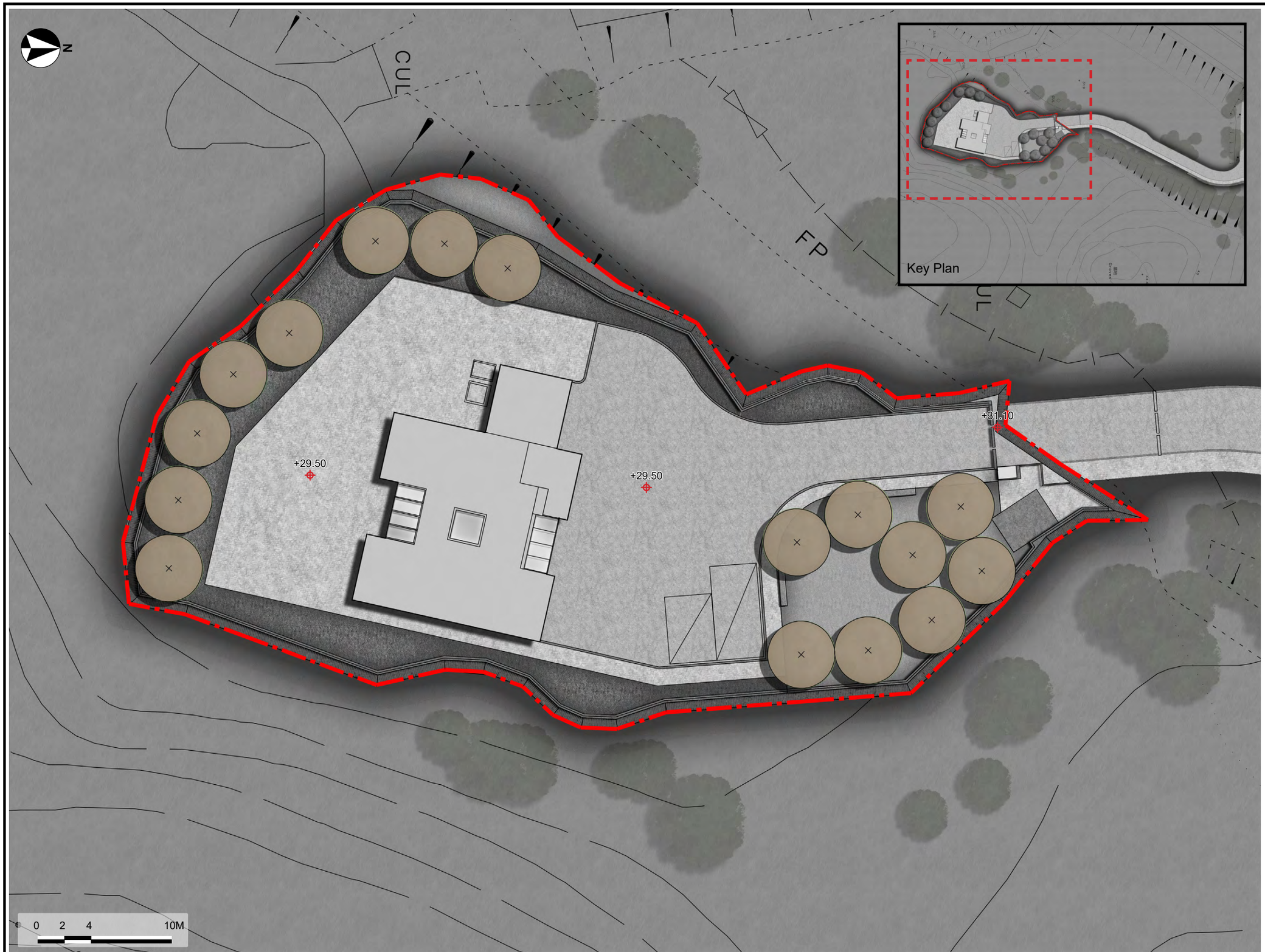
# Appendix V

## New Tree Planting Proposal




## Legend

- Application Site Boundary
- +4.50 Proposed Level
- New Tree Planting 16 nos.

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

New Tree Planting Proposal

| | | | |
|---|---|---|---|
| SCALE | AS SHOWN | DATE | JULY 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | Annex V | REV | - |

ADI LIMITED
LANDSCAPE ARCHITECTURE, URBAN DESIGN AND MASTER PLANNING
[redacted]
雅博奧頓國際設計有限公司
國際環境管理, 城市規劃及設計, 園景建築顧問服務
[redacted]

# Appendix 2

Environmental Assessment

Prepared for

**King Brave Limited c/o Lawson David & Sung Surveyors Limited**

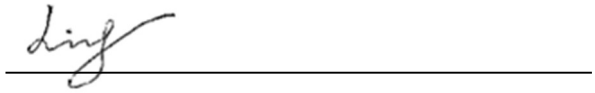
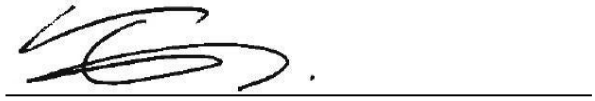
Prepared by

**Ramboll Hong Kong Limited**

# PROPOSED HOUSE DEVELOPMENT AT T.M.T.L. 550, TUEN MUN, NEW TERRITORIES

# S16 PLANNING APPLICATION

# ENVIRONMENTAL ASSESSMENT

| | |
|---|---|
| Date | **August 2025** |
| Prepared by | **Tony Ling**<br>**Environmental Consultant** |
| Signed |  |
| Approved by | **Tony Cheng**<br>**Senior Manager** |
| Signed |  |
| Project Reference | **RILTM550EI00** |
| Document No. | **R8944_v2.0** |

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Ramboll Hong Kong Limited

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

[redacted]

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Appendix 2 Traffic Forecast
Appendix 3 Traffic Noise Impact Assessment Result for the Proposed NSRs
Appendix 4 Aerial Photos for Land Contamination Assessment

# 1. INTRODUCTION

## 1.1 Project Background

1.1.1 The Application Site is located at T.M.T.L. 550, Tuen Mun, New Territories, zoned as "Recreation" ("REC") under the Approved Tuen Mun Outline Zoning Plan No. S/TM/41. The Subject Site is about 1,852 $m^2$. A planning application for the use of "Holiday Camp" was approved in May 2015 (A/TM/469).

1.1.2 The purpose of the submission is to develop the Application Site to a 2-storey house.

1.1.3 In order to support the planning application of the proposed development, an environmental assessment (EA) shall be prepared to support the proposed development from the environmental points of view.

1.1.4 Ramboll Hong Kong Limited (the Consultant) has been commissioned by the applicant to conduct this environmental assessment in relation to the planning application. Architectural drawings and technical information of the Subject Site were provided by Design Consultants Limited and Lawson David & Sung Surveyors Limited respectively whereas information on road traffic forecast was provided by CKM Asia Limited (the Traffic Consultant).

## 1.2 Application Site and its Environs

1.2.1 The Application Site is located at T.M.T.L. 550 in Tuen Mun. The site is currently zoned "Recreation".

1.2.2 The Subject Site is bounded by road carriageways on three sides. Lung Fu Road and Lung Mun Road are aligned on the northwest and southeast sides of the Subject Site respectively.

1.2.3 The Application Site is vacant currently and situated more than 1 km away from any existing/planned industrial developments.

1.2.4 **Figure 1** shows the location of the Application Site and the surrounding environs.

## 1.3 Proposed Development

1.3.1 Under the current application, the Proposed Development consists of one 2-storey house for residential purpose. The maximum building height is 36.6 mPD. A proposed underground septic tank which follows the same treatment strategy proposed in the previous approved holiday camp application, will be located at the north of House. The master layout plan and sections of the Proposed Development are shown in **Appendix 1**.

1.3.2 The tentative completion year for the Proposed Development is 2031.

## 1.4 Key Environmental Issues and Study Approach

1.4.1 Key Environmental issues and concerns as identified for the Project include:

Air Quality

1.4.2 For the construction phase, the potential air quality impacts would be caused by the dust emissions generated during construction activities. For the operation phase, the potential air quality impacts arising from the vehicular emissions of the nearby roads, and the chimney emissions (if any) of the nearby industrial activities should be addressed.

Noise

1.4.3 Site visits were conducted on 27 June 2025 to identify whether there is any potential industrial noise source in the vicinity (i.e. 300m) of the Application Site. No industrial activities are identified in the vicinity.

1.4.4 The identified noise source in the vicinity of the Application Site is the road traffic noise from nearby road network. Practical noise mitigation measures should be recommended where required in order to satisfy the requirement of the Hong Kong Planning Standards and Guidelines (HKPSG).

Water Quality

1.4.5 For the construction and operation phase, potential water quality impact arising from the Application Site on the Water Sensitive Receiver in the vicinity (i.e. 500m) of the site boundary of Application Site will be discussed in **Section 4**. Practical mitigation measures should be recommended, where necessary, to reduce the potential water quality impacts in order to control the residual impacts to acceptable levels.

Waste Management

1.4.6 Potential waste management issues in connection with construction and operation of the Project will be discussed in **Section 5**. It also recommends mitigation measures to alleviate impacts, where necessary.

Land Contamination

1.4.7 The historical landuse and existing condition have been studied for the purpose to identify if there is/was any potentially land contaminating activity held onsite, and actions recommended to be taken afterwards. A land contamination appraisal is included in **Section 6.**

# 2. AIR QUALITY IMPACT ASSESSMENT

## 2.1 Introduction

2.1.1 This section examines the potential air quality impacts that could arise from the construction phase and operation phase of the Project.

## 2.2 Environmental Legislation and Guidelines

2.2.1 The following legislation and regulations provide the standards and guidelines for evaluation of air quality impacts and the type of works that are subject to air pollution control:

- Air Pollution Control Ordinance (APCO) (Cap. 311) and the Air Quality Objectives (AQO)
- Air Pollution Control (Construction Dust) Regulation
- Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation
- Air Pollution Control (Fuel Restriction) Regulations
- Hong Kong Planning Standards and Guidelines (HKPSG)

Air Pollution Control Ordinance (CAP 311)

2.2.2 To achieve as soon as reasonably practicable and to maintain thereafter to safeguard the health of the community, a set of Air Quality Objectives (AQOs) is established under the Air Pollution Control Ordinance (Cap. 311). The prevailing AQOs that came into effect on 11 April 2025 are listed in **Table 2.1**.

**Table 2.1 The Hong Kong Air Quality Objectives for Government Projects (HKAQOs)**

| Pollutant | Averaging time | Concentration limit [i] (µg/m³) | Number of exceedances allowed per calendar year |
|---|---|---|---|
| Sulphur dioxide, $SO_2$ | 10-min | 500 | 3 |
| | 24-Hour | 40 | 3 |
| Respirable suspended particulates, RSP ($PM_{10}$) [ii] | 24-Hour | 75 | 9 |
| | Annual | 30 | NA |
| Fine suspended Particulates, FSP ($PM_{2.5}$) [iii] | 24-Hour | 37.5 | 18 |
| | Annual | 15 | NA |
| Nitrogen dioxide, $NO_2$ | 1-Hour | 200 | 18 |
| | 24-Hour | 120 | 9 |
| | Annual | 40 | NA |
| Ozone, $O_3$ | 8-Hour | 160 | 9 |
| | Peak Season | 100 | NA |
| Carbon monoxide, CO | 1-Hour | 30,000 | 0 |
| | 8-Hour | 10,000 | 0 |
| | 24-Hour | 4,000 | 0 |
| Lead | Annual | 0.5 | NA |

*Notes:*

*[i] All measurements of the concentration of gaseous air pollutants, i.e. sulphur dioxide, nitrogen dioxide, ozone and carbon monoxide, are to be adjusted to a reference temperature of 293 Kelvin and a reference pressure of 101.325 kilopascal.*

*[ii] Respirable suspended particulates means suspended particles in air with a nominal aerodynamic diameter of 10 μm or less.*

*[iii] Fine suspended particulates means suspended particles in air with a nominal aerodynamic diameter of 2.5 μm or less.*

2.2.3 For odour impact assessment, Annex 4 of TM-EIAO stipulates an odour limit of 5 odour units based on an averaging time of 5 seconds at an air sensitive receiver should be met.

Air Pollution Control (Construction Dust) Regulation

2.2.4 Made under Section 43 of the APCO, this Regulation defines notifiable and regulatory works for achieving the purpose of dust control for a number of activities. The Regulation requires that any notifiable work shall give advance notice to EPD, and the Contractors shall ensure that the notifiable and regulatory works are carried out in accordance with the Schedule of the Regulation. Dust control and suppression measures are also provided in the Schedule.

2.2.5 The proposed construction works for the proposed Project are both regulatory and notifiable works due to activities including material stockpiling and dusty material handling as potential sources of fugitive dust emissions as detailed under Parts I to IV of the Schedule on Dust Control Requirements.

Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation

2.2.6 The Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, which aims to control emissions from non-road mobile machinery (NRMMs) to improve air quality, became effective on 1 June 2015. NRMMs include non-road vehicles, as well as mobile machines and equipment (regulated machines) such as crawler cranes, excavators and air compressors.

2.2.7 Under the regulation, regulated machines have to comply with the Stage IIIA emission standards of the European Union (EU). It also requires all regulated machines sold or leased for use in Hong Kong to bear an approval or exemption label issued to them by the EPD, started from 1 September 2015. It restricts specified activities and locations including construction sites, designed waste disposal facilities and specified processes to use only NRMMs that bear an approval or exemption label issued to them by the EPD, with effect from 1 December 2015.

Air Pollution Control (Fuel Restriction) Regulations

2.2.1 The Air Pollution Control (Fuel Restriction) Regulation was enacted in 1990 to impose legal control on the type of fuels allowed for use and their sulphur contents in commercial and industrial processes to reduce sulphur dioxide ($SO_2$) emissions. In April 2025, the Regulation was amended to tighten the control requirements of liquid fuels. The Regulation does not apply to any fuel-using equipment that is used or operated in premises used solely as a dwelling, or is used or operated in or on a vessel, motor vehicle, railway locomotive or aircraft.

Hong Kong Planning Standard and Guidelines (HKPSG)

2.2.2 Potential air quality impacts associated with the surrounding road carriageways and chimney emission from industrial stack shall be evaluated in accordance with the guidelines set out in HKPSG.

2.2.3 **Table 2.2** below is the extract of Table 3.1 in Chapter 9 "Environment" of Hong Kong Planning Standard and Guidelines (HKPSG) stating the recommended minimum horizontal buffer distance against pollution sources generated from road & highways and industrial areas.

**Table 2.2 Guidelines on Usage of Open Space Site**

| Pollution Source | Parameter | Buffer Distance | Permitted Uses |
|---|---|---|---|
| Road and Highways | Type of Road | | |
| | Trunk Road and Primary Distributor | >20 m | Active and passive recreational uses |
| | | 3 – 20 m | Passive recreational uses |
| | | <3 m | Amenity areas |
| | District Distributor | >10 m | Active and passive recreational uses |
| | | <10 m | Passive recreational uses |
| | Local Distributor | >5 m | Active and passive recreational uses |
| | | <5 m | Passive recreational uses |
| | Under Flyovers | | Passive recreational uses |
| Industrial Areas | Difference in Height between Industrial Chimney Exit and the Site | | |
| | <20 m | >200 m | Active and passive recreational uses |
| | | 5 – 200 m | Passive recreational uses |
| | 20 – 30 m (*) | >100 m | Active and passive recreational uses |
| | | 5 – 100 m | Passive recreational uses |
| | 30 – 40 m | >50 m | Active and passive recreational uses |
| | | 5 – 50m | Passive recreational uses |
| | >40 m | >10 m | Active and passive recreational uses |
| Construction and Earth Moving Activities | - | <50 m | Passive recreational uses |
| | | >50 m | Active and passive recreational uses |

*Note:*

(i) *In situations which the height of chimneys is not known, use the set of guidelines marked with an asterisk for preliminary planning purpose and refine as and when more information is available.*

(ii) *The buffer distance is the horizontal, shortest distance from the boundary of the industrial lot, the position of existing chimneys or the edge of road kerb, to the boundary of open space sites.*

(iii) *The guidelines are generally applicable to major industrial areas but NOT individual large industrial establishment which are likely to be significant air pollution sources. Consult EPD should be consulted when planning open spaces close to such establishments.*

(iv) *Amenity areas are permitted in any situation.*

## 2.3 Construction Phase

Impact Brought during Construction Phase

2.3.1 Construction activities will bring potential temporary air quality impact to the surrounding area. Significant emissions are not anticipated from other criteria air pollutants - NO2, SO2, and CO, etc. as the number of on-site diesel/petroleum fuelled machinery (1-2 machineries) to be used for construction works is limited owing to the small size of the work site with an area of 1,852 $m^2$. However, electric power supply shall be provided for on-site machinery as far as practicable and diesel generators shall be avoided to minimize the gaseous and PM emissions. Travelling of the dump trucks is another potential source of construction dust. As this planning application stage, there is no detailed information on the construction program; however, with reference to other similar scale projects, there is likely to be around 2 dump trucks per hour during the site formation stage of the Proposed Development. Watering the haul road

and the site once per hour would be implemented to minimize the potential dust emission during the traveling of the dump trucks within the site.

2.3.2 Furthermore, there is a potential concurrent project "Proposed Public Housing Development at Wu Shan Road" within the 500m study area from the site boundary which would contribute to the cumulative impact during the construction phase. According to the available public information, the tentative completion year of the potential concurrent project would be 2025/26. Nevertheless, with the adoption of good practices, it is expected that emission of construction fugitive dust can be kept to an acceptable level. In addition, the applicant will liaise with the relevant parties of the concurrent project, if any, to avoid any heavy dusty activities to be conducted at the same time to minimize the cumulative dust impact at the area. The location of the potential concurrent project is shown in **Figure 2**.

Representative Air Sensitive Receivers

2.3.3 There are a number of village houses, planned public housing development, golf centre, sitting-out area and riding school located within 500m of the Proposed Development. The representative ASRs are tabulated below. The relative location and distance between the representative ASRs and the Subject Site can be referred to **Figure 3**.

**Table 2.3 Representative ASRs during Construction Phase**

| Ref | Descriptions | Type | Use | Distance from the Project Boundary |
|---|---|---|---|---|
| A1 | Tuen Mun Golf Centre | Existing | Recreation | ~212m |
| A2 | Public Housing Development at Wu Shan Road | Planned | Residential | ~302m |
| A3 | Hung Lau Sitting-out Area | Existing | Recreation | ~107m |
| A4 | Tuen Mun Public Riding School | Existing | Education | ~216m |
| A5 | Tsing Shan Tsuen San Shek Wan South | Existing | Residential | ~256m |

2.3.4 It is necessary to adopt a management strategy for controlling the construction dust generated from the construction of the Proposed Development. Where appropriate, air quality control measures for avoiding and minimising the potential impacts are recommended.

General Requirements during Construction Phase

2.3.5 The assessment criteria for aerial emission is based on the Hong Kong Air Quality Objectives (AQO) for air pollutants under *APCO* and the AQOs for the pollutants relevant to the construction phase air quality impact are listed in **Table 2.1**.

Control Measures Recommended during Construction Phase

2.3.6 Appropriate dust reduction measures should be adopted as required under the Air Pollution Control (Construction Dust) Regulation. Essential dust mitigation measures must be implemented to minimize the potential dust impact. Dust impact could be

effectively mitigated by inclusion of appropriate contract clauses for dust minimisation in the work contracts. Mitigation measures may include:

- dump trucks for material transport should be totally enclosed using impervious sheeting;
- any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading;
- the stockpiled malodorous materials should be removed from Application Site as soon as possible, and they should be covered entirely by plastic tarpaulin sheets;
- dusty materials remaining after a stockpile is removed should be wetted with water;
- the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with e.g. concrete, bituminous materials or hardcore or similar;
- stockpile of dusty materials to be either covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides; or sprayed with water so as to maintain the entire surface wet;
- all dusty materials to be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet;
- vehicle speed to be limited to 10 km/hr except on completed access roads;
- the portion of road leading only to a construction site that is within 30 m of a designated vehicle entrance or exit should be kept clear of dusty materials;
- every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites;
- the load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials would not leak from the vehicle;
- the working area of excavation should be sprayed with water immediately before, during and immediately after (as necessary) the operations so as to maintain the entire surface wet; and
- use of effective dust screens, sheeting or netting to be provided to enclose dry scaffolding which may be provided from the ground floor level of the building or if a canopy is provided at the first floor level, from the first floor level, up to the highest level (maximum four floors for this Project) of the scaffolding where scaffolding is erected around the perimeter of a building under construction.

2.3.7 In addition to the dust control measures described above, dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices listed below shall be carried out to further minimize construction dust impact:

- Plan site layout so that machinery and dust causing activities (e.g. haul roads and stockpiling areas) are located away from receptors as far as possible;
- Consider connecting construction plant and equipment to main electricity supply and avoid use of diesel generators and diesel-powered equipment as far as practicable;
- Provision of not less than 2.4m high hoarding from ground level along site boundary where adjoins a road, streets or other accessible to the public except for a site entrance or exit;

- Implement phasing of the excavation work to avoid large scale excavation at the same time in vicinity of nearby ASRs; and
- Erect solid screens or barriers around dusty activities,etc.

2.3.8 A monitoring programme could also be instigated to monitor the construction process in order to enforce dust controls and modify methods of works to reduce the dust emission down to an acceptable level.

2.3.9 Good site management is important for reducing potential air quality impact down to an acceptable level. As a general guidance, the contractor shall maintain high standard of site management to prevent potential emission of fugitive dust emission. Loading, unloading, handling and storage of fuel, raw materials, products, wastes or by-products should also be carried out in a manner so as to minimise the release of visible dust emission.

2.3.10 A high standard of site management 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 without generating fugitive dust emissions. The material shall be handled properly to prevent fugitive dust emission before cleaning.

2.3.11 "Recommended Pollution Control Clauses for Construction Contracts" is available on EPD website. It contains the recommended air pollution control measures to be implemented by the contractor during the construction stage.

## 2.4 Operation Phase

Review on Odour Impact

2.4.1 All sewage and wastewater generated from the proposed development would be treated by the proposed underground septic tank and treated effluent would be percolated to surrounding subsoil in the soakaway pit. Further sewerage treatment arrangement will be submitted to Environmental Protection Department for approval at the detailed design stage. In view of that the development and effluent volume are small in scale; with distance of >100m between Subject Site and nearby ASRs; no exhaust on the proposed underground septic tank; the system is same as that adopted in the previous approved Holiday Camp application (A/TM/469) and all the requirement as stipulated in ProPECC PN 1/23 would be followed, it is anticipated that the proposed underground septic tank would not cause any adverse odour impact to the proposed development and nearby ASRs.

Review on Industrial Emission Impact

2.4.2 Onsite surveys were conducted on 27 June 2025 to verify the presence of chimneys. There was no chimney identified within 200m from the boundary of Proposed Development. As such, it is anticipated that the Proposed Development would not be subject to adverse industrial emission impact.

Review on Vehicular Emission Impact

2.4.3 In accordance with above table as stipulated in HKPSG, the minimum requirements on the buffer distance from Lung Fu Road and Lung Mun Road is >10m, from San Shek Wan Road and Proposed Access Road is >5m.

**Table 2.4 Buffer Distances between Kerb Side of Concerned Road Links and Proposed Air Sensitive Uses**

| Road Name | Road Type | Recommended Buffer Distance (m) | Shortest Horizontal Distances Between Kerb Side of Concerned Road Links and the Application Site (m) |
|---|---|---|---|
| Lung Fu Road | District Distributor | >10m | ~70m |
| Lung Mun Road | District Distributor | >10m | ~211m |
| San Shek Wan Road | Local Distributor | >5m | ~79m |
| Proposed Access Road | Local Distributor | >5m | ~4.7m |

2.4.4 As shown in **Table 2.4** and **Figure 4,** the recommended buffer distance requirement for Lung Fu Road, Lung Mun Road and San Shek Wan Road in the HKPSG would be complied. For the proposed access road, a small portion of the application site is within 5m buffer distance of the access road, however, no air sensitive uses (including fresh air intake, openable window, and open space for recreational use, etc.) would be located within 5m buffer distance. In conclusion, there would be no air sensitive uses within the above-mentioned 10m and 5m buffer zones. Since the recommended minimum buffer distance of the vehicular emission in the HKPSG can be met, the future residents and occupants of Proposed Development and existing air sensitive receivers will not be subjected to insurmountable vehicular emission impact.

# 3. NOISE IMPACT ASSESSMENT

## 3.1 Introduction

3.1.1 This section assesses the potential industrial noise and road traffic noise impacts on the noise sensitive uses of the Proposed Development. Practical mitigation measures are proposed to mitigate the potential noise impacts, where necessary.

## 3.2 Industrial Noise Impact Assessment

3.2.1 Onsite surveys were conducted on 27 June 2025 to verify the presence of industrial noise sources. There was no industrial noise source identified within 300m from the boundary of Proposed Development. As such, it is anticipated that the Proposed Development would not be subject to adverse industrial noise impact.

## 3.3 Railway Noise Impact Assessment

3.3.1 According to the desktop studies and onsite surveys conducted on 27 June 2025, light rail transit as a potential noise source is identified with distance of ~200m, located to the southeast of the Application Site. However, the direct line of sight between proposed development and identified light rail (e.g. Butterfly Station) is blocked by natural terrain (Approximate 40mPD or higher). In view of the separation distance of 25m is met and existing topographic screening, it is anticipated that the Proposed Development would not be subject to adverse railway noise impact. Location of the light rail transit and separation distance from the Application Site is shown in **Figure 5**.

## 3.4 Road Traffic Noise Impact Assessment

3.4.1 Assessment Criteria

3.4.1.1 Noise standards are recommended in the HKPSG for planning against possible noise impact from road traffic.

3.4.1.2 Domestic dwellings of the Proposed Development will rely on openable window for ventilation. According to the guidelines, the maximum noise level from road traffic, measured in terms of $L_{10}$ (1-hr), is recommended to be 70 dB(A) at typical facades of new domestic dwellings.

3.4.2 Assessment Methodology

3.4.2.1 The methodology involves the prediction of future noise impacts on Noise Sensitive Receivers (NSRs) arising from road traffic of the existing and future road carriageways in the 300m assessment area. The 300m assessment area is shown in **Figure 6**.

3.4.2.2 The U.K. Department of Transport's procedure "Calculation of Road Traffic Noise" was applied to predict the hourly $L_{10}$ noise level generated from road traffic at selected representative facades (NSRs) of the Proposed Development. The predicted noise levels were then compared with the HKPSG noise criterion for assessing the impact.

3.4.2.3 Based on the tentative completion year of Proposed Development (Year 2031), traffic forecast for the Year 2046 (AM Peak) on the road carriageways in the vicinity of the Proposed Development, which has the maximum traffic projection within 15 years from the completion of the Proposed Development, was provided by CKM (the project traffic consultant) for prediction of the worst-case traffic noise impact. The projected traffic flows and vehicle composition are shown in **Appendix 2**.

3.4.3 Road Characteristics

3.4.3.1 All roads surrounding the Application Site are assumed with a speed limit of 50km/hr with an impervious surface.

3.4.4 Noise Sensitive Receivers

3.4.4.1 The representative facades with openable windows/doors were identified as NSRs in the assessment. Locations of proposed NSRs are shown in **Figure 7**. The assessment points are taken at 1.2 m above the floors of the selected storey and 1m away from the facades of openable windows.

3.4.5 Review of Road Traffic Noise Impact for Proposed Development

3.4.5.1 A road traffic noise impact assessment has been prepared to estimate the traffic noise level at all representative NSRs.

3.4.6 The assessment results show that full compliance rate is achieved. Maximum predicted traffic noise level is 70 dB(A), which complies with the 70 dB(A) noise criterion as listed in HKPSG for residential units. Therefore, no adverse road traffic noise impact is anticipated at the proposed NSRs.

3.4.6.1 The predicted road traffic noise result is summarised in **Appendix 3**.

# 4. WATER QUALITY ASSESSMENT

## 4.1 Introduction

4.1.1 This section presents the water quality impact assessment for the construction and operational phases of the Project. Potential impacts have been identified and their significance on the Water Sensitive Receivers (WSRs) evaluated. The location of these WSRs can be referred to **Figure 8**. Appropriate mitigation measures and good site practices are recommended, where necessary, to reduce the potential water quality impacts in order to control the residual impacts to acceptable levels.

## 4.2 Environmental Legislation, Standards and Guidelines on Construction Phase Water Quality Impact

4.2.1 Construction activities may induce potential water quality impact due to the discharge of the effluent generated from the construction site. Effluent discharges from construction site are subject to control under the Water Pollution Control Ordinance and the Technical Memorandum Standards for Effluents Discharged in Drainage and Sewerage Systems, Inland and Coastal Water issued by EPD. Information in the ProPECC PN2/24 Construction Site Drainage will also be considered to provide some basic environmental guidelines for handling and disposal of construction site discharges.

## 4.3 Construction Phase Water Quality Impacts

4.3.1 Site construction activities will inevitably have the potential to generate wastewater. As such works should be carried out in such a manner as to minimize potential impacts on the water quality. Pollution sources could include:

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

Construction Runoff and Drainage

4.3.2 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, concrete washout and drainage from dust suppression sprays, fuel, oil and lubricants from construction vehicles and other equipment.

4.3.3 Sufficient silt removal facilities should be installed to settle out sediment prior to discharge. Such facilities shall be properly designed in accordance with guidelines from the Civil Engineering and Development Department (CEDD) to achieve the desired mitigating effect. Typically, a detention time not less than 5 minutes for maximum design flow of inlet should achieve adequate sediment removal. Channels or earth berm or sand bag barriers should be provided on site to properly direct surface runoff to such silt removal facilities. Sediment traps, channels and manholes should be maintained and the deposited silt and grit should be removed on regular basis so that potential impacts on WSR can be minimized.

Sewage Effluent from Construction Site

4.3.4 Water pollution due to site facilities e.g. toilets could be source of pollution if appropriate measures are not implemented properly in respect of storage and discharge.

4.3.5 In this construction site, portable chemical toilets will be provided. Chemical toilets should be provided at a minimum rate of about 1 per 50 workers. The facility should be serviced and cleaned by a specialist contractor at regular intervals. Sewage generated from the construction workforce will be contained in chemical toilets and be tanked away. Therefore, no adverse water quality impact is anticipated on WSR.

Liquid Spillage

4.3.6 To prevent spillage of fuel oils or other polluting fluids at sources, it is recommended that all the stocks should be stored inside proper containers and sited on sealed areas, preferably surrounded by bunds.

4.3.7 "Recommended Pollution Control Clauses for Construction Contracts" (RPCC) also recommends appropriate wastewater control measures to be implemented at the construction site by the contractor. The RPCC is available on EPD website.

4.3.8 The quality of the discharge wastewater should meet the standards specified in the Technical Memorandum – Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters. The above proposed mitigation measures and control measures should be implemented and an environmental monitoring and audit should be carried out to ensure the effectiveness of the proposed mitigation measures and subsequently ensure the water quality of the nearby water sensitive receivers would not be adversely affected by the construction of the project.

## 4.4 Best Management Practices (BMPs) for Stormwater Discharge

4.4.1 The BMPs given in the ProPECC PN 2/24 shall be implemented in controlling water pollution during the whole construction phase to minimize the impact on WSR. The main practices provided in the above-mentioned document (i.e. ProPECC PN 2/24) are also summarized in the following paragraphs which should be implemented by the contractor during the construction phase, where practicable:

- High loading of suspended solids (SS) in construction site runoff will be prevented through proper site management by the contractor;

- The boundary of critical work areas will be surrounded by ditches or embankment. Accidental release of soil or refuse into the adjoining lands should be prevented by the provision of site hoarding or earth bunds, etc. at the site boundary. These facilities should be constructed in advance of the site formation works and roadworks;

- Consideration will be given to plan construction activities to allow the use of natural topography of the Project Site as a barrier to minimize uncontrolled non-point discharge of construction runoff;

- Temporary ditches, earth bunds should be provided to facilitate controlled discharge of runoff into storm drains via sand/ silt removal facilities such as sand traps and sedimentation basins. Oil and grease removal facilities should also be provided where appropriate, for example, in area near plant workshop/ maintenance areas;

- Sedimentation basins and sand traps designed in accordance with the requirements of ProPECC Note PN 2/24 should be installed at the construction site for collecting surface runoff;

- Sand and silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly by the contractor, and at the onset of and after each rainstorm to ensure that these facilities are functioning properly;

- Slope exposure should be minimized where practicable especially during the wet season. Exposed soil surfaces should be protected from rainfall through covering the temporarily exposed slope surfaces or stockpiles with tarpaulin or the like;

- Haul roads should be protected by crushed rock, gravel or other granular materials (i.e. hard paved) to minimize discharge of contaminated runoff;

- Slow down water run-off flowing across exposed soil surfaces;

- Plant workshop/ maintenance areas should be bonded and constructed on a hard standing. Sediment traps and oil interceptors should be provided at appropriate locations;

- Manholes (including newly constructed ones) should be adequately covered or temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system;

- Construction works should be programmed to operate in dry seasons and minimize soil excavation works where practicable during the rainy days;

- Chemical stores will be contained (bonded) to prevent any spills from contact with water bodies. All fuel tanks and/ or storage areas should be provided with locks and be sited on hard surface;

- Chemical waste arising from the Project Site should be properly stored, handled, treated and disposed of in compliance with the requirements stipulated under the Waste Disposal (Chemical Waste) (General) Regulation;

- Drainage facilities must be adequate for the controlled release of storm flows;

- Vehicle wheel washing facilities should be provided at the site exit such that mud, debris, etc. attached to the vehicle wheels or body can be washed off before the vehicle leaves the work site;

- Section of the road between the wheel washing bay and the public road will be paved to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains; and

- Bentonite slurries, if any to be generated, shall 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 meet the respective applicable effluent standards for discharges into sewers, storm drains or the receiving waters.

## 4.5 Potential Operation Phase Water Quality Impacts

4.5.1 According to the major operation phase activities in the Proposed Development, the key potential water quality impact is due to the surface runoff and treated effluent discharge from the Proposed Development.

4.5.2 The management and mitigation strategy of the potential water quality impact is addressed below, with appropriate environmental control measures recommended.

4.5.3 Best practices as stated in ProPECC PN 1/23 "Drainage Plans Subject to Comment by the Environmental Protection Department" shall be followed. It states out the handling,

treatment and disposal of various effluent discharges to stormwater drains and foul sewers during the operation phase. Some examples of the recommendations listed in the ProPECC PN 1/23 are as below.

- Drainage in covered carparks should be connected to foul sewers via petrol interceptors;
- Disposal of commercial and industrial wastewater by injection into the ground (e.g. by soakaway pits) is normally not allowed; and
- All wastewater collected from a restaurant kitchen, including that from basins, sinks and floor drains, should be discharged via a grease trap capable of providing at least 20 minutes retention during peak flow.

## 4.6 Surface Runoff Discharge/ Stormwater Discharge

4.6.1 During operation, the irrigation runoff and surface runoff during rainfall events, which is known as non-point source of pollution, may be the cause potential water quality impact. Fallen leaves, particles, litter from open areas, which is a source of organic and nutrient pollutants, can be washed into the drainage system during heavy rainfall if it is not properly controlled. Pollutants, contributed by non-point source are often bound or adsorbed onto particles, thus an effective stormwater management system will be required for the removal of pollution sources prior to rainstorm and the provision of degritting/screening facilities will be required for sediment collection. As the particles settle out, the associated pollutants will also settle out and removed from stormwater.

4.6.2 Under normal condition, runoff carrying pollutants will not be generated in low rainfall intensity, but increased runoff may occur during heavy rainfall condition. The first flush flow would carry most of the pollutants and the subsequent overland flow generated from rainstorms is expected to be uncontaminated. Thus, prevention of "first flush" pollution in stormwater runoff will be an effective way in controlling pollution at source and to abate pollutants.

4.6.3 Relevant assessment on the total peak flow of stormwater of the Proposed Development and the capacity of proposed drainage system are provided in a separate Drainage Proposal.

## 4.7 Sewage Effluent from Proposed Development

4.7.1 At present, there is no existing or planned public sewer for connections in the vicinity of the Application Site. Given that the development is small in scale. All sewage and wastewater generated from the proposed development would be treated by the proposed underground septic tank and treated effluent would be percolated to surrounding subsoil in the soakaway pit. This system is same as that adopted in the previous approved Holiday Camp application (A/TM/469) and all the requirement as stipulated in ProPECC PN 1/23 would be followed. It is expected that the operation of the proposed development would not cause operational phase water quality impact. Further sewerage treatment arrangement will be submitted to Environmental Protection Department for approval at the detailed design stage.

4.7.2 There will not be any greywater recycling activities planned due to hygienic considerations.

## 4.8 Implementation of Best Management Practices (BMPs)

4.8.1 Surface runoff can be controlled by good drainage design and implementation of BMPs. The Proposed Development shall adopt the following BMPs.

Runoff Control

4.8.2 Site drainage system of the development shall be reviewed regularly in such way that surface runoff shall be directed towards the internal access road. If necessary, additional paved U-channels with screening facilities shall also be provided along the edge of Proposed Development to avoid uncontrolled spillage of runoff.

Prevention of Pollution at Source

4.8.3 Regular cleaning and sweeping of road surface/ open areas is suggested so as to minimize exposure of pollutants to stormwater. The road surface/ open area cleaning should also be carried out prior to occurrence of rainstorm.

4.8.4 With the above measures, the amount of pollutants at source has been largely reduced/ avoided as far as possible so that the impact on WSR would not be adverse.

Devices for Removal of Pollutants

4.8.5 In addition to the above, screening facilities such as standard gully grating and trash grille, with spacing which is capable of screening off large substances such as fallen leaves and rubbish should be provided at the inlet of drainage system as well as at upstream location of the u-channels. It is expected that most of the large substances in stormwater runoff would be removed with such devices so as to prevent it from entering the drainage system. Road gullies with standard design should be incorporated during the detailed design to remove particles present in stormwater runoff.

4.8.6 In the event of emergency (e.g. car accident) where there is a major spillage of oil, chemical or fuel, dispersants or firefighting foam, etc., a system of contaminant bunding will be implemented as appropriate.

Management Measures

4.8.7 Good management measures such as regular cleaning and sweeping of road surface/ open areas is suggested. The road surface/ open area cleaning should also be carried out prior to occurrence of rainstorm.

4.8.8 Stormwater gullies and ditches provided among the Proposed Development will be regularly inspected and cleaned by the property management company.

4.8.9 With the removal of pollutants, the pollution levels from stormwater would be much reduced, and given the stochastic nature of non-point source pollution and the proposed management measures, there will be no significant impact expected on WSR.

4.8.10 With appropriate management measures in place, the risk of untreated sewage effluent discharge to North Western Control Zone due to emergency events is considered to be negligible.

# 5. WASTE MANGEMENT

## 5.1 Introduction

5.1.1 This section presents an assessment of the potential waste management issues in connection with construction and operation of the Project. The options for waste minimization, reuse, recycling, collection, transport and disposal of wastes arising from the construction and demolition work have been examined. Where appropriate, procedures for waste reduction and management are considered and environmental control measures for avoiding and minimising the potential impacts are recommended.

5.1.2 Recommended Pollution Control Clauses for Construction Contracts published by Environmental Protection Department would be implemented during the construction phase of the proposed development. Waste generated from the Proposed Development would be properly controlled and adverse waste management would not be anticipated.

## 5.2 Relevant Legislation, Standards & Guidelines

5.2.1 In carrying out the assessment, reference has been made to the following relevant Hong Kong legislation governing waste management and disposal. Directly relevant legislation include:

1. The Waste Disposal Ordinance (Cap. 354) and subsidiary legislation such as the Waste Disposal (Chemical Waste) (General) Regulation, and the Waste Disposal (Clinical Waste) (General) Regulation, set out requirements for the storage, handling and transportation of all types of wastes;
2. Dumping at Sea Ordinance (Cap. 466) regulating marine disposal of sediment;
3. Land (Miscellaneous Provisions) Ordinance (Cap 28); and
4. Public Health and Municipal Services Ordinance (Cap 132) – Public Cleansing and Prevention of Nuisance Regulation – control of disposal of general refuse.

5.2.2 Other relevant documents and guidelines that are applicable to waste management and disposal include:

5. PNAP 243 ADV-19 - Construction and Demolition Waste;
6. PNAP 252 ADV-21 - Management Framework for Disposal of Dredged/ Excavated Sediment;
7. Development Bureau Technical Circular (Works) No. 8/2010 - Enhanced Specification for Site Cleanliness and Tidiness;
8. ETWB TCW No. 22/2003A - Additional Measures to Improve Site Cleanliness and Control Mosquito Breeding on Construction Sites;
9. Development Bureau Technical Circular (Works) No. 6/2010 - Trip-ticket System for Disposal of Construction and Demolition Materials;
10. WBTC No. 19/2001 - Metallic Site Hoardings and Signboards;
11. Works Bureau Technical Circular No. 12/2000 - Fill Management;
12. Works Branch Technical Circular No. 2/93 - Public Dumps;
13. Works Branch Technical Circular No. 2/93B - Public Filling Facilities; and
14. Project Administration Handbook for Civil Engineering concerning Management of Construction and Demolition Materials Including Rock.

## 5.3 Identification and Evaluation of Potential Waste Impact during Construction Phase

5.3.1 The construction activities to be carried out for the proposed Project would generate a variety of wastes that can be divided into distinct categories based on their composition and ultimate method of disposal. The identified waste types include:

- Construction and Demolition (C&D) materials;
- Chemical waste; and
- General refuse.

C&D Materials

5.3.2 C&D materials comprise mainly of unwanted materials, including surplus materials arising from excavations that are generated from the works (e.g. site clearance, site formation works, excavation work for basement). Inert soft C&D materials comprise of soil, sand, clay, slurry, etc., while hard C&D materials comprise of crushed concrete, asphalt, rock, etc. The amount of non-inert C&D materials generated during site clearance would be minor (as there is little vegetation at the Subject Site). C&D materials may comprise different types of materials, including:

- Non-inert C&D materials (e.g. bamboo, timber, paper, metal, glass, plastic, packaging wastes, etc.) decompose and are not suitable for land reclamation. Non-inert C&D materials should be reused or recycled as far as possible. For those non-inert C&D materials that cannot be reused or recycled should be disposed of at landfill as last resort;
- Inert C&D materials do not decompose (e.g. soil, rock debris, rubble earth, concrete, etc.) and is suitable to reuse as filling materials for land reclamation and site formation. Inert C&D materials could be reused on-site as filling materials. For those inert C&D materials that cannot be reused should be disposed at a Public Fill Reception Facilities.

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

5.3.4 Inert C&D materials should be re-used on-site (e.g for backfilling) if it is practical and/or disposed of at public filling area or other CEDD designated public fill reception facilities. Non-inert C&D materials (i.e. C&D waste) should be re-used or recycled. For those that cannot be reused or recycled, they should be disposed of at designated landfill sites as last resort.

5.3.5 The Contractor(s) should be responsible for ensuring that all on-site wastes will be collected by approved waste collectors and appropriate measures should be undertaken to minimise adverse impacts to the surrounding environment, such as dust generation. The Contractor(s) must also ensure that all necessary waste disposal permits have been obtained before actions.

5.3.6 Prior to disposal of non-inert C&D materials, it is recommended that wood, steel, glass and other metals will be collected separately for re-use and/or recycling and inert C&D materials utilized as fill materials to minimize the quantity of waste to be disposed of at the Public Fill Reception Facilities and landfill.

Chemical Waste

5.3.7 Construction plant and equipment will require regular maintenance and servicing, which would generate waste such as solvents, lubrication oil and fuel, etc. Chemical wastes arising during the construction phase may pose serious environmental, health and safety hazards if not stored and disposed of in an appropriate manner.

5.3.8 It is difficult to quantify the amount of chemical wastes as it will solely depend on the contractor's on-site maintenance practice and the quantities of plant and vehicles utilized at the construction site. Nevertheless, it is anticipated that the quantity of chemical waste such as lubrication oil and solvent produced from equipment maintenance would be small and less than hundred litres per month.

5.3.9 The contractor is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.

5.3.10 Storage, handling, transport and disposal of chemical waste should be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste published by the EPD. Chemical wastes such as wasted solvents, lubrication oil and fuel, etc. will need special handling and storage arrangements and should be collected by licensed collectors for subsequent disposal and appropriate treatment at licensed waste disposal facilities, for example the Chemical Waste Treatment Centre (CWTC) in Tsing Yi. Mitigation and control requirements for chemical waste are provided in the "Recommended Pollution Control Clauses for Construction Contracts" available in EPD website mentioned the handling, storage and disposal of chemical wastes. With good management and site particles, adverse environmental impacts should not result.

General Refuse

5.3.11 Throughout the construction stage, the workforce would generate general refuse comprising food scraps, waste paper, empty containers, etc. Release of general refuse into watercourses or marine waters should not be permitted as introduction of these wastes is likely to have detrimental effects on water quality in the area. Effective collection of site wastes would be required to prevent waste materials being blown around by wind, flushed or leached into the marine environment, and odour nuisance. The work sites may also attract pests and vermin if the waste storage area is not well maintained and cleaned regularly. Disposal of refuse at sites other than approved waste transfer or disposal facilities can also result in similar impacts. The number of work force to be employed for the Project is around 10. Based on the generation rate of 0.65kg/person/day, the estimated total refuse generated per day (maximum) would be about 6.5kg/day.

5.3.12 Recyclable materials (i.e. paper, plastic bottles and aluminium cans) will be collected separately for recycling, in order to reduce the amount of general refuse to be disposed into the landfill. Adequate number of enclosed waste containers will be provided to avoid over-spillage of waste. The non-recyclable refuse will be placed in bags and stored in enclosed containers, and disposed of on a daily basis to the designated landfill. Given that the quantity of general refuse to be disposed will be small, no adverse impact on the operation of these waste disposal facilities is anticipated. With the implementation of the recommended waste management practices at the site, adverse environmental impacts would not arise from the storage, handling and transportation of refuse.

5.3.13 Preliminary quantity estimation of construction waste involved and disposal method is summarised in the **Table 5.1** below.

**Table 5.1 Summary of Estimated Construction Waste and Disposal Method**

| Waste Material Type | | Estimated Quantity Generated | Disposal Method |
|---|---|---|---|
| Inert C&D Materials | Excavation | ~6500 $m^3$ | To be reused or recycled on site or in other projects; and delivered to Public Fill Reception Facilities for other beneficial reuse |
| | Construction of New Buildings/Structures | ~500 $m^3$ | |
| Non-inert C&D Materials | Excavation | ~500 $m^3$ | To be reused, recycled or disposed of at landfill as the last resort |
| | Construction of New Buildings/Structures | ~80 $m^3$ | |
| Chemical Waste | - | Less than hundred litres /month (preliminary estimate) | For treatment at licensed facilities |
| General Refuse | - | 6.5kg/day (preliminary estimate, assuming there are 10 workers at any one time with generation rate of 0.65kg per worker per day) | Disposal to landfill |

## 5.4 Waste Disposal and Mitigation Measures

5.4.1 Waste generated by construction activities should be properly sorted and certain waste management requirements must be followed to minimize the impacts arising because of the generation, storage, handling, transport and disposal of wastes. Good site management and control can prevent the generation of significant amounts of "mixed waste". For unavoidable wastes, reuse, recycling and optimal disposal are most practical when segregation occurs on the construction site, categorized as follows:

- Inert C&D materials for reuse on-site or delivering to Public Fill Reception Facilities for beneficial reuse at other projects;
- Non-inert C&D materials for reuse or recycle or disposal at landfill as last resort;
- Chemical waste for treatment at licensed facilities; and
- General refuse for disposal at landfill.

C&D Material

5.4.2 Proper storage and site practices should be adopted to minimize the damage to, or contamination of, C&D materials that may reduce their recyclability and suitability for disposal in public fill reception facilities. The inert C&D materials shall be reused in earth filling, reclamation or site formation works. The non-inert C&D materials shall be reused or recycled and, as the last resort, disposed of at landfills.

5.4.3 Appropriate measures should also be employed to minimize windblown litter and dust during transportation by either covering trucks with tarpaulin or transporting wastes in enclosed containers. Waste should only be disposed at licensed sites. Resident site staff and the contractors should develop procedures to ensure that illegal disposal of waste does not occur. In addition, waste storage areas within the Project should be well maintained and cleaned regularly to prevent cross-contamination. The disposal of inert C&D materials and non-inert C&D materials to public fill reception facilities/sorting

facilities respectively through a trip-ticket system, while general refuse will be disposed of at landfill.

Chemical Waste

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

General Refuse

5.4.5 For general refuse, mitigation measures should include provision of a collection area where waste can be sorted, stored and loaded prior to removal from the site during construction phase.

5.4.6 In additional, with the implementation of the recommended mitigation measures in the "Recommended Pollution Control Clauses for Construction Contracts" available in EPD website, the potential environmental impacts resulting from the storage, handling and transportation of inert C&D materials, non-inert C&D materials, chemical wastes and general site wastes would be minimal. Below are the examples of the relevant measures:-

Waste Minimisation

- The Contractor shall submit to the Engineer for approval a waste management plan with appropriate mitigation measures including the allocation of an area for waste segregation and shall ensure that the day-to-day site operations comply with the approved waste management plan.
- The Contractor shall minimise the generation of waste from his work. Avoidance and minimisation of waste generation can be achieved through changing or improving design and practices, careful planning and good site management.
- The Contractor shall ensure that different types of wastes are segregated on-site and stored in different containers, skips or stockpiles to facilitate reuse/recycling of waste and, as the last resort, disposal at different outlets as appropriate.
- The reuse and recycling of waste shall be practised as far as possible.
- The Contractor shall record the amount of wastes generated, recycled and disposed of (including the disposal sites).
- The Contractor shall use a trip ticket system for the disposal of C&D materials to any designated public filling facility and/or landfill.

Waste Nuisance Control

5.4.7 The Contractor shall not permit any sewage, waste water or effluent containing sand, cement, silt or any other suspended or dissolved material to flow from the Site onto any adjoining land or allow any waste matter (or refuse) which is not part of the final product from waste processing plants to be deposited anywhere within the Site (or onto any adjoining land). He shall arrange removal of such matter from the site (or any building erected or to be erected thereon) in a proper manner to the satisfaction of the Engineer in consultation with the Director of Environmental Protection.

Chemical Waste Control

- The Contractor shall observe and comply with the Waste Disposal (Chemical Waste) (General) Regulation.
- The Contractor shall apply for registration as chemical waste producer under the Waste Disposal (Chemical Waste) (General) Regulation when chemical waste is produced. All chemical waste shall be properly stored, labelled, packaged and collected in accordance with the Regulation.

## 5.5 Identification and Evaluation of Potential Impact during Operational Phase

5.5.1 During operational phase of the proposed development, since the proposed use is residential only, disposal of chemical, livestock and clinical waste are not anticipated. Instead, general waste is anticipated to be the major type of waste generated during the operation of the proposed development.

5.5.2 Release of general refuse into watercourses or marine waters should not be permitted as introduction of these wastes is likely to have detrimental effects on water quality in the area. Effective collection of site wastes is suggested to prevent waste materials being blown around by wind, flushed or leached into the marine environment, and odour nuisance.

General Refuse

5.5.3 With the implementation of the *Producer Responsibility Scheme on Waste Electrical and Electronic Equipment* (WPRS), the amount of domestic electrical waste being disposed would not be significant as customers are encouraged to contact the WEEE recycling firm for the recycling of electrical equipment. The disposal of electrical equipment and its impact is not anticipated to be significant.

5.5.4 For other general waste such as metal, paper, plastic and glass, recycling bins for each type of wastes will be placed at prominent locations such as areas near lobby to reduce waste disposal amount. Also, the waste collection frequency is recommended to be at least once a day to reduce chances of hygiene issue.

5.5.5 For wastes such as leftover, an adequate number of enclosed waste containers will be provided to avoid over-spillage of waste. Also, leftover will be placed in bags and stored in enclosed containers, and disposed of on a daily basis to the designated landfill. In addition, the project proponent is recommended to deliver leftover generated to Organic Resources Recovery Centre (ORRC) or installation of food waste recycling machines for composting treatment, etc. Therefore, the chances of odour nuisance and hygiene issue are reduced.

5.5.6 As the generation rate of the general refuse at the proposed development is anticipated to be similar to those of the domestic use in Hong Kong, the impact from the waste disposal of the operational phase is anticipated to be insignificant with the implementation of the above measures.

## 5.6 Environmental Monitoring & Audit Requirements

5.6.1 The foregoing assessment has concluded that proper handling, storage, collection, transportation and disposal of waste materials generated during construction of the Project will not give rise to significant impacts to nearby sensitive receivers.

5.6.2 Whilst no specific environmental monitoring requirements are considered necessary, it is recommended that during the construction phase, site inspections and supervisions of waste management procedures and auditing of the effectiveness of implemented mitigation measures should be undertaken on a regular basis.

5.6.3 These tasks shall be scheduled in a Waste Management Plan ("WMP") to be prepared by the contractor and updated regularly. The WMP shall be submitted to the Architect/Engineer for approval. A summary of the site audits shall be presented in the monthly EM&A reports.

## 5.7 Conclusion and Recommendation

5.7.1 The potential impacts of wastes arising from the construction and operation of the Proposed Development have been assessed. The construction activities will generate a variety of wastes including materials from site clearance, excavated materials, construction wastes, chemical and general refuse.

5.7.1 Recommended Pollution Control Clauses for Construction Contracts published by Environmental Protection Department would be implemented during the construction phase of the proposed development.

5.7.2 With the recommended waste management practices put in place, no unacceptable impacts associated with waste management during the construction and operation phase are envisaged.

# 6. LAND CONTAMINATION

## 6.1 Scope of Work

6.1.1 The aim of this study is to assess the potential land contamination impact under the Proposed Development due to the previous land uses and/ or the existing operations.

## 6.2 Assessment Criteria

6.2.1 The following guidelines published by EPD have been followed:

- Guidance Manual for Use of Risk-based Remediation Goals (RBRGs) for Contaminated Land Management (Guidance Manual), EPD, Revised in April 2023;
- Guidance Note for Contaminated Land Assessment and Remediation (Guidance Note), EPD, Revised in April 2023; and
- Practice Guide for Investigation and Remediation of Contaminated Land (Practice Guide), EPD, Revised in April 2023.

6.2.2 As the RBRGs and the Practice Guide are the latest guidelines promulgated for use in April 2023, the RBRGs criteria and the requirements stated in the Practice Guide will be adopted in this Land Contamination Review.

## 6.3 Review of Historical and Current Available Information

6.3.1 The Application Site is a natural terrain and currently zoned as "Recreation" under the approved Tuen Mun Outline Zoning Plan No. S/TM/41.

6.3.2 Historical aerial photos of the Application Site have been reviewed to identify if any possible land contamination related activities or uses have been carried out. **Table 6.1** shows the description of each aerial photos. Besides, the original version of each aerial photo is presented in **Appendix 4**.

**Table 6.1 Landuse Summary of Proposed Development**

| Period/ Year | Description |
|---|---|
| 1949 | The whole Application Site was a natural terrain. |
| 1961 | The land use of the whole Application Site remained unchanged. |
| 1980 | The land use of the whole Application Site remained unchanged. |
| 2001 | The land use of the whole Application Site remained unchanged. |
| 2021 | The land use of the whole Application Site remained unchanged. |

6.3.3 From the landuse summary and aerial photos, the Application Site has been a natural terrain since 1949 and no landuse change related to potential contamination works and activities is observed. Therefore, land contamination issue within the Application Site is not anticipated. Further site investigation is not required.

# 7. CONCLUSION

7.1.1 The key environmental issues associated with both operation and construction phase of the Application Site are qualitatively discusses in this report.

Air Quality

7.1.2 With sufficient buffer distance from the surrounding road network and Proposed New Access Road, and there would be no air sensitive uses within the buffer zones, the future occupants of the Proposed Development will not be subject to significant vehicular emission impact.

7.1.3 There was no chimney identified within 200m from the site boundary of Application Site. As such, it is anticipated that Proposed Development would not be subject to adverse industrial emission impact.

7.1.4 All sewage and wastewater generated from the proposed development would be treated by the proposed underground septic tank and treated effluent would be percolated to surrounding subsoil in the soakaway pit. Further sewerage treatment arrangement will be submitted to Environmental Protection Department for approval at the detailed design stage. In view of that the development and effluent volume are small in scale; with distance of >100m between Subject Site and nearby ASRs; no exhaust on the proposed underground septic tank; the system is same as that adopted in the previous approved Holiday Camp application (A/TM/469) and all the requirement as stipulated in ProPECC PN 1/23 would be followed, it is anticipated that the proposed underground septic tank would not cause any adverse odour impact to the proposed development and nearby ASRs.

Noise

7.1.5 There was no industrial noise source identified within 300m from the boundary of Proposed Development. As such, it is anticipated that the Proposed Development would not be subject to adverse industrial noise impact.

7.1.6 According to the desktop studies and onsite surveys conducted in June 2025, light rail transit as a potential noise source is identified with distance of ~200m, located to the southeast of the Application Site. However, the direct line of sight between proposed development and identified light rail (e.g. Butterfly Station) is blocked by natural terrain (Approximate 40mPD or higher). In view of the separation distance of 25m is met and existing topographic screening, it is anticipated that the Proposed Development would not be subject to adverse railway noise impact.

7.1.7 A road traffic noise impact assessment has been carried out for the Proposed Development and existing NSRs. According to the result of base scenario at Proposed Development, the predicted noise level of all selected NSRs would comply with the relevant Noise Control Ordinance standard. Therefore, no adverse road traffic noise impact is anticipated on the Proposed Development.

Water Quality

7.1.8 With proper implementation of the recommended mitigation measures, good construction site practices as recommended in relevant regulatory guidelines, adverse water quality impacts are not expected at the identified WSRs.

7.1.9 An underground septic tank is proposed to handle the sewage generation by the Proposed Development during the operation phase. With appropriate management measures in place, it is anticipated that the Proposed Development would not pose significant impact on the water quality of identified WSRs.

Waste Management

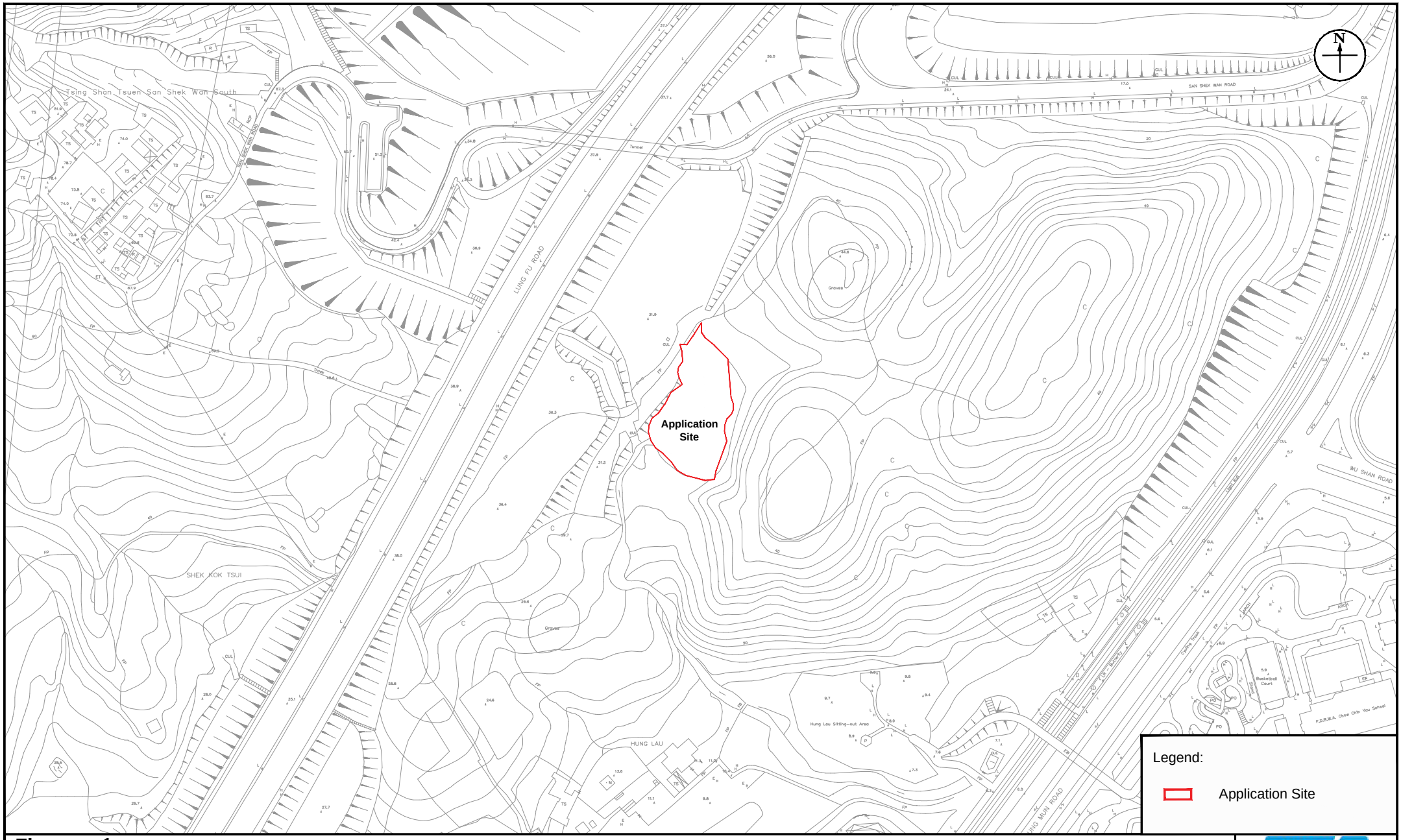
7.1.10 With the recommended waste management practices put in place, no unacceptable impacts associated with waste management during the construction and operation phases are envisaged.

Land Contamination

7.1.11 The Application Site has been a natural terrain since 1949 and no landuse change related to potential contamination works and activities is observed. Therefore, land contamination issue within the Application Site is not anticipated.

7.1.12 The environmental assessment study confirms the acceptability of Proposed Development from environmental point of view.

**Figures**




| | |
|---|---|
| **Figure:** 1 | RAMBOLL |
| **Title:** Location of the Application Site and its Environs | Drawn by: TL<br>Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.0<br>Date: Aug 2025 |

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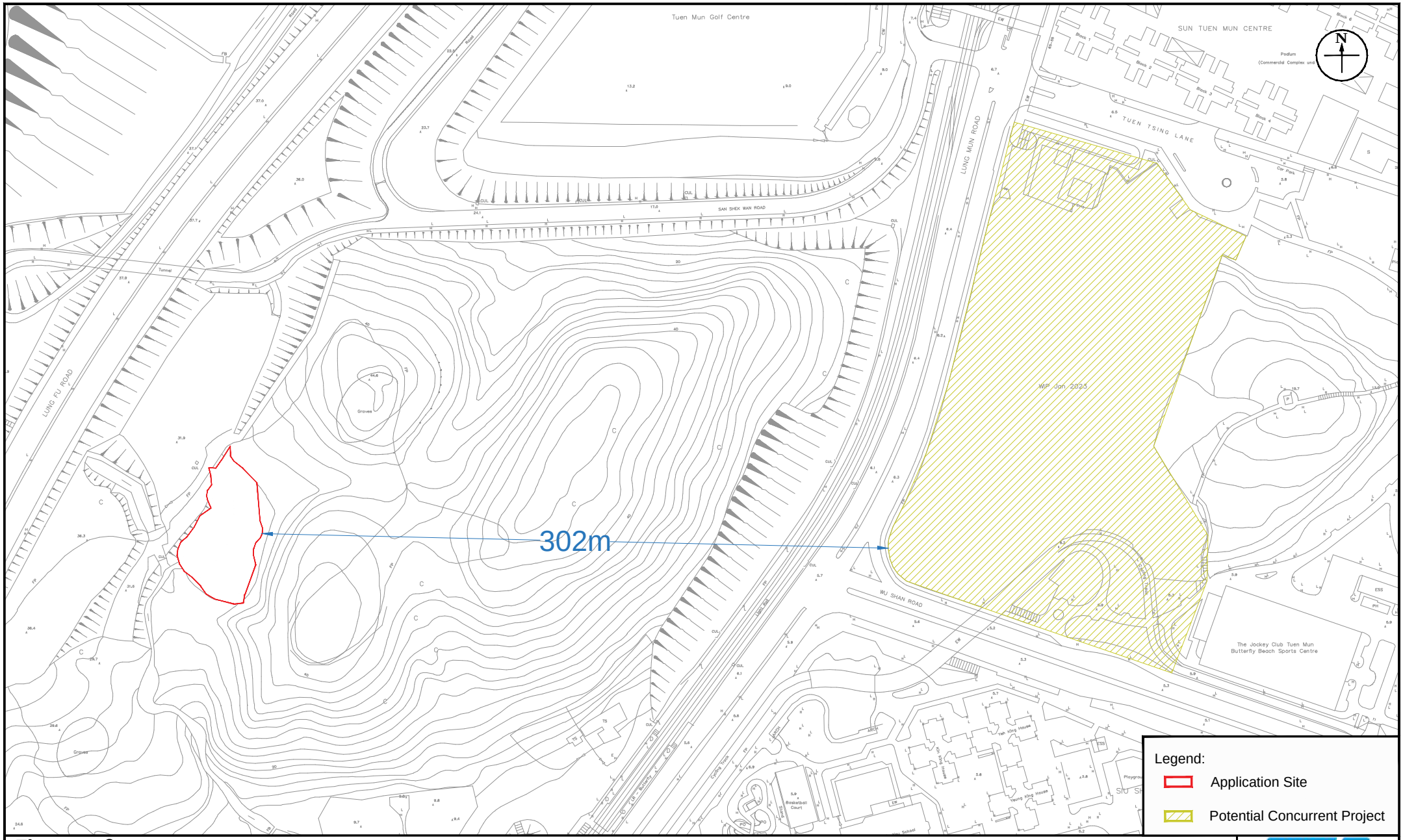


**Figure:** 2

**Title:** Location of the Potential Concurrent Project

**Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories

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| Checked by: | TC |
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| Date: | Aug 2025 |

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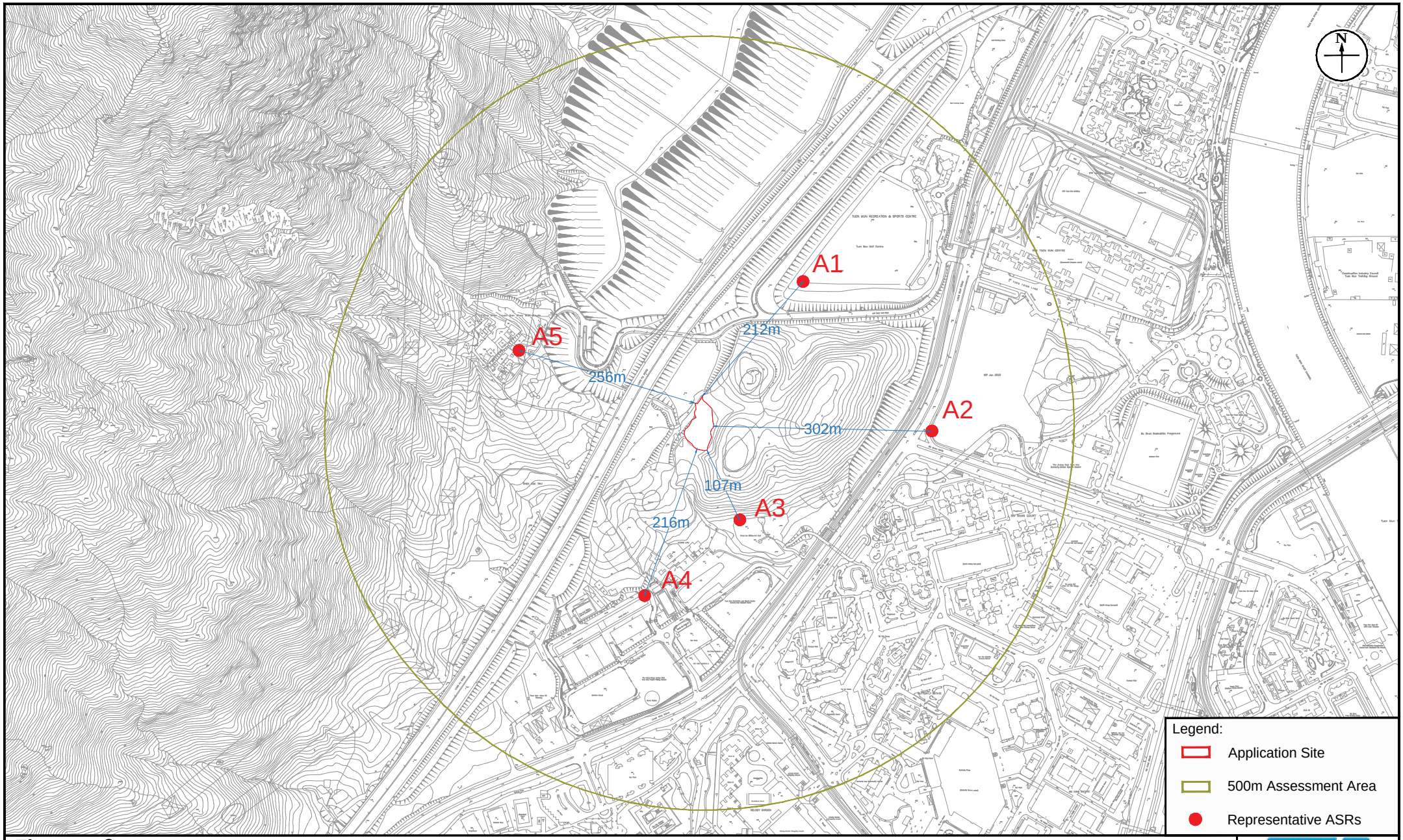


**Figure:** 3

**Title:** Location of the Representative Air Sensitive Receivers

**Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories

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|---|---|
| Drawn by: | TL |
| Checked by: | TC |
| Rev.: | 2.0 |
| Date: | Aug 2025 |

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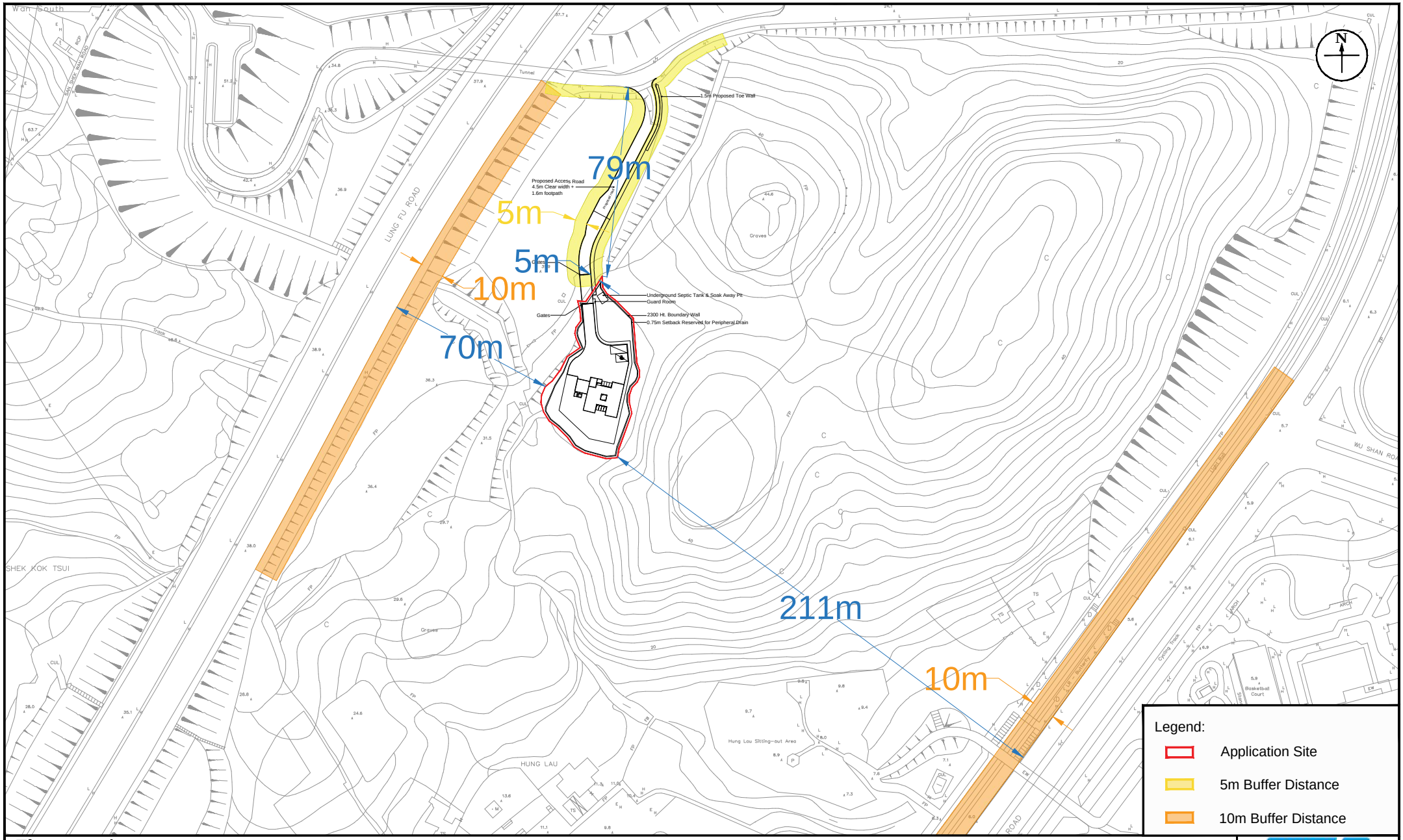


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| **Figure:** 4 | RAMBOLL |
| **Title:** Buffer Distance between the Proposed Development and the Kerb Side of the Nearest Carriageway | Drawn by: TL<br>Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.0<br>Date: Aug 2025 |

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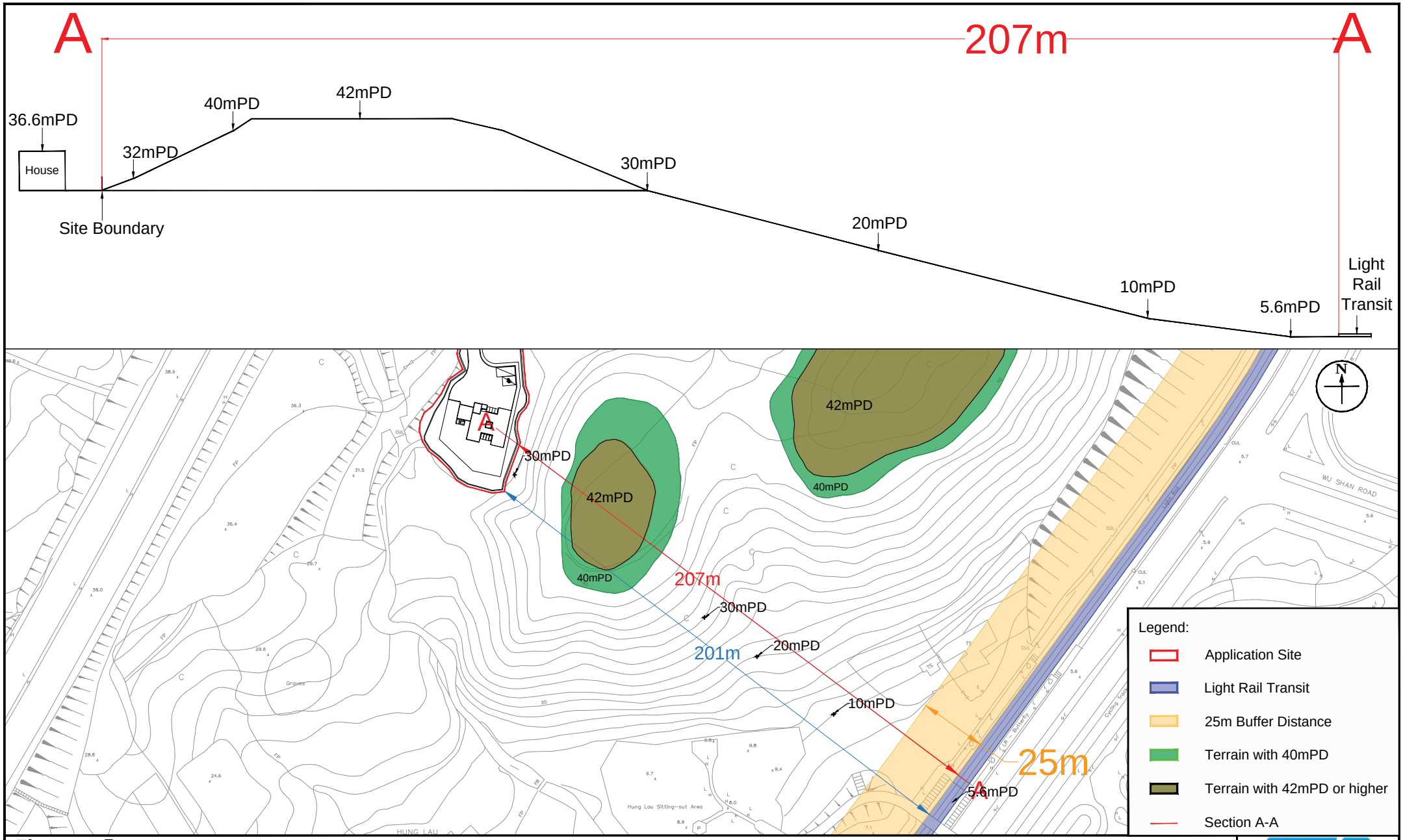


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| **Figure:** 5 | RAMBOLL |
| **Title:** Location of Light Rail Transit and Separation Distance from the Application Site | Drawn by: TL<br>Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.0<br>Date: Aug 2025 |

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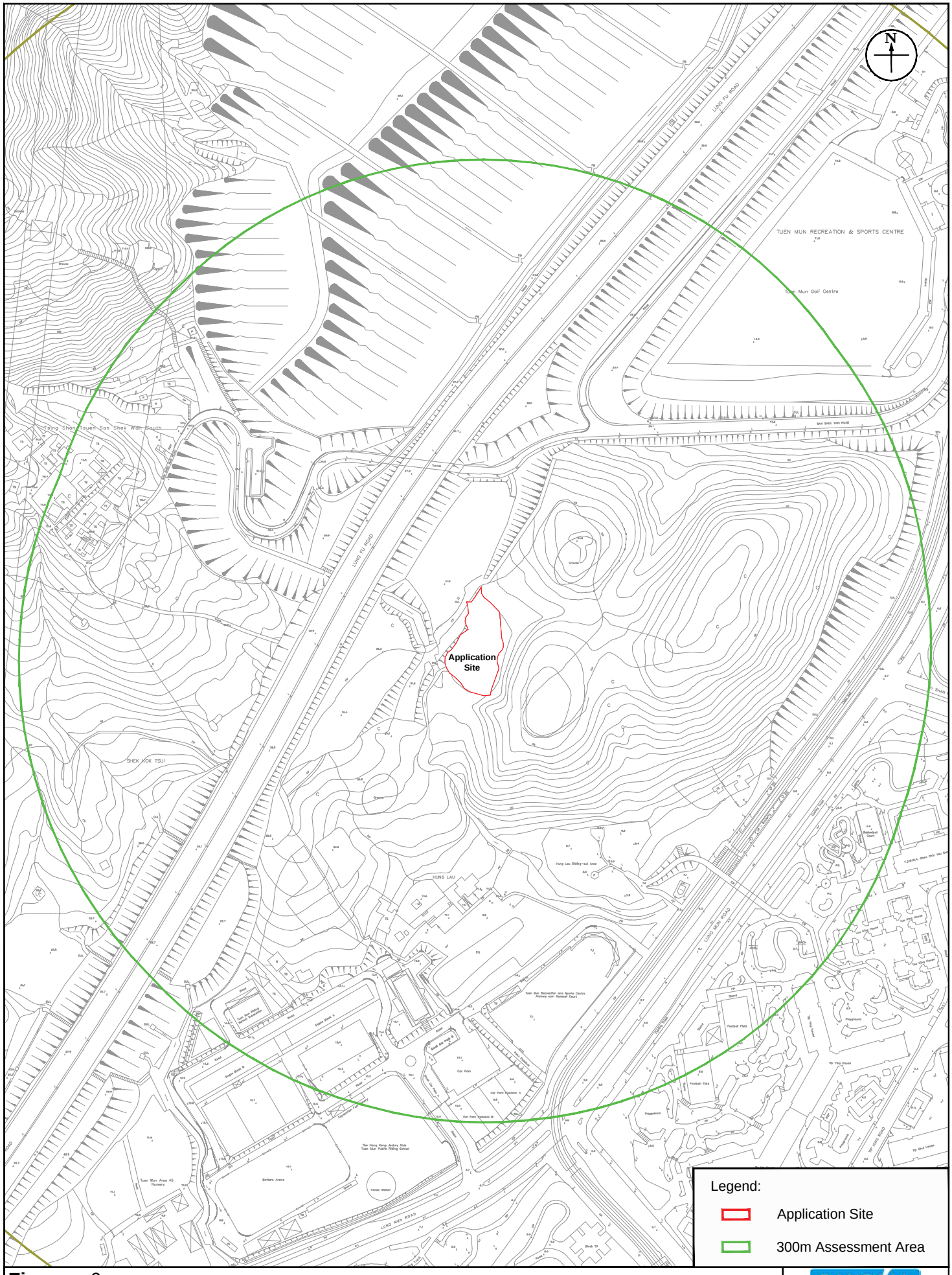


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| **Figure:** 6 | RAMBOLL |
| **Title:** 300m Assessment Area from the Application Site | Drawn by: TL |
| | Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.0 |
| | Date: Aug 2025 |

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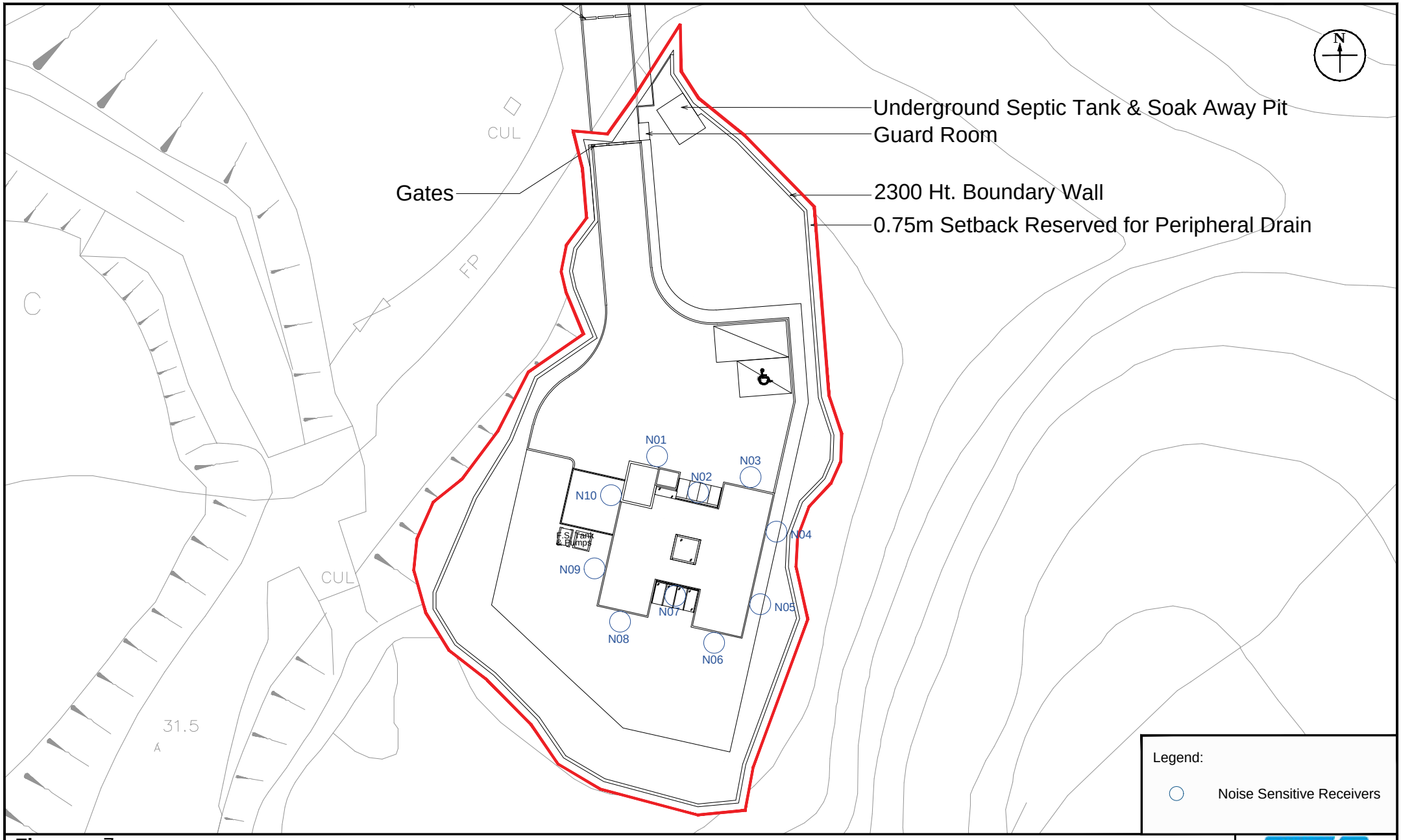


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| **Figure:** 7 | RAMBOLL |
| **Title:** Location of Proposed Noise Sensitive Receivers | Drawn by: TL<br>Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.0<br>Date: Aug 2025 |

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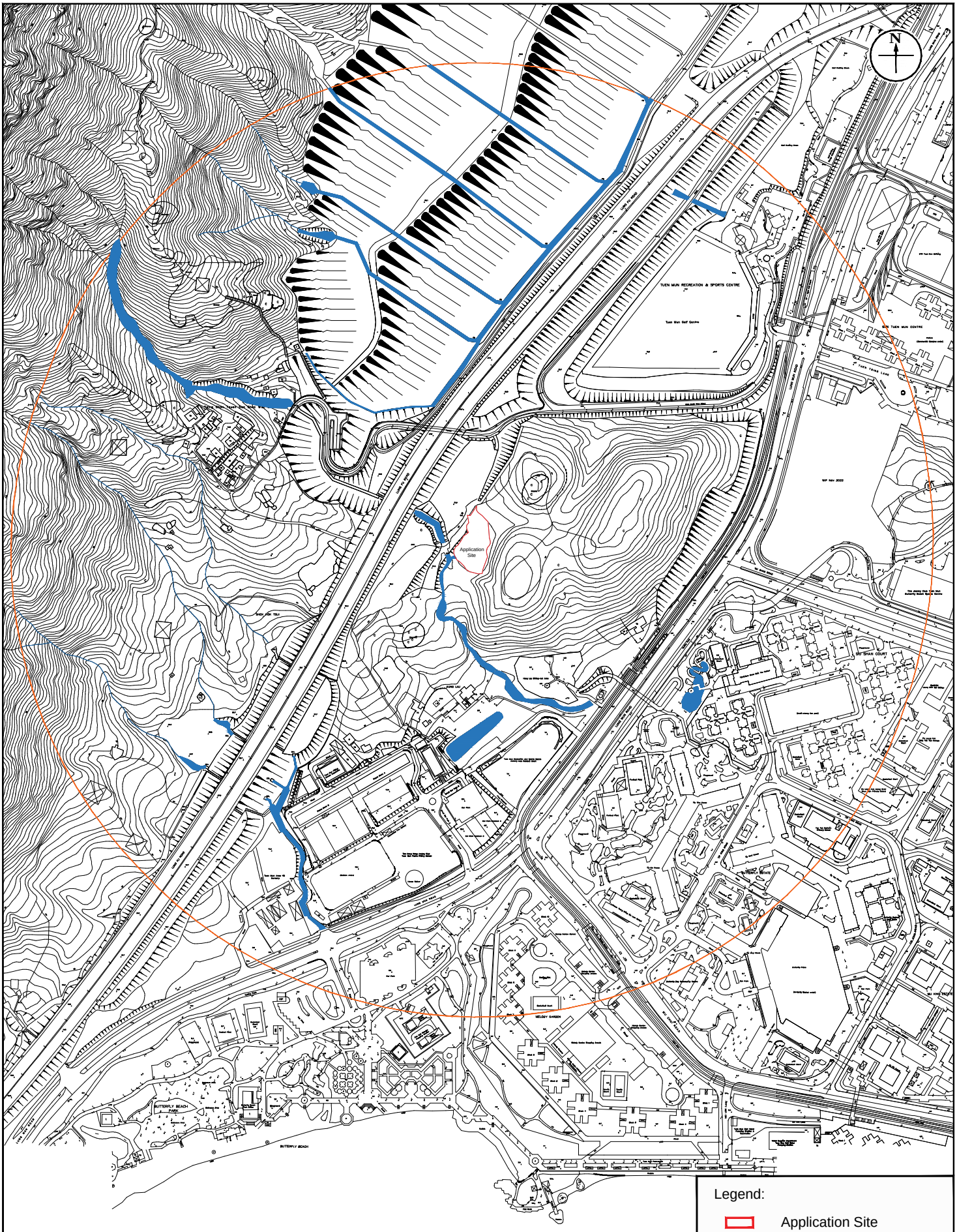


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| **Figure:** 8 | RAMBOLL |
| **Title:** Locations of Representative Water Sensitive Receivers | Drawn by: TL |
| | Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.0 |
| | Date: Aug 2025 |

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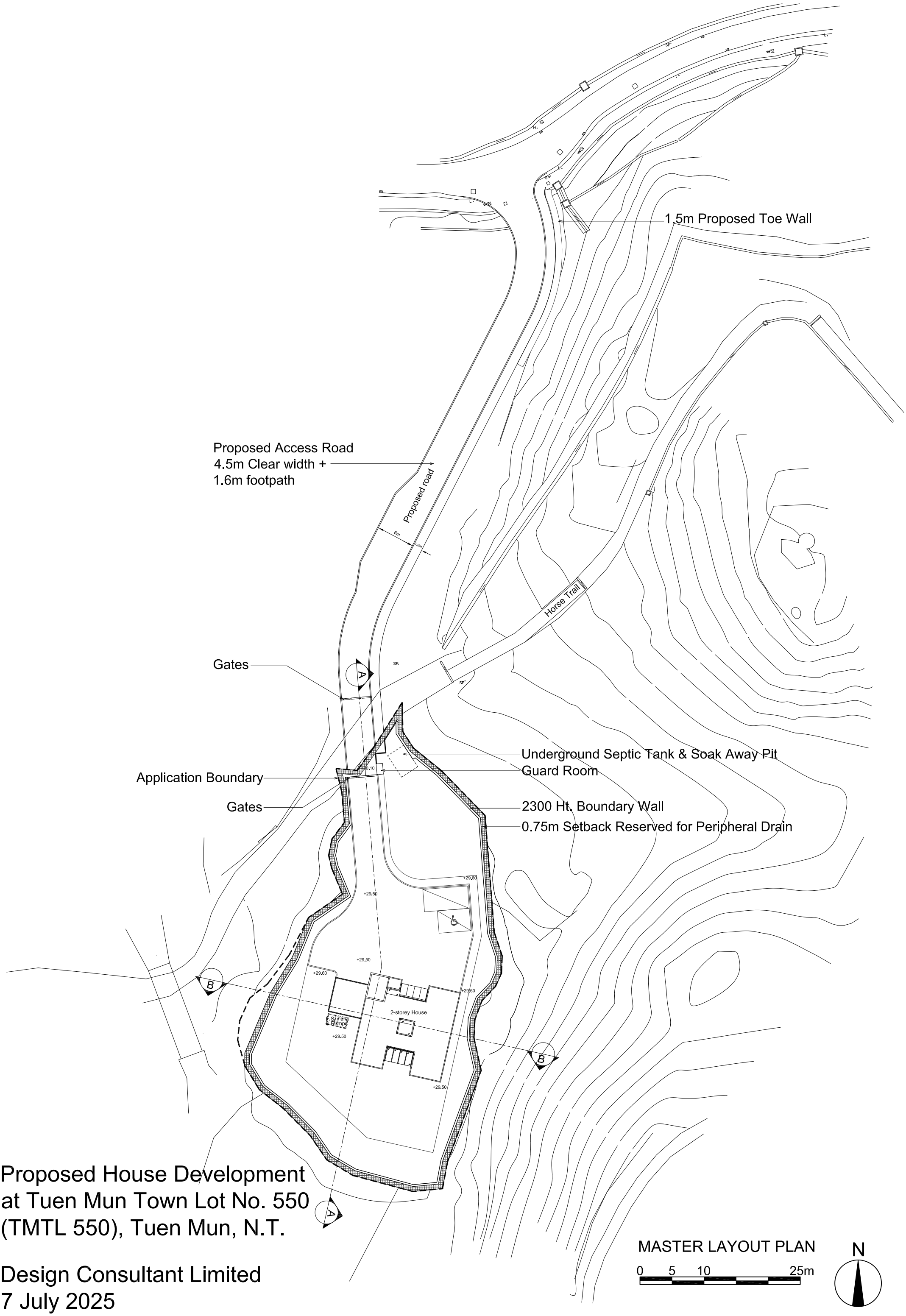
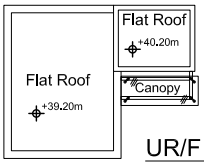
**Appendix 1 Master Layout Plan and Section**

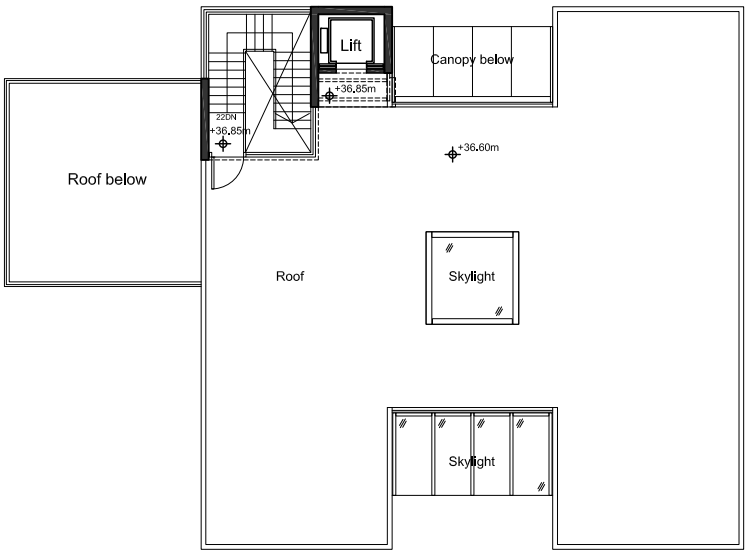



# Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Design Consultant Limited
7 July 2025




UR/F Plan



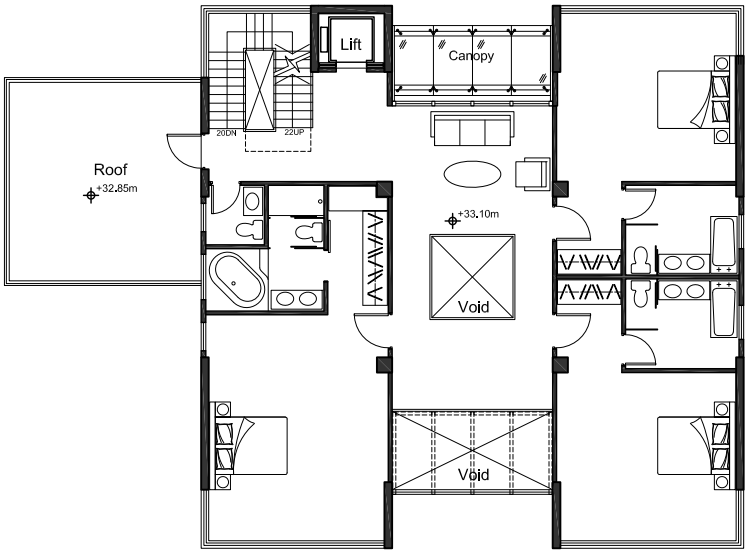

R/F Plan

## GFA & Plot Ratio Calculation

Total GFA
= G/F 189.135 + 1.69 - 0.741
[Exemption for F.S. Tank & Pumps Enclosure, Guardroom (0.741), Carport (28.60), and area covered by canopy (8.181) to be applied to BD and LD]
+ 1/F 180.316
[Exemption for 1/F Void near South Elevation (8.819) & R/F Stair Hood and Lift (17.723) to be applied to BD and LD]
= 370.400 m2

Site Area
= 1852 m2

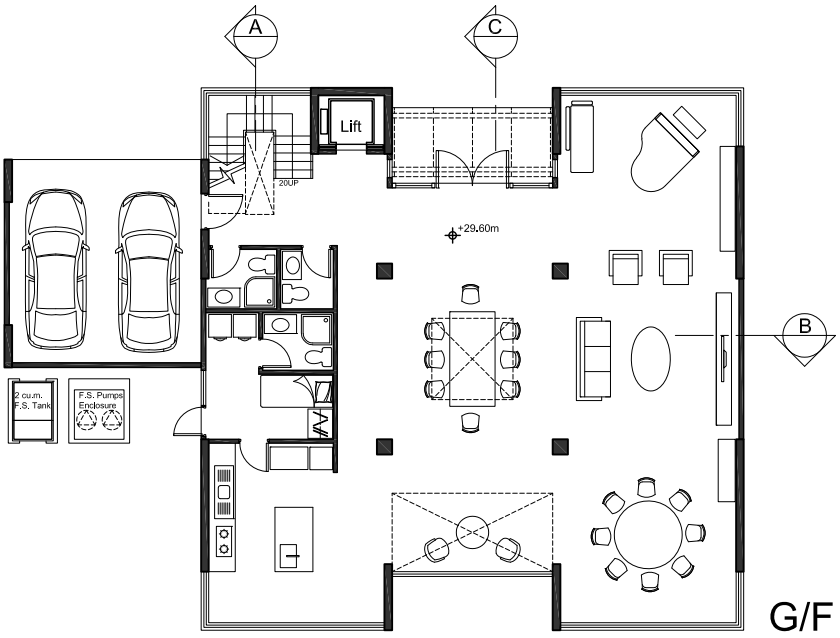
Plot Ratio
= 370.400 / 1852
= 0.2000




1/F Plan

## Site Coverage Calculation

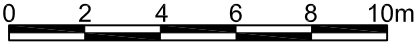
Site Coverage
= (217.735 + 1.69)
[Exemption for area covered by canopy (8.181) to be applied]
/ 1852 x 100%
= 11.848% < 20%

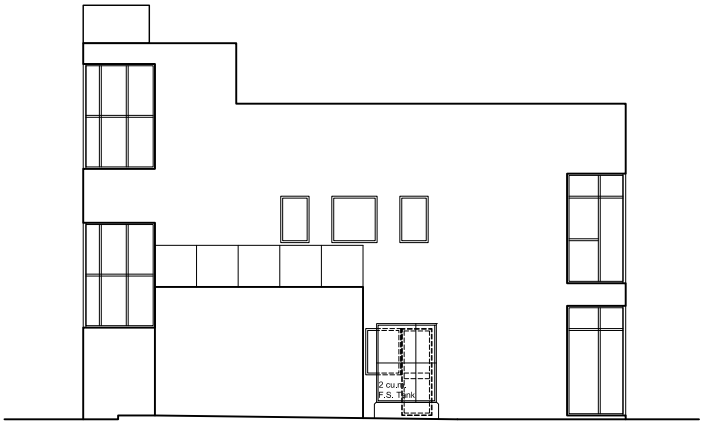



G/F Plan

Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.

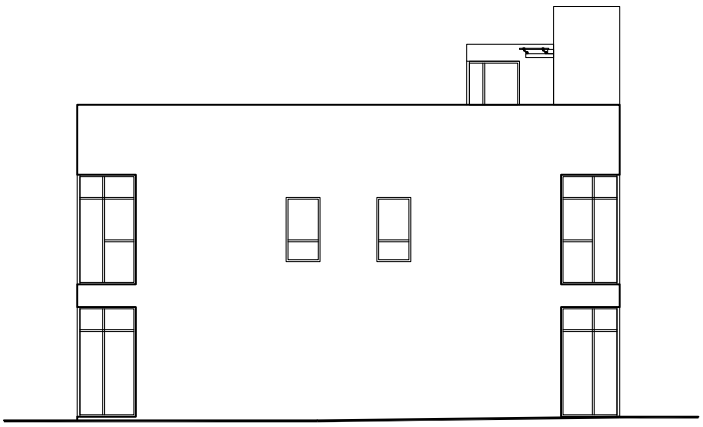
Design Consultant Limited
7 July 2025






West Elevation

South Elevation



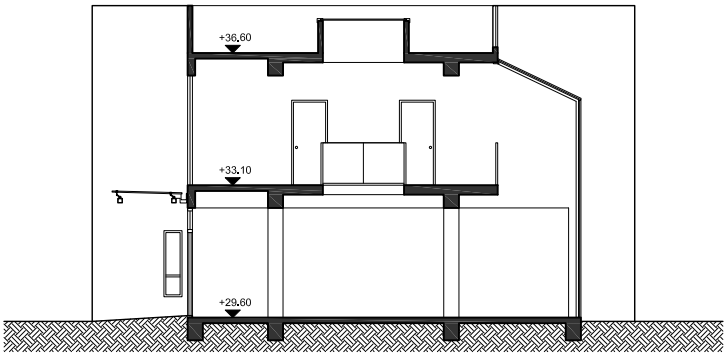
East Elevation

North Elevation

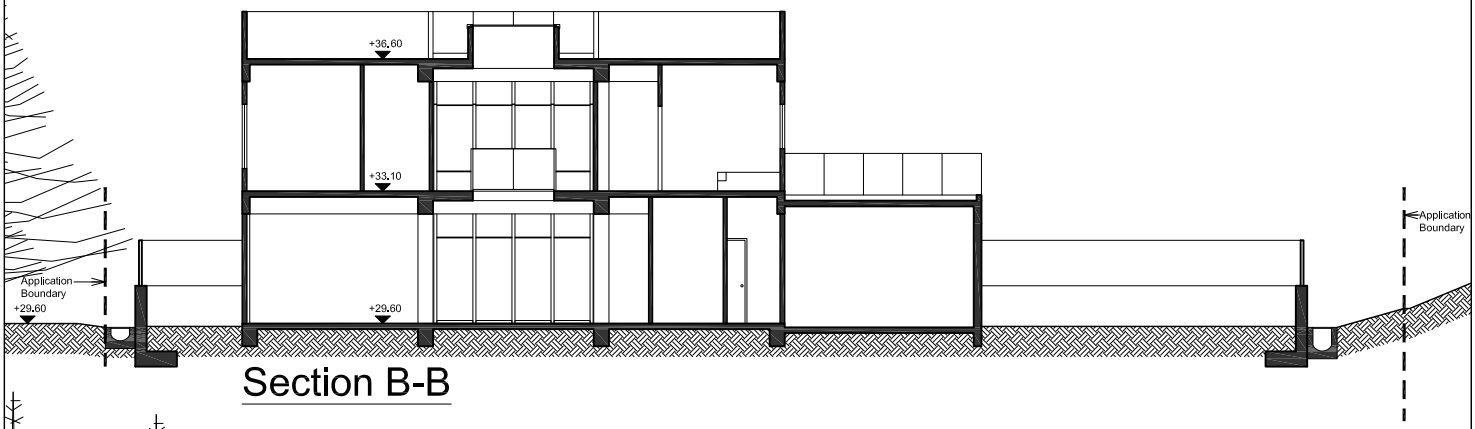
Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.

Design Consultant Limited
7 July 2025

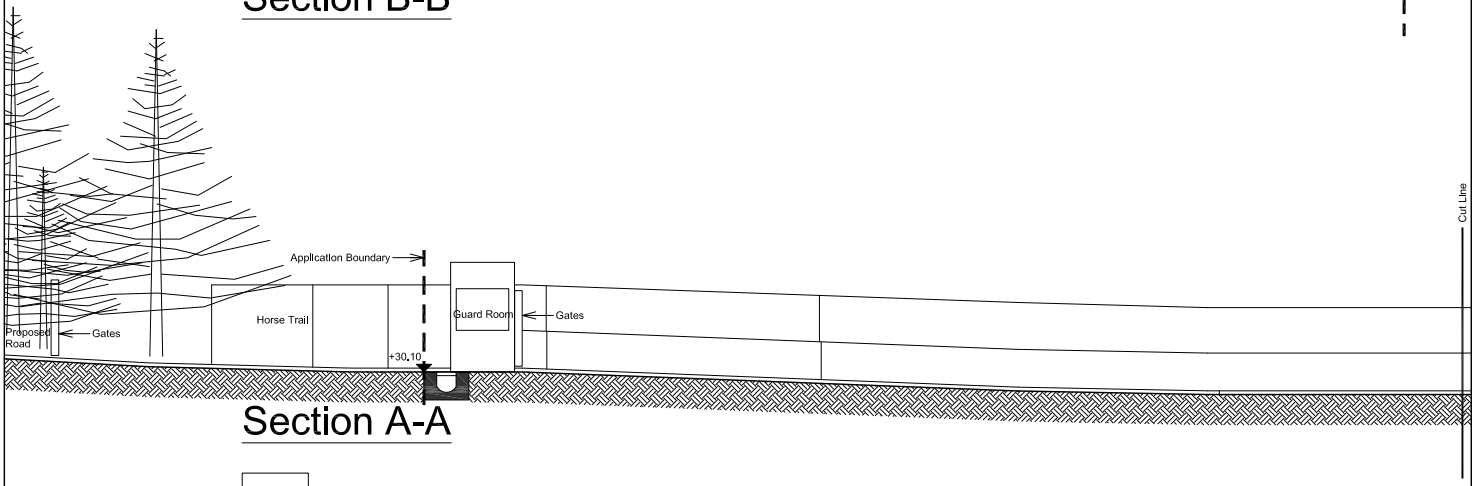
0 2 4 6 8 10m



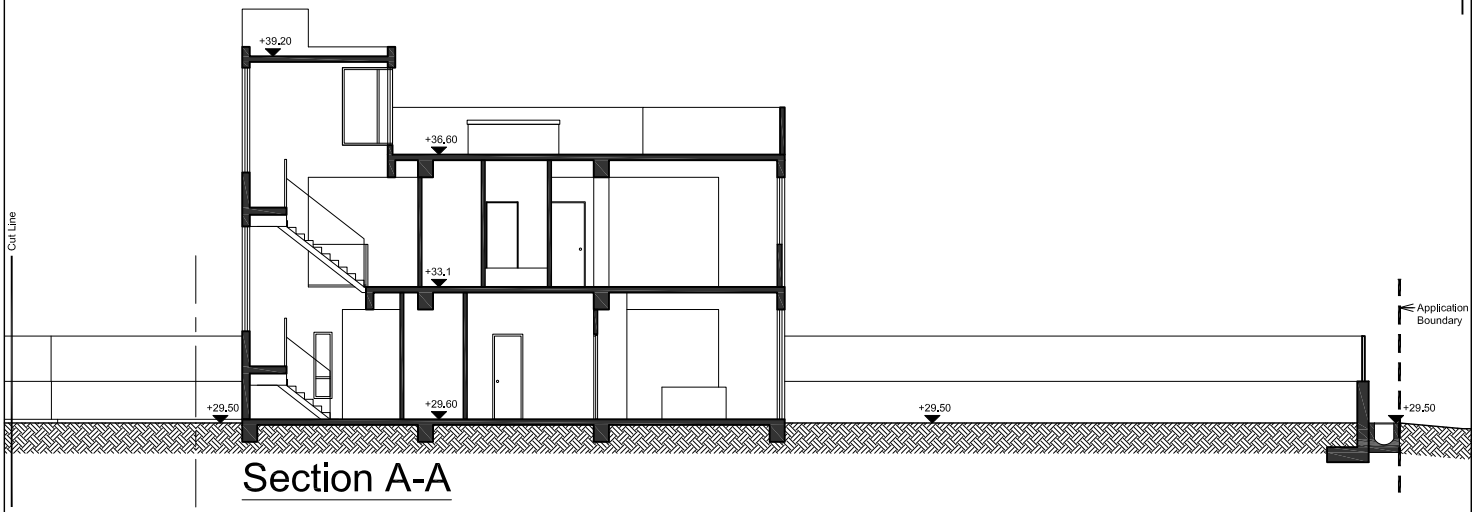

Section C-C




Section B-B




Section A-A



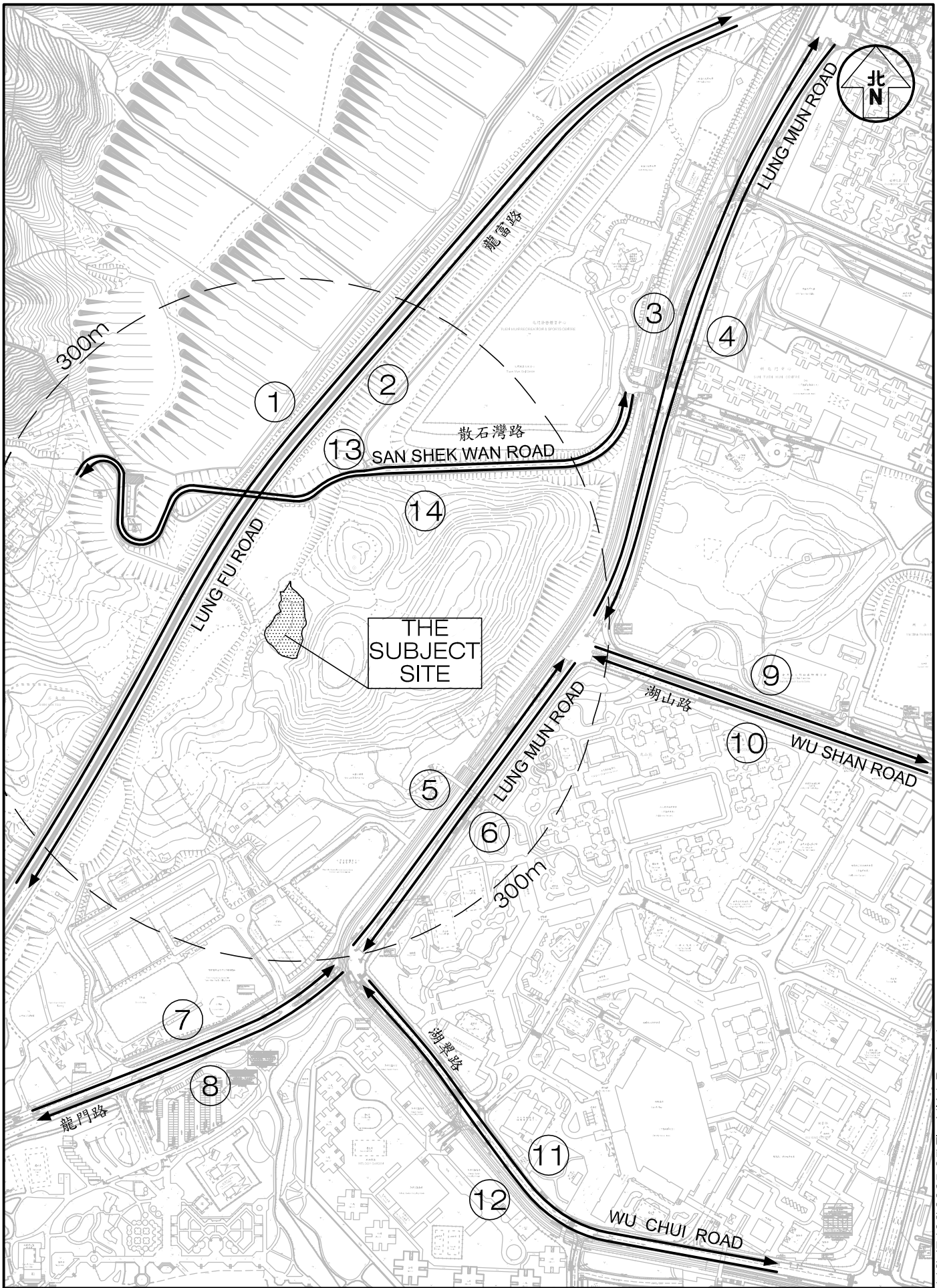

Section A-A

Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.

Design Consultant Limited
7 July 2025

0 2 4 6 8 10m

**Appendix 2 Traffic Forecast**




| | | | | | |
|---|---|---|---|---|---|
| Project Title: SECTION 16 PLANNING APPLICATION FOR HOUSE DEVELOPMENT AT T.M.T.L. 550, TUEN MUN, NEW TERRITORIES | Job No. J7406 | Figure No. N1A1 | | | Scale in A4 1 : 5000 |
| | Designed by L C H | Drawn by N C M | Checked by K C | Revision A | Date 15 AUG 2025 |
| Figure Title: LOCATION OF TRAFFIC DATA | CKM Asia Limited<br>Traffic and Transportation Planning Consultants<br>21st Floor, Methodist House, 36 Hennessy Road, Wan Chai, Hong Kong<br>Tel : (852) 2520 5990 Fax : (852) 2528 6343 Email : mail@ckmasia.com.hk | | | | |

T:\JOBs\J7400-J7449\J7406\2025 05\Fig N1A1 RevA.dwg

**YEAR 2046 TRAFFIC FORECAST** **Date: 31 JULY 2025** **Job No.: J7406**

| No. | Road | From | To | 2046 AM Peak Hour Traffic Flows | | | |
|---|---|---|---|---|---|---|---|
| | | | | Veh/hr | Vehicle Type for Noise Assessment (%) | | |
| | | | | | PV | HV | Total |
| L001 | Lung Fu Road NB | Wong Chu Road | Lung Mun Road | 1100 | 66% | 34% | 100% |
| L002 | Lung Fu Road SB | Wong Chu Road | Lung Mun Road | 1250 | 63% | 37% | 100% |
| L003 | Lung Mun Road NB | Tuen Tsing Lane | Wu Shan Road | 1000 | 74% | 26% | 100% |
| L004 | Lung Mun Road SB | Tuen Tsing Lane | Wu Shan Road | 1050 | 64% | 36% | 100% |
| L005 | Lung Mun Road NB | Wu Shan Road | Wu Chui Road | 700 | 77% | 23% | 100% |
| L006 | Lung Mun Road SB | Wu Shan Road | Wu Chui Road | 1150 | 63% | 37% | 100% |
| L007 | Lung Mun Road NB | Wu Chui Road | Lung Fu Road | 450 | 83% | 17% | 100% |
| L008 | Lung Mun Road SB | Wu Chui Road | Lung Fu Road | 750 | 62% | 38% | 100% |
| L009 | Wu Shan Road EB | Lung Mun Road | Wu King Road | 400 | 78% | 22% | 100% |
| L010 | Wu Shan Road WB | Lung Mun Road | Wu King Road | 800 | 72% | 28% | 100% |
| L011 | Wu Chui Road EB | Lung Mun Road | Tip King Road | 400 | 66% | 34% | 100% |
| L012 | Wu Chui Road WB | Lung Mun Road | Tip King Road | 300 | 67% | 33% | 100% |
| L013 | San Shek Wan Road EB | San Shek Wan San Tsuen | Lung Mun Road | 50 | 86% | 14% | 100% |
| L014 | San Shek Wan Road WB | Lung Mun Road | San Shek Wan San Tsuen | 50 | 83% | 17% | 100% |

Note: "LV" includes motorcycle, private car and taxi
"HV" includes light / medium / heavy goods vehicle, public / private light bus, non-franchised bus and franchised bus

**YEAR 2046 TRAFFIC FORECAST** **Date: 31 JULY 2025** **Job No.: J7406**

| No. | Road | From | To | 2046 PM Peak Hour Traffic Flows | | | |
|---|---|---|---|---|---|---|---|
| | | | | Veh/hr | Vehicle Type for Noise Assessment (%) | | |
| | | | | | PV | HV | Total |
| L001 | Lung Fu Road NB | Wong Chu Road | Lung Mun Road | 1400 | 63% | 37% | 100% |
| L002 | Lung Fu Road SB | Wong Chu Road | Lung Mun Road | 1100 | 63% | 37% | 100% |
| L003 | Lung Mun Road NB | Tuen Tsing Lane | Wu Shan Road | 950 | 59% | 41% | 100% |
| L004 | Lung Mun Road SB | Tuen Tsing Lane | Wu Shan Road | 950 | 71% | 29% | 100% |
| L005 | Lung Mun Road NB | Wu Shan Road | Wu Chui Road | 1100 | 65% | 35% | 100% |
| L006 | Lung Mun Road SB | Wu Shan Road | Wu Chui Road | 800 | 69% | 31% | 100% |
| L007 | Lung Mun Road NB | Wu Chui Road | Lung Fu Road | 850 | 65% | 35% | 100% |
| L008 | Lung Mun Road SB | Wu Chui Road | Lung Fu Road | 250 | 65% | 35% | 100% |
| L009 | Wu Shan Road EB | Lung Mun Road | Wu King Road | 600 | 80% | 20% | 100% |
| L010 | Wu Shan Road WB | Lung Mun Road | Wu King Road | 350 | 69% | 31% | 100% |
| L011 | Wu Chui Road EB | Lung Mun Road | Tip King Road | 550 | 71% | 29% | 100% |
| L012 | Wu Chui Road WB | Lung Mun Road | Tip King Road | 250 | 63% | 37% | 100% |
| L013 | San Shek Wan Road EB | San Shek Wan San Tsuen | Lung Mun Road | 50 | 91% | 9% | 100% |
| L014 | San Shek Wan Road WB | Lung Mun Road | San Shek Wan San Tsuen | 50 | 80% | 20% | 100% |

Note: "LV" includes motorcycle, private car and taxi
"HV" includes light / medium / heavy goods vehicle, public / private light bus, non-franchised bus and franchised bus

**Appendix 3 Traffic Noise Impact Assessment Result for the Proposed NSRs**

**Proposed House Development at T.M.T.L. 550,Tuen Mun, New Territories**

**Predicted Road Traffic Noise Level at Proposed Representative Noise Sensitive Receivers**

**1. Base Case (AM)**

| Floor | mPD | House 1 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N01 | N02 | N03 | N04 | N05 | N06 | N07 | N08 | N09 | N10 |
| G/F | 29.60 | 66 | 63 | 65 | 59 | 57 | 62 | 53 | 63 | 66 | 66 |
| 1/F | 33.10 | 67 | 64 | 66 | 61 | 59 | 63 | 57 | 65 | 68 | 68 |
| Max. Noise Level | | 67 | 64 | 66 | 61 | 59 | 63 | 57 | 65 | 68 | 68 |
| No. of Exceedance | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| No. of Exceedance Unit | | 0 | | | | | | | | | |
| No. of Unit | | 1 | | | | | | | | | |

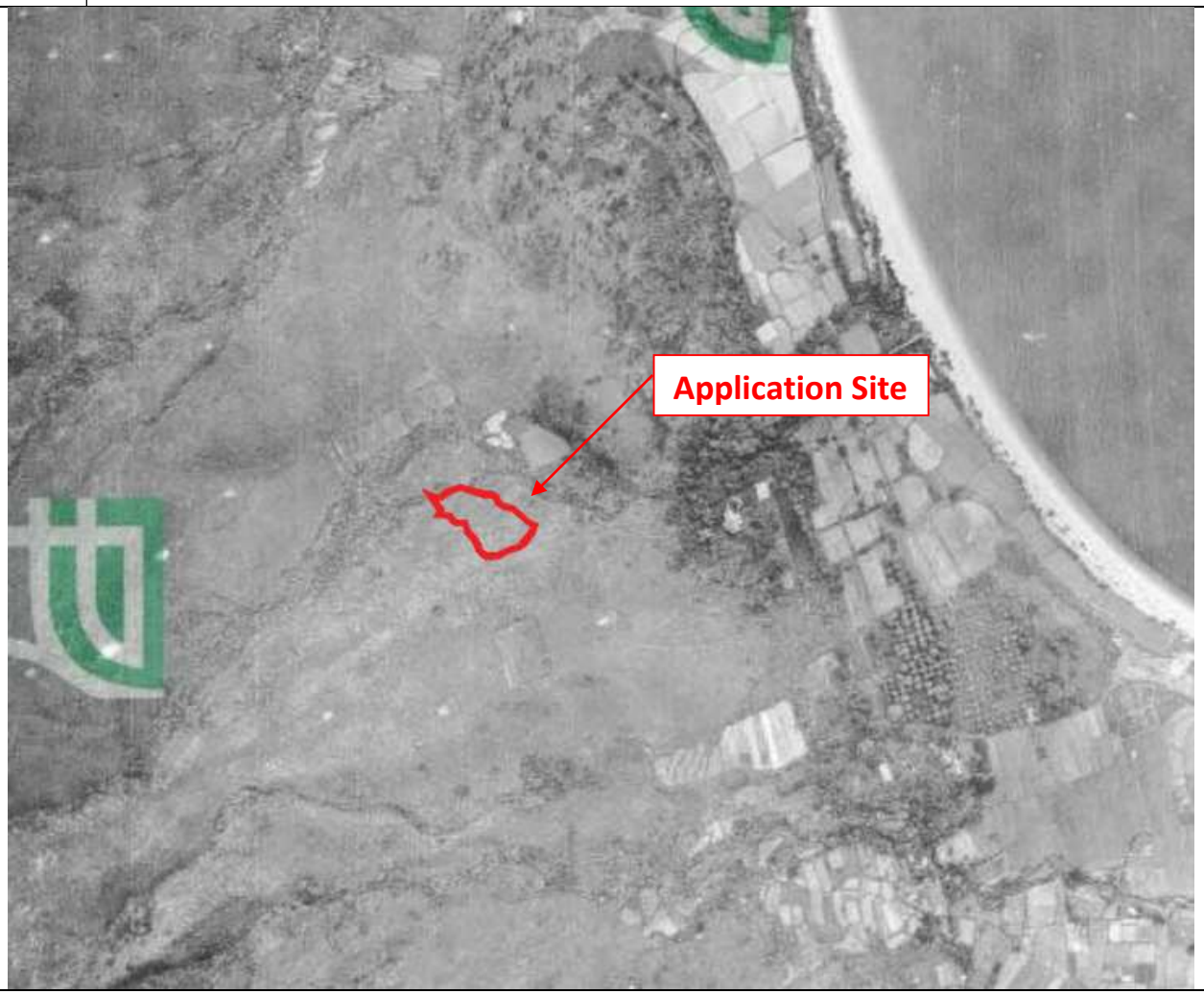
| | |
|---|---|
| Max. Noise Level | 68 |
| Compliance Rate | 100% |

Remarks:

Shaded cell denotes noise level exceeding the limit of 70 dB(A)

**Appendix 4 Aerial Photos for Land Contamination Assessment**

# Aerial Photos for Land Contamination Assessment

| Year | Aerial Photo |
|---|---|
| **1949**<br>Photo No.: 81A_125-5070 |  |

**1961**

Photo No.: F43_625-0147

**1980**

Photo No.: 30633

**2001**

Photo No.: CW31699

**2021**

Photo No.: E129466C

# Appendix 3

Traffic Impact Assessment

# Proposed House Development
# At Tuen Mun Town Lot No.550
# (TMTL 550), Tuen Mun, N.T.

## Traffic Impact Assessment
## Final Report
## July 2025

Prepared by: CKM Asia Limited

# Proposed House Development at Tuen Mun Town Lot No.550 (TMTL 550), Tuen Mun, N.T.

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| 2.0 | THE EXISTING SITUATION<br>The Subject Site<br>Existing Road Network<br>Traffic Survey<br>Operational Performance of the Surveyed Junctions<br>Public Transport Facilities | 2 |
| 3.0 | THE PROPOSED DEVELOPMENT<br>Proposed Development<br>Proposed Access Road<br>Swept Path Analysis | 4 |
| 4.0 | TRAFFIC IMPACT<br>Design Year<br>Traffic Forecasting<br>2034 Traffic Flows<br>2034 Junction Operational Performance | 6 |
| 5.0 | PEDESTRIAN ASSESSMENT<br>Location of Surveyed Footpaths<br>Estimation of Future Pedestrian Flows<br>2034 Pedestrian Flows<br>Level-of-Service | 9 |
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# Proposed House Development at Tuen Mun Town Lot No.550 (TMTL 550), Tuen Mun, N.T.

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# Proposed House Development at Tuen Mun Town Lot No.550 (TMTL 550), Tuen Mun, N.T.

## FIGURES

NUMBER


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2.3 Layout of junction of Lung Mun Road / Tuen Tsing Lane

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2.5 Existing peak hour traffic flows

2.6 The public transport services provided in the vicinity of the Subject Site

3.1 Car park layout

3.2 The Proposed Access Road and the New Location of Passing Bay at San Shek Wan Road

3.3 Sight Distance at the passing bay of Proposed Access Road

4.1 Year 2034 peak hour traffic flows without the Proposed Development

4.2 Year 2034 peak hour traffic flows with the Proposed Development

5.1 Location of the surveyed footpaths

5.2 Existing pedestrian flows

5.3 Year 2034 pedestrian flows without the Proposed Development

5.4 Year 2034 pedestrian flows with the Proposed Development

# 1.0 INTRODUCTION

## Background

1.1 The Subject Site is located at T.M.T.L. 550 near San Shek Wan Road in Tuen Mun. The Owner has the intention to build one 2-storey house with some 370m$^2$ GFA, at the Subject Site (the "Proposed Development"). The location of the Subject Site is shown in Figure 1.1.

1.2 Against this background, CKM Asia Limited, a traffic and transportation planning consultancy firm, was commissioned to conduct a Traffic Impact Assessment ("TIA") in support of the Proposed Development. The report presents the findings of the traffic impact assessment for the Proposed Development.

## Scope of the Assessment

1.3 The main objectives of this TIA are as follows:

- To assess the existing traffic issues in the vicinity of the Subject Site;
- To quantify the amount of traffic generated by the Proposed Development; and
- To examine the traffic impact on the local road network in the vicinity of the Subject Site.

## Contents of the Report

1.4 After this introduction, the remaining chapters contain the following:

| | | |
|---|---|---|
| Chapter Two | - | describes the existing situation; |
| Chapter Three | - | outlines the development proposal; |
| Chapter Four | - | presents the traffic impact analysis; and |
| Chapter Five | - | summarises the overall conclusion |

# 2.0 THE EXISTING SITUATION

## The Subject Site

2.1 The Subject Site is located some 100m to the south of San Shek Wan Road. At present, there is no vehicular access connecting San Shek Wan Road and the Subject Site.

## Existing Road Network

2.2 San Shek Wan Road is a local distributor, and it is of single carriageway 2 lane standard. It connects with Lung Mun Road to the east. The portion of San Shek Wan Road fronting the Subject Site is single track access road which connects with the San Shek Wan San Tsuen to the west.

2.3 Lung Mun Road is district distributor and is of dual carriageway 2/3-lane standard. It connects with Tsing Wun Road to the north and Wu Shan Road to the south.

## Traffic Survey

2.4 To quantify the traffic flows at junctions selected for the capacity analysis, manual classified count was conducted on Tuesday, 13th May 2025 during the AM and PM peak periods. The locations of the surveyed junctions are presented in Figure 2.1 and their layouts are shown in Figures 2.2 to 2.4.

2.5 The surveyed junctions include the following:

- J1: Signalised Junction of Lung Mun Road / Light Rail Transit Depot Access;
- J2: Signalised Junction of Lung Mun Road / Tuen Tsing Lane; and
- J3: Signalised Junction of Lung Mun Road / Wu Shan Road

2.6 The counts were classified by vehicle type to enable traffic flows in passenger car units ("pcu") to be calculated. From the survey, the AM and PM peak hours were found to be between 0730 – 0830 and 1745 – 1845 hours respectively, and the existing AM and PM peak hour traffic flows are presented in Figure 2.5.

## Operational Performance of the Surveyed Junctions

2.7 The existing operational performance of the surveyed junctions is calculated based on the observed traffic counts and the analysis is undertaken using the methods outlined in Volume 2 of Transport Planning and Design Manual. The existing operational performance of the junctions are summarised in Table 2.1 and the detailed calculations are found in Appendix 1.

TABLE 2.1 EXISTING JUNCTION OPERATIONAL PERFORMANCE

| Ref. | Junction | Type of Junction | Parameter(1) | AM Peak Hour | PM Peak Hour |
|---|---|---|---|---|---|
| J1 | Lung Mun Road / Light Rail Transit Depot Access | Signalised | RC | > 100% | > 100% |
| J2 | Lung Mun Road / Tuen Tsing Lane | Signalised | RC | 62% | 75% |
| J3 | Lung Mun Road / Wu Shan Road | Signalised | RC | 84% | > 100% |

Notes: (1) RC – reserve capacity

## Public Transport Facilities

2.8 The Subject Site is served by various public transport services, including Light Rail Transit ("LRT"), franchised bus and green minibus ("GMB") which is some

600 metres or around 10 minutes' walk away. Details of the public transport services operating in the vicinity of the Subject Site are presented in Figure 2.6 and Table 2.2.

TABLE 2.2 FRANCHISED BUS AND GMB SERVICES OPERATING CLOSE TO THE SUBJECT SITE

| Route | Routing | Frequency (minutes) |
|---|---|---|
| KMB 259B | Tuen Mun Pier Head – Tsim Sha Tsui | AM Peak |
| KMB 259C | Sun Tuen Mun Centre – Tsim Sha Tsui | AM Peak |
| KMB 259D | Tuen Mun (Lung Mun Oasis) – Lei Yue Mun Estate | 7 – 25 |
| KMB 259E | Tuen Mun ( Lung Mun Oasis) – Tsuen Wan Station | AM Peak |
| KMB 259X | Tuen Mun (Lung Mun Oasis) – Kwun Tong Ferry | AM, PM Peak |
| KMB 59A(1) | Tuen Mun Pier Head – Kwai Fong (Kwai Tsui Estate) | 6 – 60 |
| KMB 59M | Tuen Mun Pier Head – Tsuen Wan Station | 6 – 20 |
| KMB 59X | Tuen Mun Pier Head – Mong Kok East Station | 3 – 15 |
| KMB N260 | Tuen Mun Pier Head –Mei Foo | Overnight |
| CTB 962 | Tuen Mun (Lung Mun Oasis) – Causeway Bay (Moreton Terrace) | AM, PM Peak |
| CTB 962C(1) | Tuen Mun (Lung Mun Oasis) – Tai Koo (Kornhill Plaza) | AM, PM Peak |
| CTB 962G(1) | Admiralty (West) → Tuen Mun (Wu King Road) | PM Peak |
| CTB 962P | Lung Mun Oasis → Causeway Bay (Moreton Terrace) | AM Peak |
| CTB 962X | Lung Mun Oasis – Causeway Bay (Moreton Terrace) | 11 – 25 |
| CTB B3 | Tuen Mun Ferry Pier – Shenzhen Bay Port | 15 – 30 |
| CTB N962 | Tuen Mun (Lung Mun Oasis) – Causeway Bay (Moreton Terrace) | Overnight |
| CTB X962(1) | Admiralty (West) → Tuen Mun (Lung Mun Oasis) | PM Peak |
| LWB A33 | Tuen Mun Road Interchange – Airport (Ground Transportation Centre) | 20 – 60 |
| LWB A34 | Hung Shui Kiu (Hung Yuen Road) – Airport (Ground Transportation Centre) | 20 – 60 |
| LWB E33 | Tuen Mun Central – Airport (Ground Transportation Centre) | 6 – 25 |
| LWB E33P | Siu Hong Station (South) – Airport (Ground Transportation Centre) | 12 – 45 |
| LWB E36C | Yuen Long (Tak Yip Street) to Aircraft Maintenance Area | AM, PM Peak |
| LWB R33 | Tuen Mun Station – Disneyland | AM, PM Peak |
| LWB NA33 | Tuen Mun (Fu Tai Estate) –Cathay Pacific City | Overnight |
| MTRB 506 | Tuen Mun Ferry Pier – Siu Lun | 4 – 10 |
| MTRB K52 | Tuen Mun Station – Lung Kwu Tan | 9 – 20 |
| MTRB K52A | Tuen Mun Station – Tsang Tsui | 20 – 60 |
| MTRB K52P | Lung Kwu Tan – Tuen Mun Station | AM Peak |
| GMB 41 | Tuen Mun Town Centre (Tuen Fat Road) – Lung Mun Oasis | 10 – 20 |
| GMB 44 | Tuen Mun Ferry Pier (Public Light Bus (Scheduled Services) Terminus on Wu Shan Road – Sheung Shui Station | 2 – 8 |
| GMB 44B1 | Lok Ma Chau (San Tin) Public Transport Interchange – Tuen Mun Ferry Pier (Public Light Bus Terminus on Wu Shan Road) | 15 – 20 |
| GMB 47S | Tuen Mun Pier-Head – Mong Kok | 15 – 20 |
| GMB 48S | Leung King Estate – Mong Kok | 15 – 20 |
| GMB N44B | Lok Ma Chau Control Point – Tuen Mun Ferry Pier (Public Light Bus Terminus on Wu Shan Road) | Overnight |

Note: KMB – Kowloon Motor Bus CTB – City Bus LWB – Long Win Bus
MTRB – MTR Bus GMB – Green Minibus
(1) Mondays – Fridays only (2) Sunday and Public Holiday

# 3.0 THE PROPOSED DEVELOPMENT

Proposed Development

3.1 The car parking spaces provided for the Proposed Development, which is one 2-storey house with some 370m$^2$ GFA, comply with the maximum recommendation of the Hong Kong Planning Standards and Guidelines ("HKPSG").

3.2 The calculation on the provision of internal transport facilities is found in Table 3.1, and the layout of the car park is found in Figure 3.1.

TABLE 3.1 PROVISION OF INTERNAL TRANSPORT FACILITIES FOR THE PROPOSED DEVELOPMENT

| Use | HKPSG Recommendation | Proposed Provision |
|---|---|---|
| | Car Parking Space | |
| Residential (I) | Number of space = GPS x R1 x R2 x R3, where:<br>Global Parking Standard (GPS) = 1 space per 4 – 7 flats<br>R1 = 7 for flat size of > 160m$^2$<br>R2 = 0.75 for development within 500m of rail station<br>R3 = 1.3 for domestic plot ratio (PR) $\leq$ 1<br><br>Minimum<br>=(1 ÷ 7 x 7 x 0.75 x 1.3) = 0.98, say 1 no.<br>Maximum<br>=(1 ÷ 4 x 7 x 0.75 x 1.3) =1.71, say 2 nos. | 2 @ 5m (L) x 2.5m (W) x 2.4m (H); and<br><br>1 @ 5m (L) x 3.5m (W) x 2.4m (H) for persons with disabilities<br><br>= 3 nos.<br>= maximum HKPSG, OK |
| Visitor (II) | For private residential developments with 75 units or less per block, the visitor car parking provision will be determined by Transport Department on a case-by-case basis.<br><br>1 no. visitor car parking spaces are provided | |
| Total (I) + (II) | Minimum = 1 + 1 = 2 nos.<br>Maximum = 2 + 1 = 3 nos. | |
| | Motorcycle Parking Space | |
| Residential | 1 motorcycle parking space per 100 – 150 flats,<br><br>NA | NA |
| | Loading / Unloading Bay | |
| Residential | Minimum of 1 loading / unloading bay for goods vehicles within the site for every 800 flats or part thereof, subject to a minimum of 1 bay for each housing block or as determined by the Authority. | 1 LGV loading / unloading bay @ 7.0m (L) x 3.5m (W) x 3.6m (H)<br><br>(Note: Since vehicles exceeding 10m in length are prohibited from entering San Shek Wan Road, a LGV loading / unloading bay will be provided.) |

Proposed Access Road

3.3 As part of the development, an access road connecting San Shek Wan Road and the Proposed Development will be provided (the "Proposed Access Road"). The existing passing at San Shek Wan Road, where the Proposed Access Road is to be provided, is shifted some 20m to the west. The Proposed Access Road and the new location of the passing bay at San Shek Wan Road are found in Figure 3.2.

3.4 The key design features of the Proposed Access Road are:

i) Minimum road width is 4.5m;
ii) 12m-long passing bay at midway of the straight section of Proposed Access Road (the "passing bay of Proposed Access Road");
iii) 50m sight distance at the passing bay of the Proposed Access Road which is found in Figure 3.3;
iv) One footpath along the eastern side with minimum width of 1.6m (the "Proposed Footpath");
v) Road gradient of some 2%, which fulfils the Transport Planning and Design Manual maximum desirable gradient of 16% for small and light vehicles.

Swept Path Analysis

3.5 The CAD-based swept path analysis program, Autodesk Vehicle Tracking, was used to check the ease of vehicle manoeuvring within the Proposed Development and no manoeuvring issue is found. The swept path analysis drawings for critical movements are found in Appendix 2.

# 4.0 TRAFFIC IMPACT

Design Year

4.1 The Proposed Development is expected to be completed by 2031, and the design year adopted for the capacity analysis is 2034, i.e. 3 years after the completion of the Proposed Development.

Traffic Forecasting

4.2 The 2034 traffic flows used for the junction analysis are produced with reference to the following:

(i) 2031 traffic flows derived with reference to Base District Traffic Model ("BDTM");

(ii) estimated traffic growth from 2031 to 2034 based on the higher of: (a) 2021 – based Territorial Population and Employment Data Matrix ("TPEDM") data produced by Planning Department, (b) Hong Kong Population Projections 2022 – 2046, published by Census and Statistics Department, or (c) historic Annual Average Daily Traffic ("AADT") produced by Transport Department;

(iii) the other developments in the vicinity of the Proposed Development; and

(iv) Traffic generated by the Proposed Development.

4.3 The (ii) estimated traffic growth from 2031 to 2034, (iii) the other development in the vicinity of the Proposed Development, and (iv) traffic generated by the Proposed Development are presented in the paragraphs below.

Estimated Traffic Growth Rate from 2031 to 2034

4.4 The (a) 2021 – based TPEDM data for Tuen Mun District, and the (b) Hong Kong Population Projections 2022 – 2046, and (c) historic AADT are summarised in Tables 4.1 – 4.3 respectively.

TABLE 4.1 2021-BASED TPEDM DATA FOR TUEN MUN DISTRICT

| Item | TPEDM Estimation / Projection | | | Annual Growth Rate | | |
|---|---|---|---|---|---|---|
| | 2021 | 2026 | 2031 | 2021 to 2026 | 2026 to 2031 | 2021 to 2031 |
| Population | 506,900 | 557,650 | 586,200 | 1.93% | 1.00% | 1.46% |
| Employment | 133,400 | 132,450 | 152,650 | -0.14% | 2.88% | 1.36% |

TABLE 4.2 HONG KONG POPULATION PROJECTIONS 2022 – 2046

| Whole Territory Population | | Annual Growth Rate |
|---|---|---|
| Year 2031 | Year 2034 | 2031 to 2034 |
| 7,820,200 | 7,945,100 | 0.53% |

TABLE 4.3 AADT OF THE STATION IN THE VICINITY OF THE SUBJECT SITE

| Station | 5640 | 5654 | 5839 | 6633 | Overall |
|---|---|---|---|---|---|
| Road | Lung Mun Road | Wu Shan Road | Lung Mun Road | Wu Chui Road | |
| From | Wu Shan Road | Lung Mun Road | Wong Chu Road | Lung Mun Road | |
| To | Wu Chui Road | Wu King Road | Wu Shan Road | Wu Shan Road | |
| 2011 | 12,420 | 6,410 | 17,210 | 8,580 | 44,620 |
| 2012 | 12,340 | 6,370 | 14,530 | 8,480 | 41,720 |
| 2013 | 12,440 | 6,420 | 14,650 | 8,060 | 41,570 |
| 2014 | 12,310 | 6,350 | 14,500 | 7,350 | 40,510 |
| 2015 | 12,410 | 6,350 | 14,380 | 8,190 | 41,330 |

| | | | | | |
|---|---|---|---|---|---|
| 2016 | 12,090 | 6,860 | 17,860 | 8,340 | 45,150 |
| 2017 | 11,900 | 6,750 | 18,360 | 8,100 | 45,110 |
| 2018 | 12,190 | 6,920 | 18,810 | 8,540 | 46,460 |
| 2019 | 12,100 | 6,870 | 18,670 | 8,710 | 46,350 |
| 2020 | 12,230 | 7,100 | 17,900 | 7,130 | 44,360 |
| 2021 | 12,990 | 7,610 | 18,940 | 7,670 | 47,210 |
| 2022 | 12,600 | 7,380 | 19,530 | 8,190 | 47,700 |
| 2023 | 12,890 | 7,550 | 14,449 | 9,280 | 49,710 |
| | | | | Average Annual Growth | 0.90% |

4.5 Table 4.1 shows that the highest annual growth rate for population is +1.93% and for employment is +2.88%. Table 4.2 shows that the annual growth rate from 2031 to 2034 is +0.53%. Table 4.3 shows that in the historic AADT of the stations between 2011 and 2023 in the vicinity has average annual growth rate of 0.90% per annum. To be conservative, the growth rate of +2.88% per annum is adopted for the traffic growth between 2031 and 2034.

Other developments in the vicinity of the Proposed Development

4.6 The planned development included in the 2034 reference traffic flows are presented in Table 4.4.

TABLE 4.4 PLANNED DEVELOPMENT IN THE VICINITY OF THE PROPOSED DEVELOPMENT

| Site | Planning Application No. | Address | Use |
|---|---|---|---|
| 1 | A/TM/565 | Government Land in D.D. 138 and D.D. 300, Tuen Mun | Proposed Bus Depots with Ancillary Public Utility Installation (Electricity Substation) |

4.7 In addition, the infrastructure and road network considered in the traffic model include the following:

- Wu Shan Road Public Housing Development
- New Lung Fu Road slip road northbound
- New Lung Fu Road slip road southbound
- New slip road from Tuen Mun Road northbound to Hoi Wing Road westbound
- New Tuen Mun Swimming Pool

Traffic Generated by the Proposed Development

4.8 Traffic generation associated with the Proposed Development is calculated based on the trip rates from theTransport Planning and Design Manual published by Transport Department and is presented in Table 4.5.

TABLE 4.5 TRAFFIC GENERATION OF THE PROPOSED DEVELOPMENT

| Item | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | In | Out | 2-way | In | Out | 2-way |
| Trip Generation Rates for residential use (pcu/hour/flat)[(1)] | | | | | | |
| Private Housing: low-density / R(C) with an average flat size of 300m$^2$ | 0.2609 | 0.3252 | NA | 0.4074 | 0.2835 | NA |
| Traffic Generation of Proposed Development (pcu/hour) | | | | | | |
| Residential Use: 1 house [a] | 1 | 1 | 2 | 1 | 1 | 2 |

Note: [(1)] Mean rates taken from the Transport Planning and Design Manual.

4.9 Table 4.5 shows that the Proposed Development is expected to generate only 2 pcu/hour (2-way) during both the AM and PM peak hours.

2034 Traffic Flows

4.10 Year 2034 traffic flows for the following cases are derived:

2034 without the Proposed Development [A] = (i)2031 traffic flows derived with reference to BDTM + (ii) estimated total growth from 2031 to 2034 + (iii) Other developments in the vicinity of the Proposed Development

2034 with the Proposed Development [B] = [A] + (iv) Traffic generated by the Proposed Development (Table 4.5)

4.11 The 2034 peak hour traffic flows for the cases without and with the Proposed Development, are shown in Figures 4.1 – 4.2, respectively.

2034 Junction Operational Performance

4.12 Year 2034 capacity analysis for the cases without and with the Proposed Development are summarised in Table 4.6 and detailed calculations are found in the Appendix 1.

TABLE 4.6 2034 JUNCTION OPERATIONAL PERFORMANCE

| Ref. | Junction | Type of Junction / Parameter(1) | Year 2034 without the Proposed Development | | Year 2034 with the Proposed Development | |
|---|---|---|---|---|---|---|
| | | | AM Peak | PM Peak | AM Peak | PM Peak |
| J1 | Lung Mun Road / Light Rail Transit Depot Access | Signal / RC | > 100% | > 100% | > 100% | > 100% |
| J2 | Lung Mun Road / Tuen Tsing Lane | Signal / RC | 43% | 65% | 43% | 65% |
| J3 | Lung Mun Road / Wu Shan Road | Signal / RC | 69% | 93% | 69% | 93% |

Notes: (1) RC – reserve capacity

4.13 Table 4.6 shows that the junctions operate with capacities during the AM and PM peak hours for the cases without and with the Proposed Development.

# 5.0 PEDESTRIAN ASSESSMENT

Location of Surveyed Footpaths

5.1 The pedestrian assessment is undertaken for footpaths likely used by the residents of the Proposed Development. The location of the surveyed footpaths is shown in Figure 5.1.

Estimation of Future Pedestrian Flows

5.2 The year 2034 pedestrian flow is estimated based on the following:

(i) 2025 Existing pedestrian flows;
(ii) Estimated annual pedestrian growth rates from 2025 to 2034; and
(iii) Pedestrians generated by the Proposed Development.

2025 Existing Pedestrian Flows

5.3 To quantify the existing pedestrian flows using the footpaths presented in Figure 5.1, pedestrian counts were conducted during the AM and PM peak periods on Tuesday, 13th May 2025. The existing peak 15-minute two-way pedestrian flows are presented in Figure 5.2.

Estimated Annual Pedestrian Growth Rates from 2025 to 2034

5.4 The 2034 reference pedestrian flow is estimated based on the 2025 observed pedestrian flows and the annual pedestrian growth rate from 2025 to 2034. The pedestrian growth rate from 2025 to 2034 is assumed to be +2.88% per annum which is taken from Table 4.1.

Pedestrian Generated by the Proposed Development

5.5 As stated in the planning statement, the Proposed Development, which is one 2-storey house with some 370m$^2$ GFA, is expected to have a design population of 3. However, to be conservative, it is assumed that all residents will leave and enter within 15 minutes, a generation of 3 ped/15min (2-way) during the AM and PM peak periods.

2034 Pedestrian Flows

5.6 The 2034 pedestrian flows without and with the Proposed Development are derived using the following method:

| | | |
|---|---|---|
| 2034 without the Proposed Development [A] | = | (i) 2025 existing pedestrian flows + (ii) estimated annual pedestrian growth rates from 2025 to 2034 |
| 2034 with the Proposed Development [B] | = | [A] + (iii) pedestrian generated by the Proposed Development |

5.7 The 2034 pedestrian flows without and with the Proposed Development are presented in Figures 5.3 and 5.4.

Level-of-Service

5.8 The level-of-service (LOS) of a pedestrian facility is dependent on its width and the number of pedestrians using the facility. Description of the LOS is obtained from the Transport Planning and Design Manual, and is given in Table 5.1.

TABLE 5.1 DESCRIPTION OF PEDESTRIAN FACILITY LOS

| LOS | Maximum Pedestrian Flow Rate - ped/min/m | Description |
|---|---|---|
| A | < = 16 | Pedestrians basically move in desired paths without altering their movements in response to other pedestrians. Walking speeds are freely selected and conflicts between pedestrians are unlikely. |
| B | > 16 - 23 | Sufficient space is provided for pedestrians to freely select walking speeds, to bypass other pedestrians and to avoid crossing conflicts with others. At this level, pedestrians begin to be aware of other pedestrians and to respond to their presence in the selection of walking paths. |
| C | > 23 – 33 | Sufficient space is available to select normal walking speeds and to bypass other pedestrians primarily in unidirectional streams. Where reverse directions or crossing movements exist, minor conflicts will occur, and speed and volume will be somewhat lower. |
| D | > 33 - 49 | Freedom to select individual walking speed and bypass other pedestrians is restricted. Where crossing or reverse-flow movements exist, the probability of conflict is high and its avoidance requires frequent changes in speed and position. The LOS provides reasonably fluid flow; however considerable friction and interaction between pedestrians is likely to occur. |
| E | > 49 – 75 | Virtually, all pedestrians would have their normal walking speed restricted. At the lower range of this LOS, forward movement is possible only by shuffling. Space is insufficient to pass over slower pedestrians. Cross- or reverse-flow movements are possible only with extreme difficulties. Design volumes approach the limit of walkway capacity with resulting stoppages and interruptions to flow. |
| F | > 75 | Walking speeds are severely restricted. Forward progress is made only by "shuffling". There is frequent and unavoidable contact with other pedestrians. Cross- and reverse-flow movements are virtually impossible. Flow is sporadic and unstable. Space is more characteristic of queued pedestrians than of moving pedestrian streams. |

Source: Transport Planning & Design Manual Volume 6, Transport Department

5.9 The effective width of the surveyed footpaths is presented in Table 5.2.

TABLE 5.2 EFFECTIVE WIDTH OF THE SURVEYED FOOTPATHS

| Ref. | Location | | Footpath Width (m) | Effective Width (m) |
|---|---|---|---|---|
| 1 | San Shek Wan Road between Subject Site and Lung Mun Road | Southern footpath | 1.6 | 0.6 |
| 2 | Lung Mun Road between San Shek Wan and Light Rail Station - Light Rail Depot | Western footpath | 3.0 | 2.0 |
| 3 | The Proposed Footpath | Eastern footpath | 1.6 | 0.6 |

5.10 The 2034 weekday LOS at the surveyed footpaths for the cases without and with the Proposed Development is presented in Table 5.3.

TABLE 5.3 2034 LOS WITHOUT AND WITH THE PROPOSED DEVELOPMENT

| Ref. | Location | | Peak Period | Year 2034 without the Proposed Development | | | Year 2034 with the Proposed Development | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Ped / 15min | Ped / min/m | LOS | Ped / 15min | Ped / min/m | LOS |
| 1 | San Shek Wan Road between Subject Site and Lung Mun Road | Southern footpath | AM | 11 | 1.2 | A | 14 | 1.6 | A |
| | | | PM | 8 | 0.9 | A | 11 | 1.2 | A |
| 2 | Lung Mun Road between San Shek Wan and Light Rail Station - Light Rail Depot | Western footpath | AM | 44 | 1.5 | A | 47 | 1.6 | A |
| | | | PM | 48 | 1.6 | A | 51 | 1.7 | A |
| 3 | The Proposed Footpath | Eastern footpath | AM | N/A | | | 3 | 0.3 | A |
| | | | PM | N/A | | | 3 | 0.3 | A |

5.11 Table 5.3 shows that all surveyed footpaths operate with LOS A for the case without and with the Proposed Development. Hence, it can be concluded that the Proposed Development will result in no impact to the footpaths assessed.

# 6.0 CONCLUSION

6.1 The Subject Site is located at T.M.T.L 550 near San Shek Wan Road in Tuen Mun. The Owner has the intention to to build one 2-storey house with some 370m$^2$ GFA, at the Subject Site.

6.2 Manual classified counts were conducted at surveyed junctions located in the vicinity of the Proposed Development in order to establish the peak hour traffic flows. Currently, these junctions operate with capacities during the AM and PM peak hours.

6.3 The car parking spaces provided for the Proposed Development comply with the maximum recommendation of the HKPSG. Since the vehicles over 10m in length are prohibited from entering San Shek Wan Road, LGV loading / unloading bay will be provided.

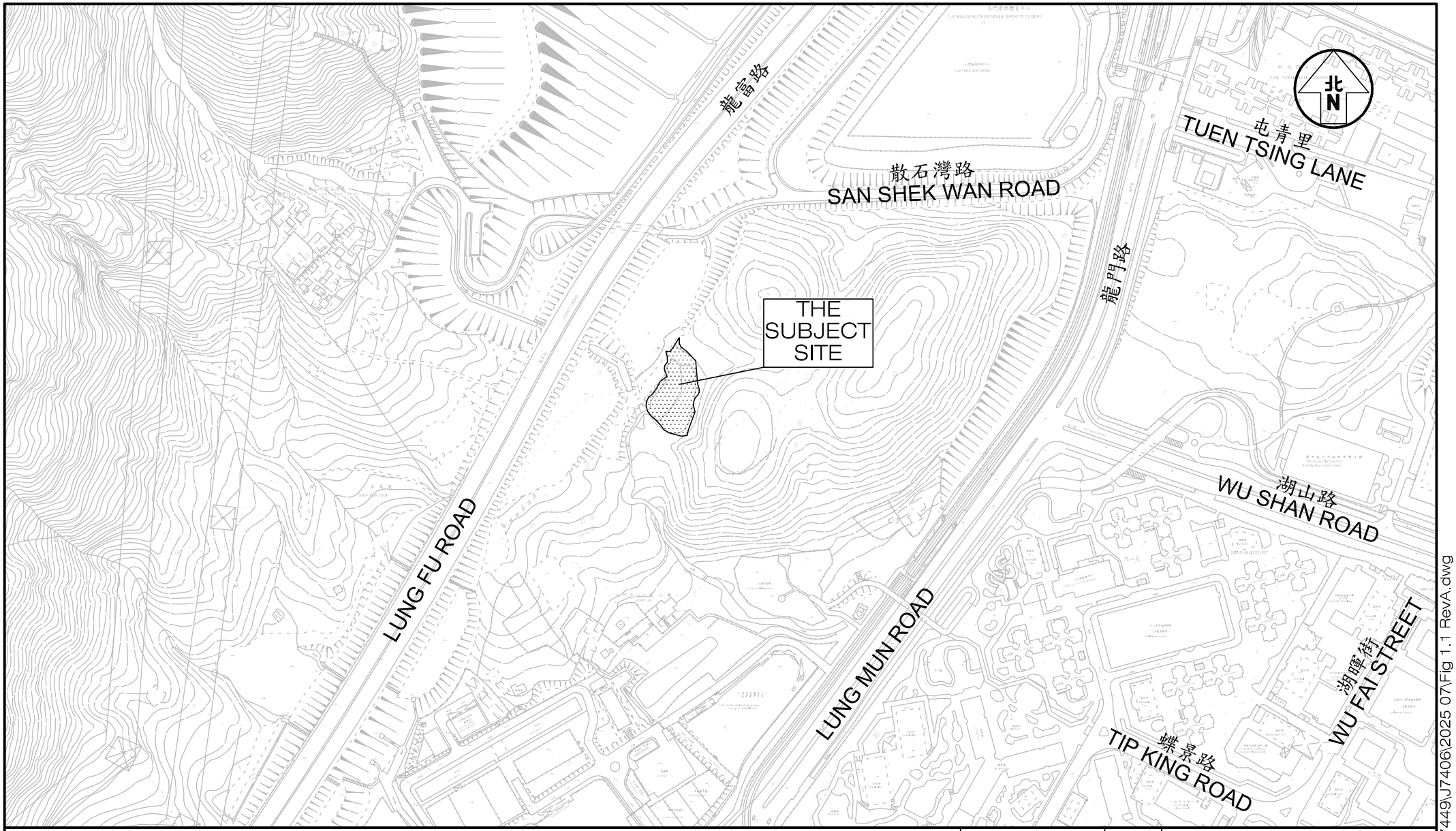
6.4 The Proposed Access Road connects San Shek Wan Road with the Proposed Development. To provide the Proposed Access Road, the existing passing bay at San Shek Wan Road is shifted some 20m to the west.

6.5 The Proposed Development is expected to be completed by 2031, and the junction capacity analysis is undertaken for year 2034. For the design year 2034, the junctions analysed are expected to operate with capacities during the peak hours for the case without and with the Proposed Development.

6.6 The pedestrian assessment conducted found that the surveyed footpaths would operate with LOS A in 2034 for the case without and with the Proposed Development, and the Proposed Development has no adverse impact to the footpaths assessed.

6.7 It is concluded that the Proposed Development will result in no adverse traffic impact to the surrounding road network. From traffic engineering grounds, the Proposed Development is acceptable.

Figures

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|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 1.1 | Revision A | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: LOCATION OF SUBJECT SITE | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4 1 : 4,000 | Date 31 JUL 2025 | |

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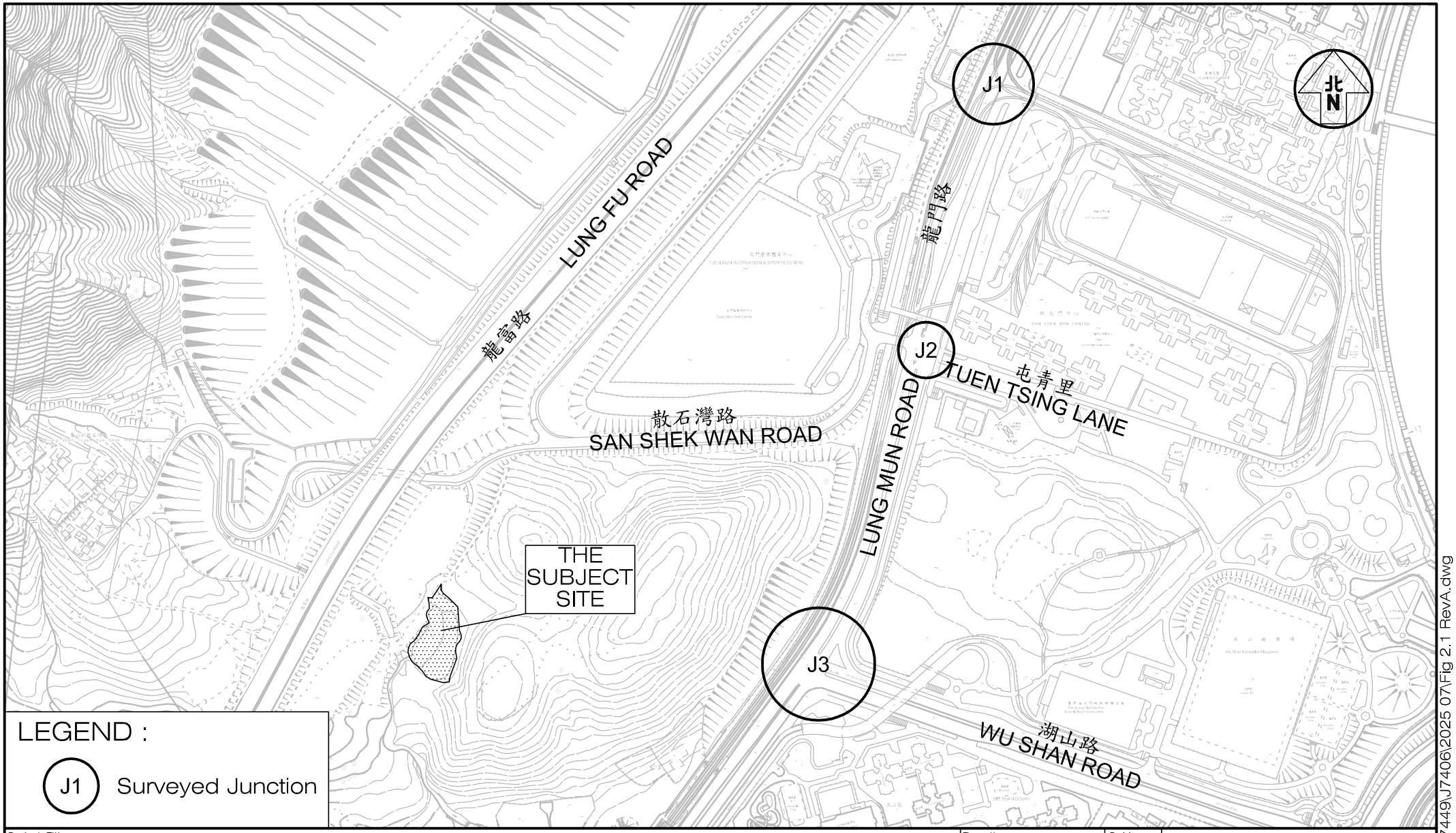


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| Figure Title: LOCATION OF SURVEYED JUNCTIONS | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4 1 : 4,000 | Date 31 JUL 2025 | |

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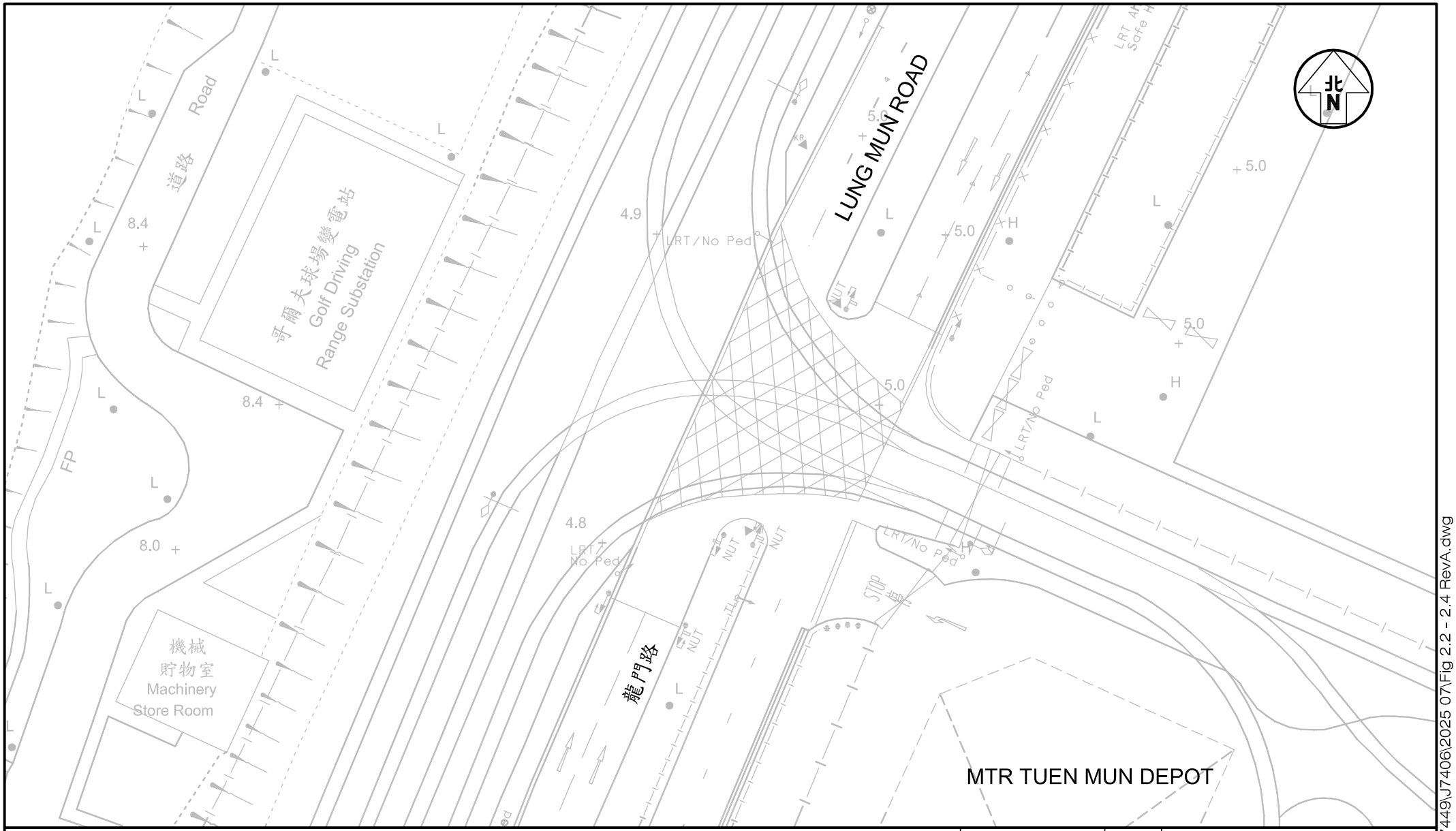


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| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 2.2 | Revision A | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: LAYOUT OF JUNCTION OF LUNG MUN ROAD / LIGHT RAIL TRANSIT DEPOT ACCESS | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4: 1 : 500 | Date: 31 JUL 2025 | |

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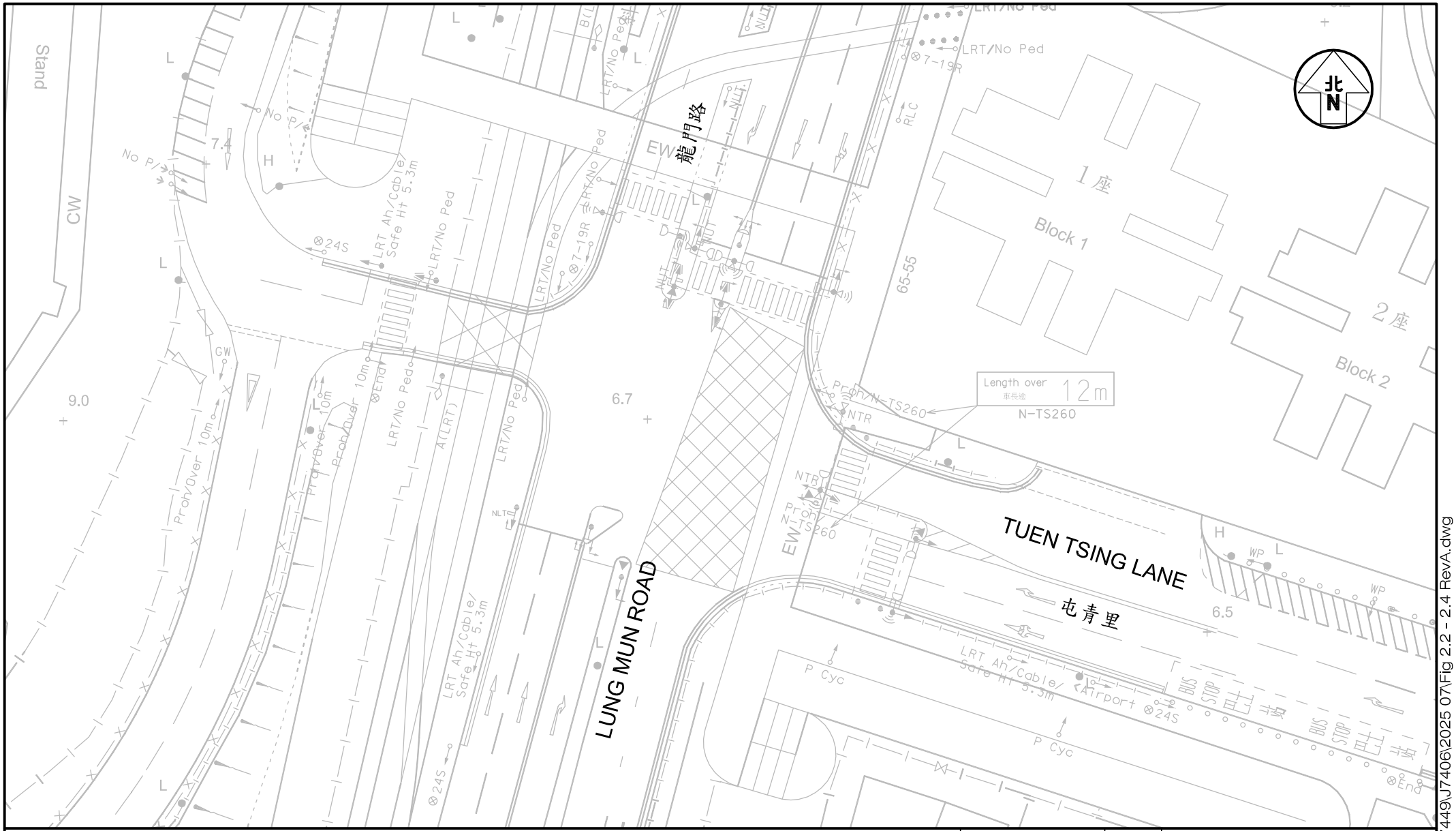


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| Figure Title: LAYOUT OF JUNCTION OF LUNG MUN ROAD / TUEN TSING LANE | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4: 1 : 500 | Date: 31 JUL 2025 | |

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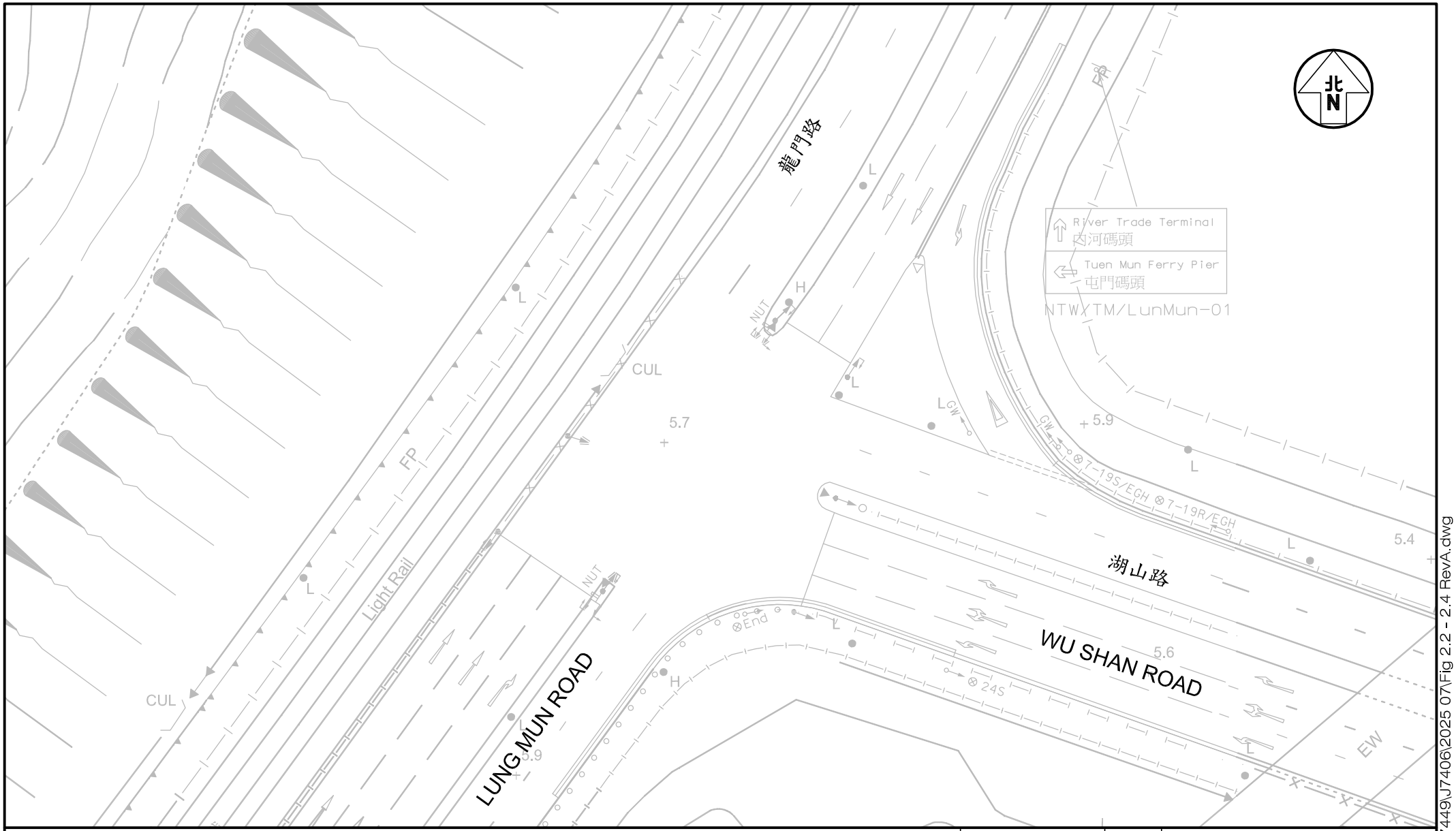


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| Figure Title: LAYOUT OF JUNCTION OF LUNG MUN ROAD / WU SHAN ROAD | | Designed by C Y Y / Drawn by N C M / Checked by K C | |
| | | Scale in A4 1 : 500 / Date 31 JUL 2025 | |

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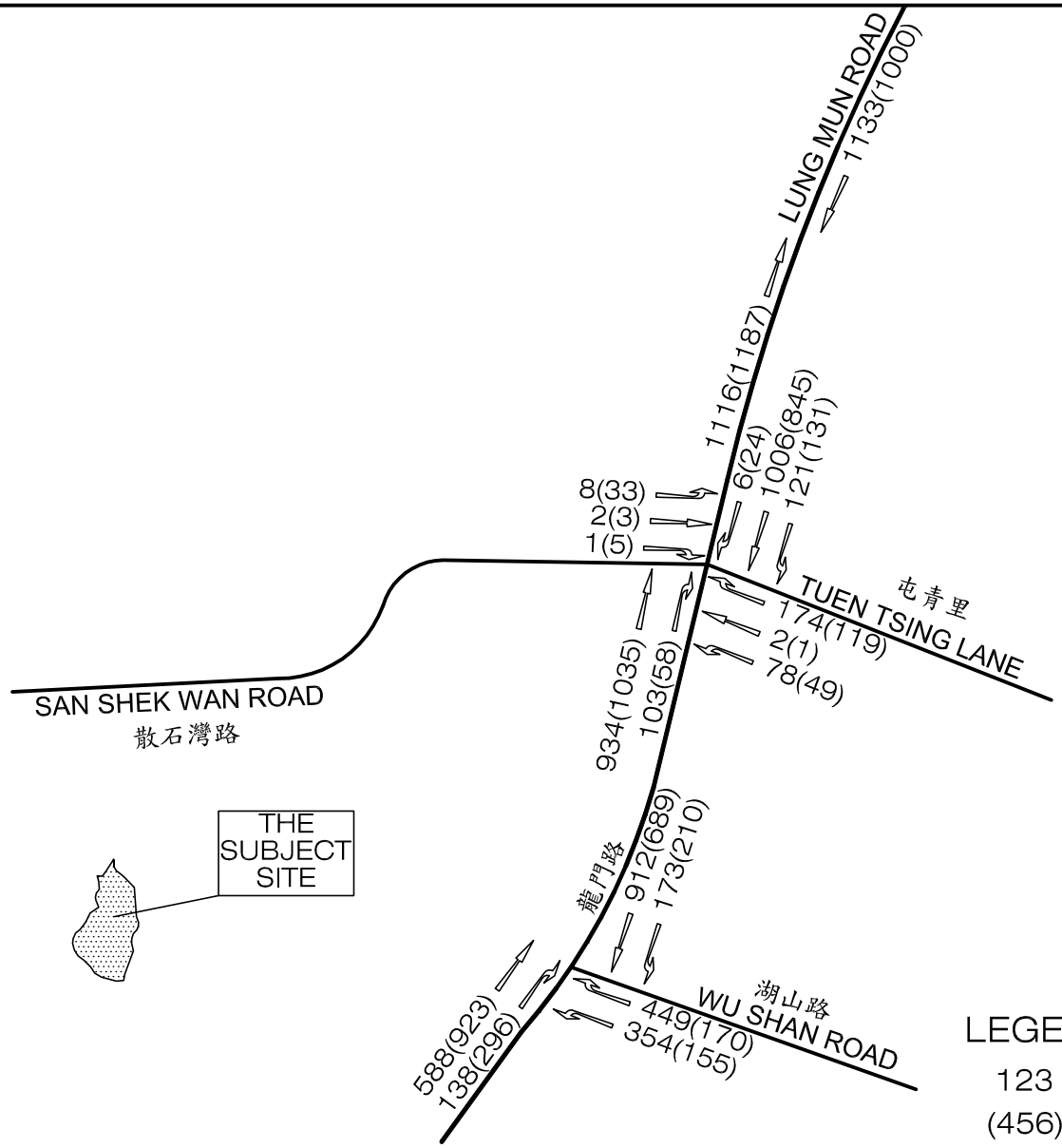


LEGEND :

123 - AM peak hour traffic flow, pcu / hr

(456) - PM peak hour traffic flow, pcu / hr

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| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 2.5 | Revision A | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: EXISTING PEAK HOUR TRAFFIC FLOWS | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4 N.T.S. | Date 31 JUL 2025 | |

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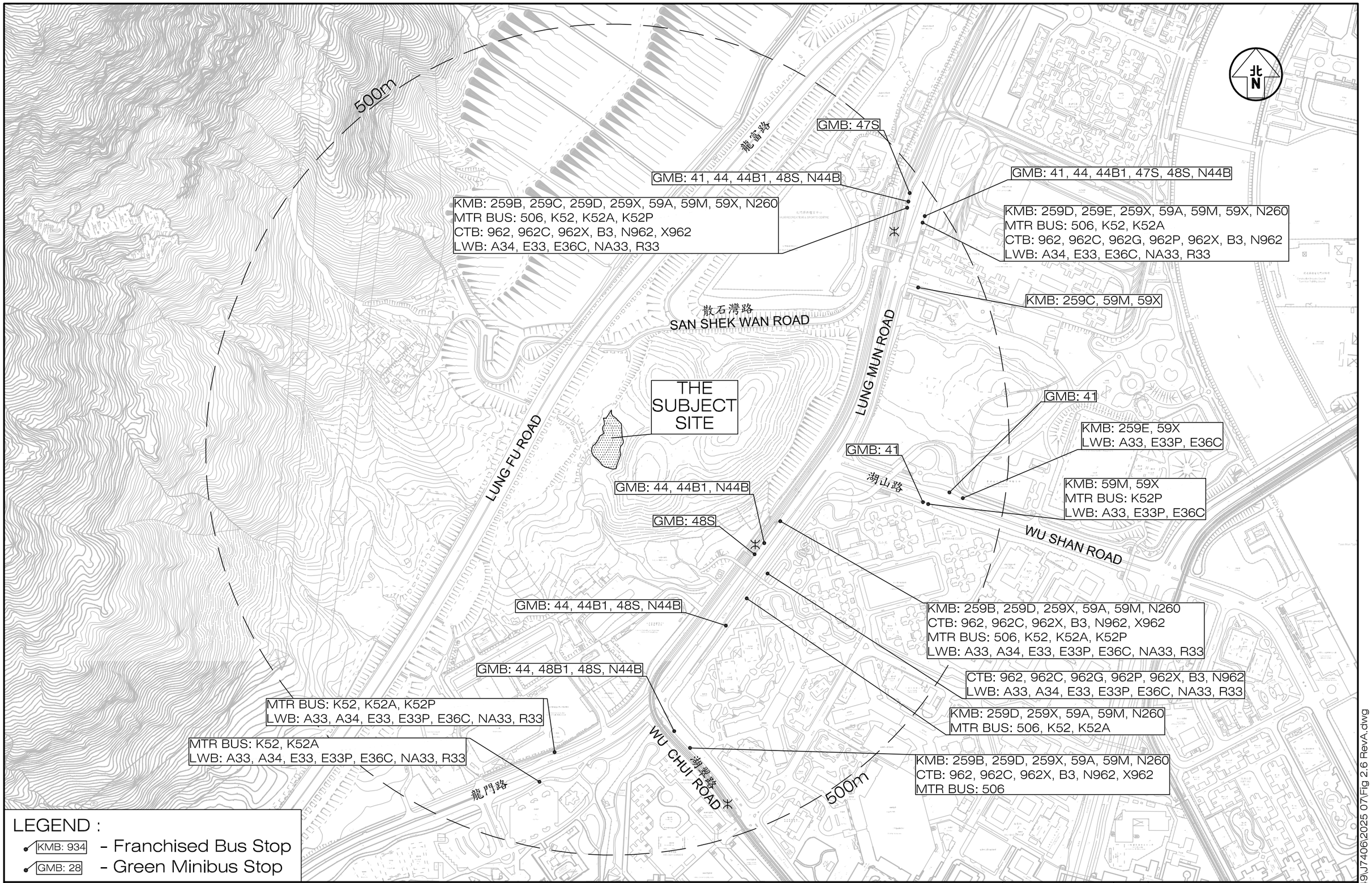


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| Figure Title: THE PUBLIC TRANSPORT SERVICES PROVIDED IN THE VICINITY OF THE SUBJECT SITE | Designed by L C H / Drawn by N C M / Checked by K C | | |
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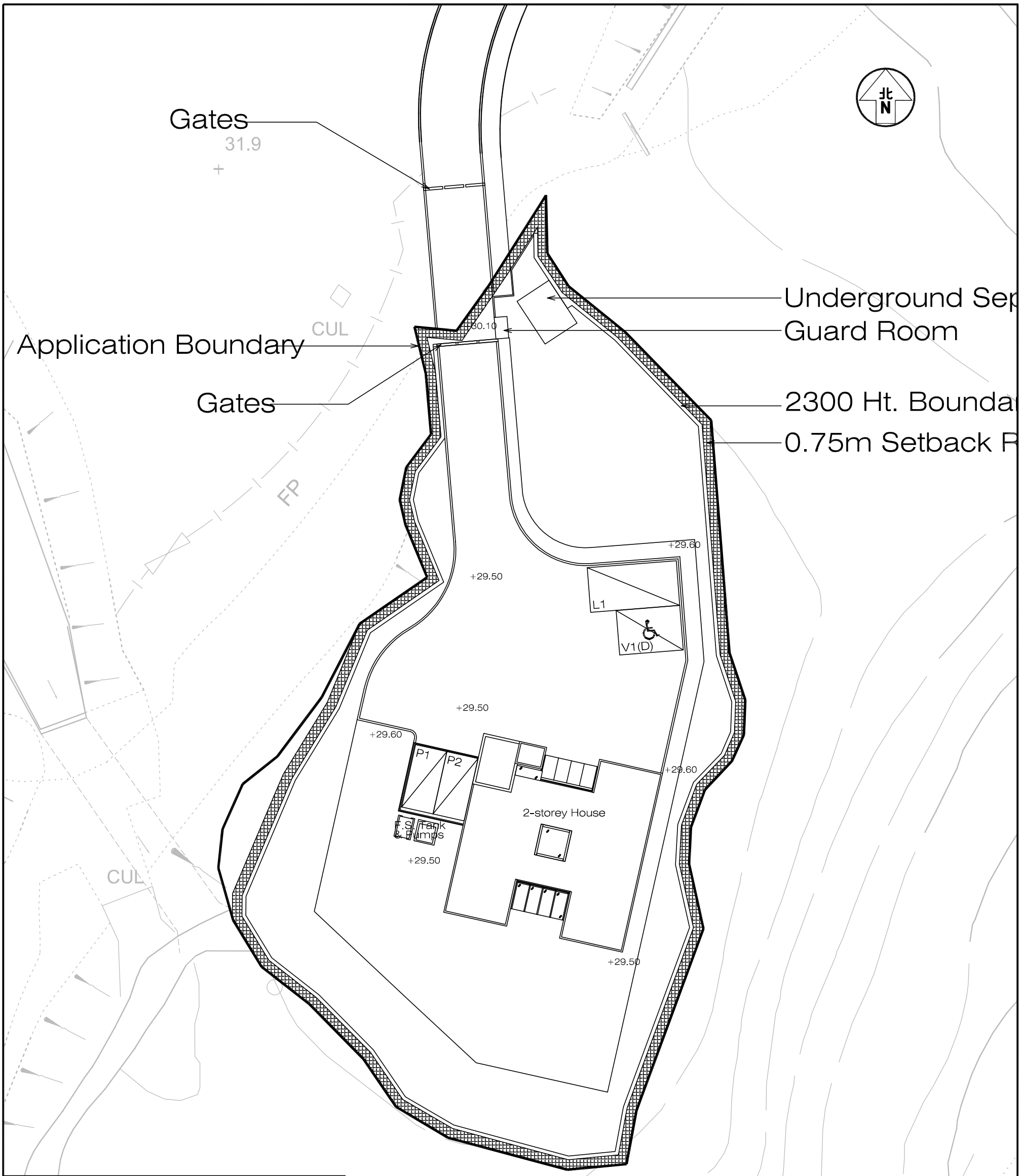


Project Title

PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T.

| Job No. | Figure No. | | | Scale in A3 |
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Figure Title

CAR PARK LAYOUT

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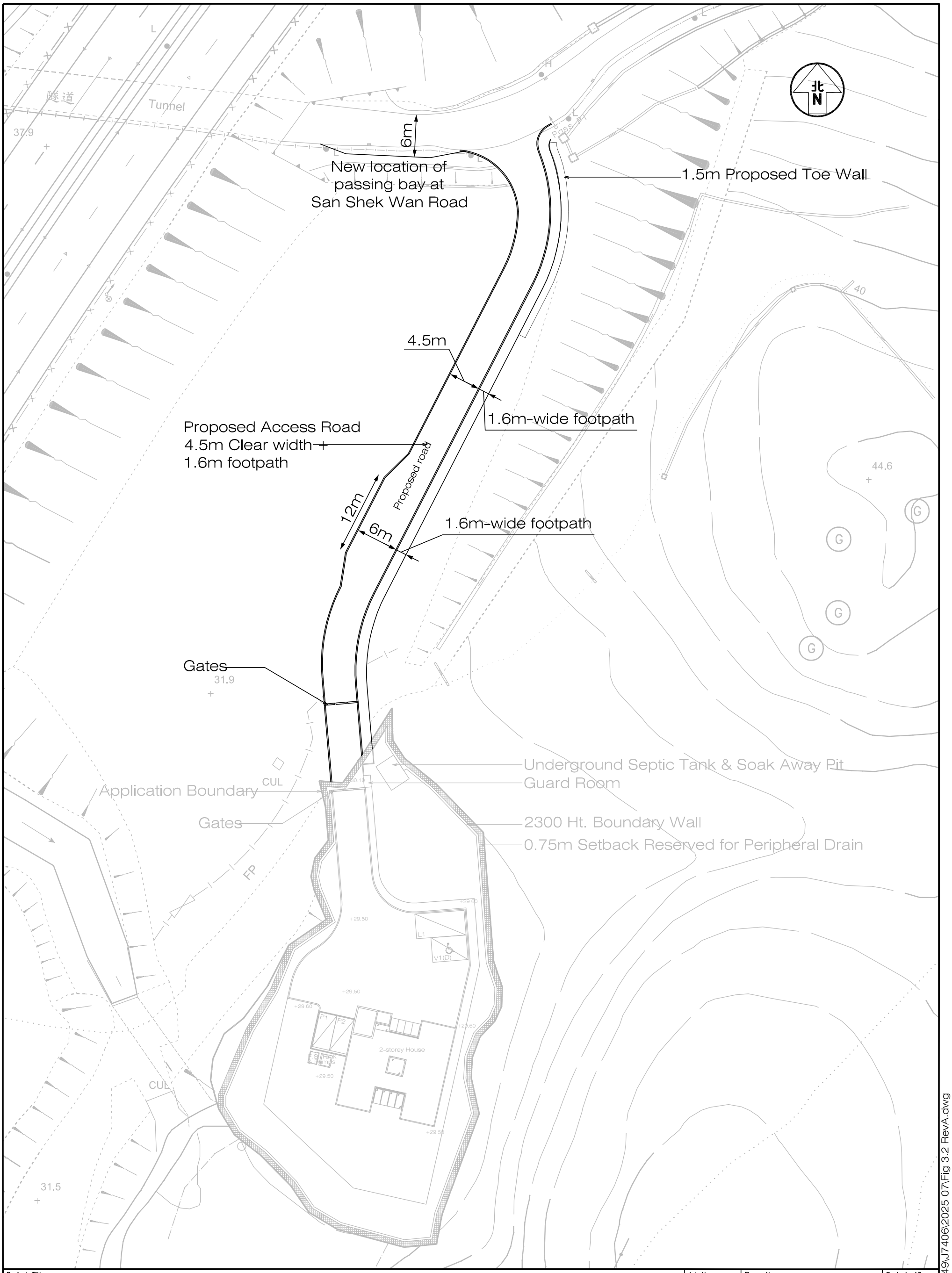


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| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. | Job No. J7406 | Figure No. 3.2 | | | Scale in A3 1 : 500 |
| | Designed by C Y Y | Drawn by N C M | Checked by K C | Revision A | Date 31 JUL 2025 |
| Figure Title: THE PROPOSED ACCESS ROAD AND THE NEW LOCATION OF PASSING BAY AT SAN SHEK WAN ROAD | [redacted] | | | | |

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北
N

Sight Distance = 50m

The Passing Bay of
Proposed Access Road

Proposed road

Sight Distance = 50m

Gates

31.9

CUL

ion Boundary

Gates

FP

+30.10

+29.60

+29.50

Underground Septic Tank

Guard Room

2300 Ht. Boundary Wall

0.75m Setback Reserved f

| | | | | | |
|---|---|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. | Job No. J7406 | Figure No. 3.3 | | | Scale in A3 1 : 300 |
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| Figure Title: SIGHT DISTANCE AT THE PASSING BAY OF PROPOSED ACCESS ROAD | [redacted] | | | | |

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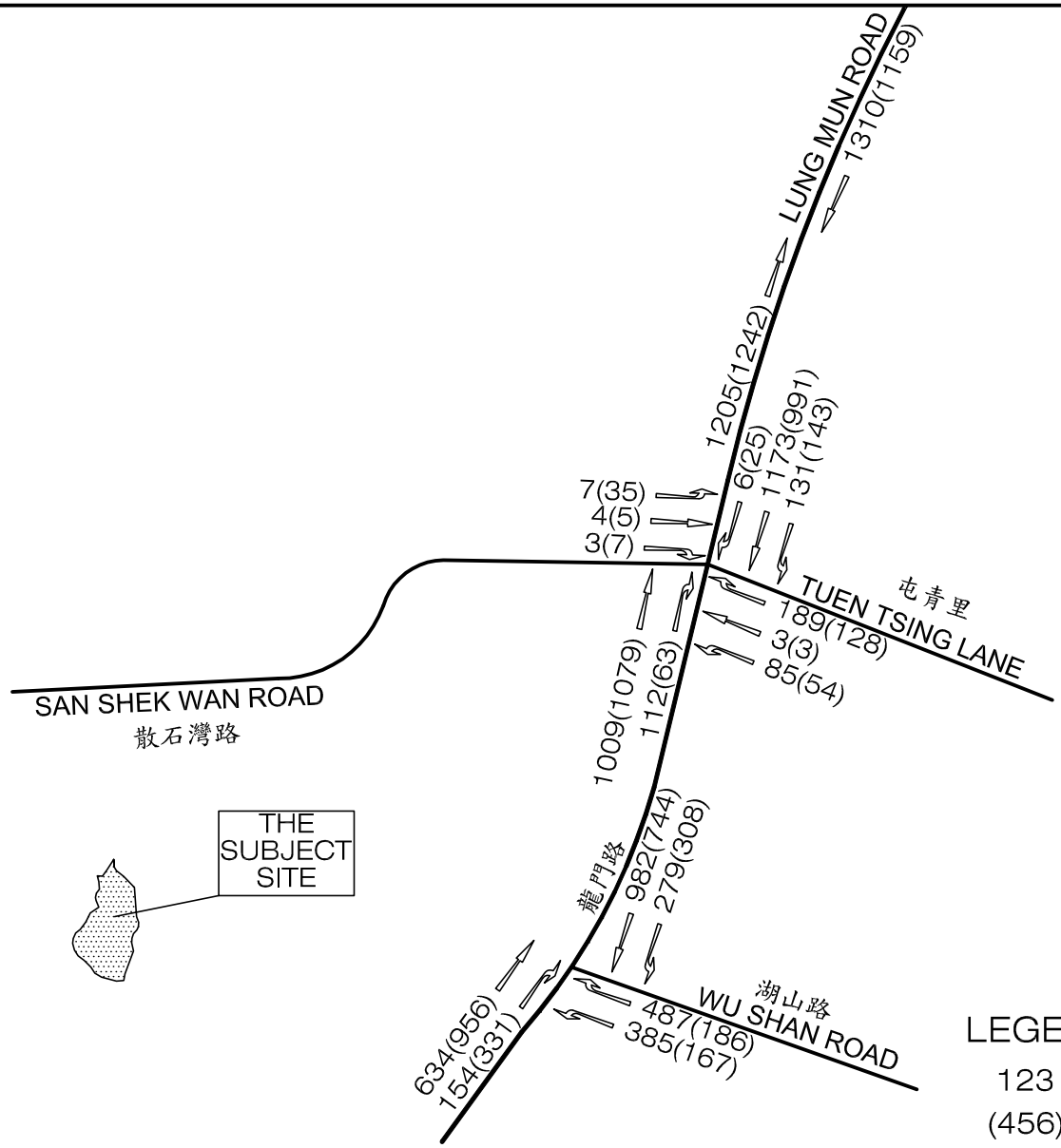


LEGEND :

123 - AM peak hour traffic flow, pcu / hr

(456) - PM peak hour traffic flow, pcu / hr

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|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 4.1 | Revision A | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: YEAR 2034 PEAK HOUR TRAFFIC FLOWS WITHOUT THE PROPOSED DEVELOPMENT | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
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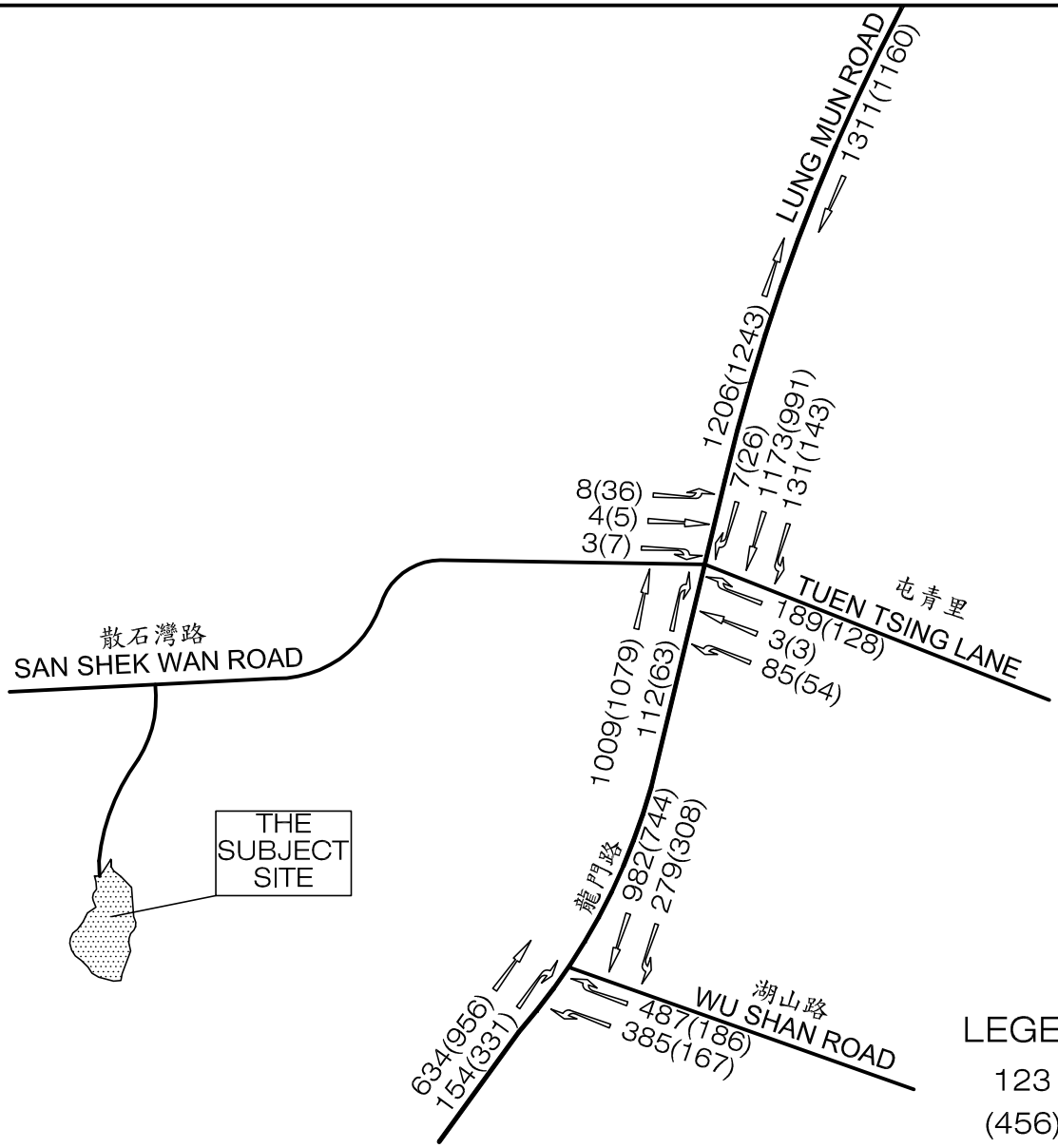


LEGEND :

123 - AM peak hour traffic flow, pcu / hr

(456) - PM peak hour traffic flow, pcu / hr

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| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 4.2 | Revision A | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: YEAR 2034 PEAK HOUR TRAFFIC FLOWS WITH THE PROPOSED DEVELOPMENT | Designed by C Y Y / Drawn by N C M / Checked by K C | | [redacted] |
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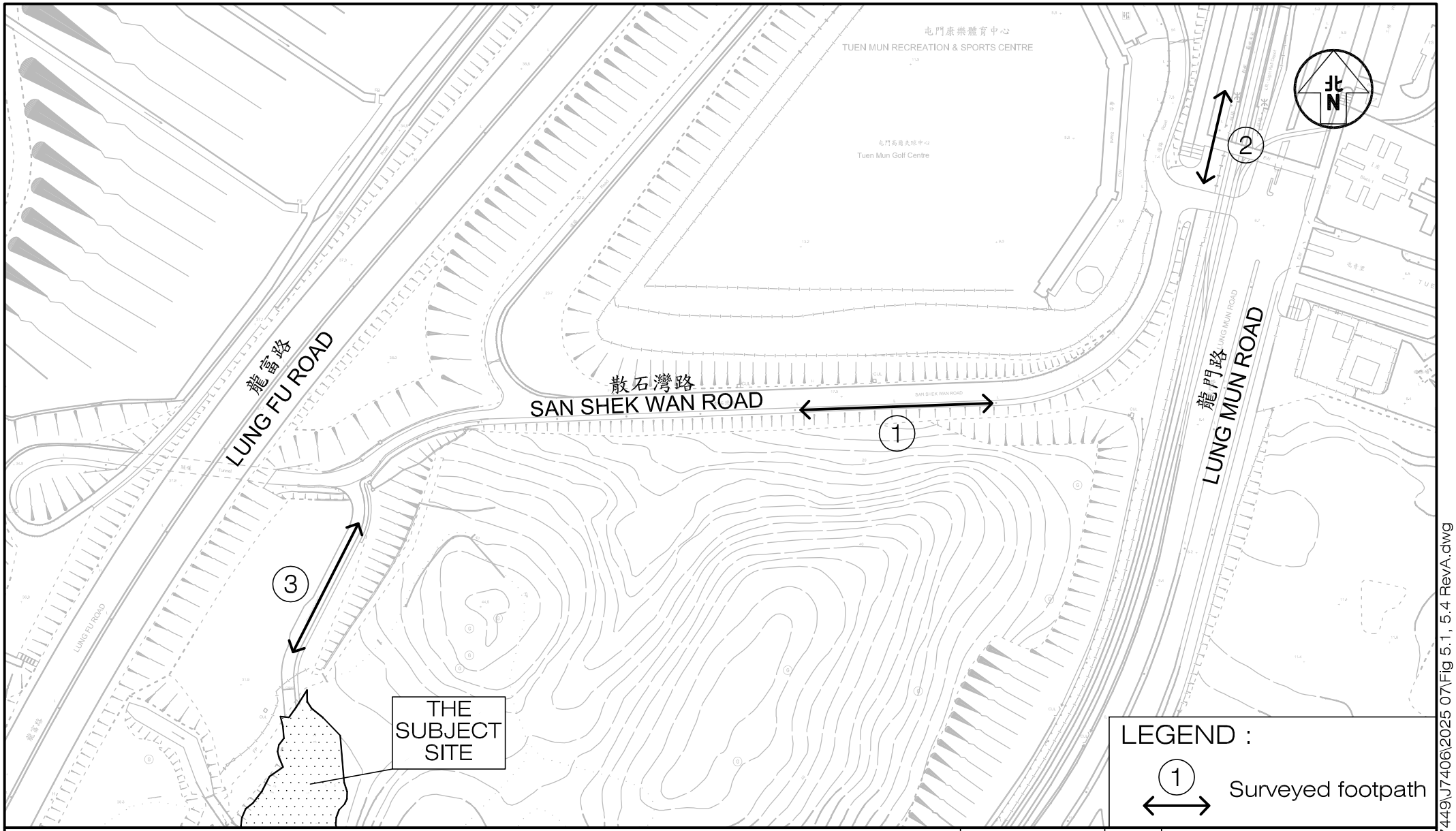


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| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 5.1 | Revision A | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: LOCATION OF THE SURVEYED FOOTPATHS | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4 1 : 2000 | Date 31 JUL 2025 | |

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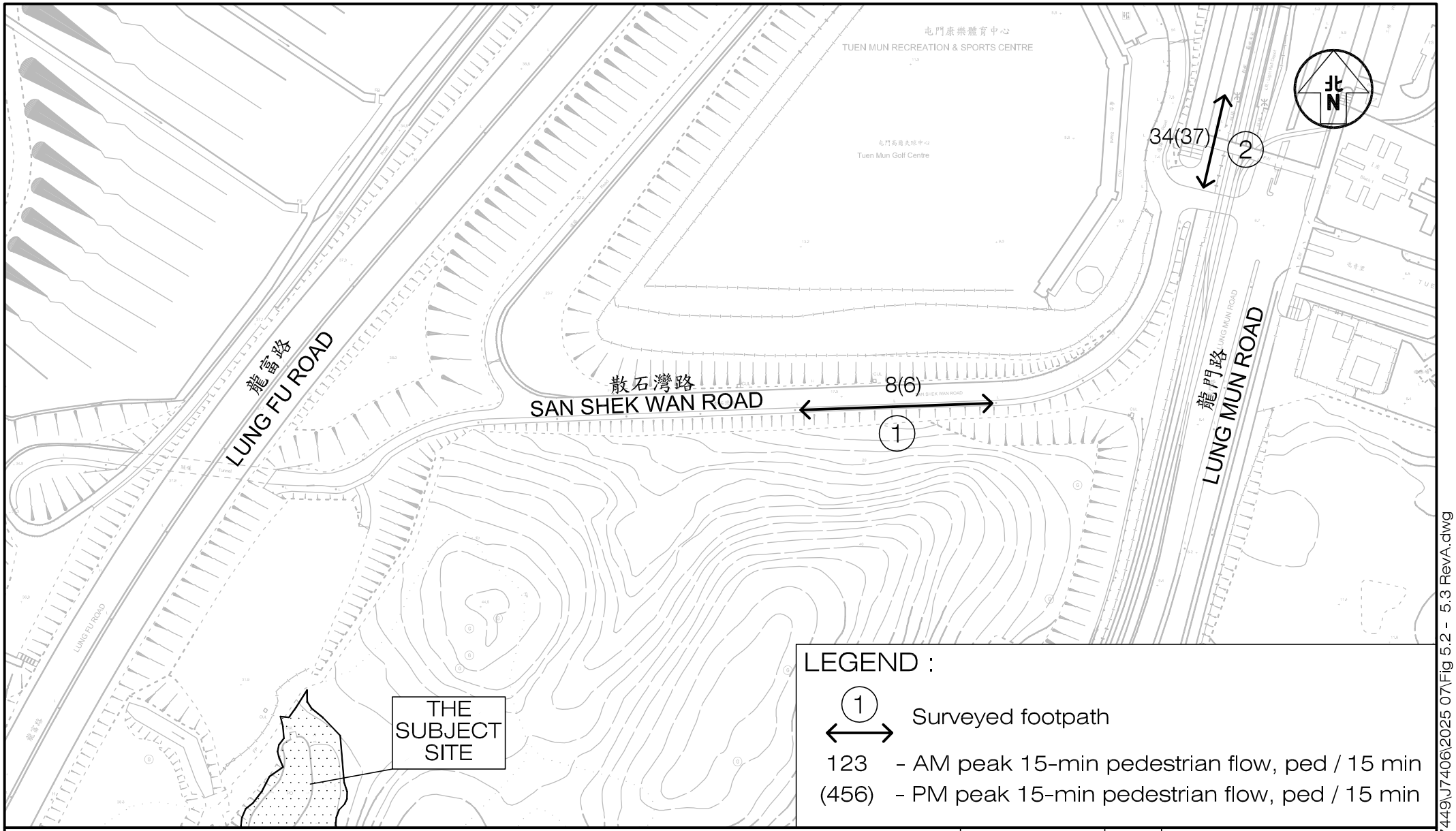


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| Figure Title: EXISTING PEDESTRIAN FLOWS | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
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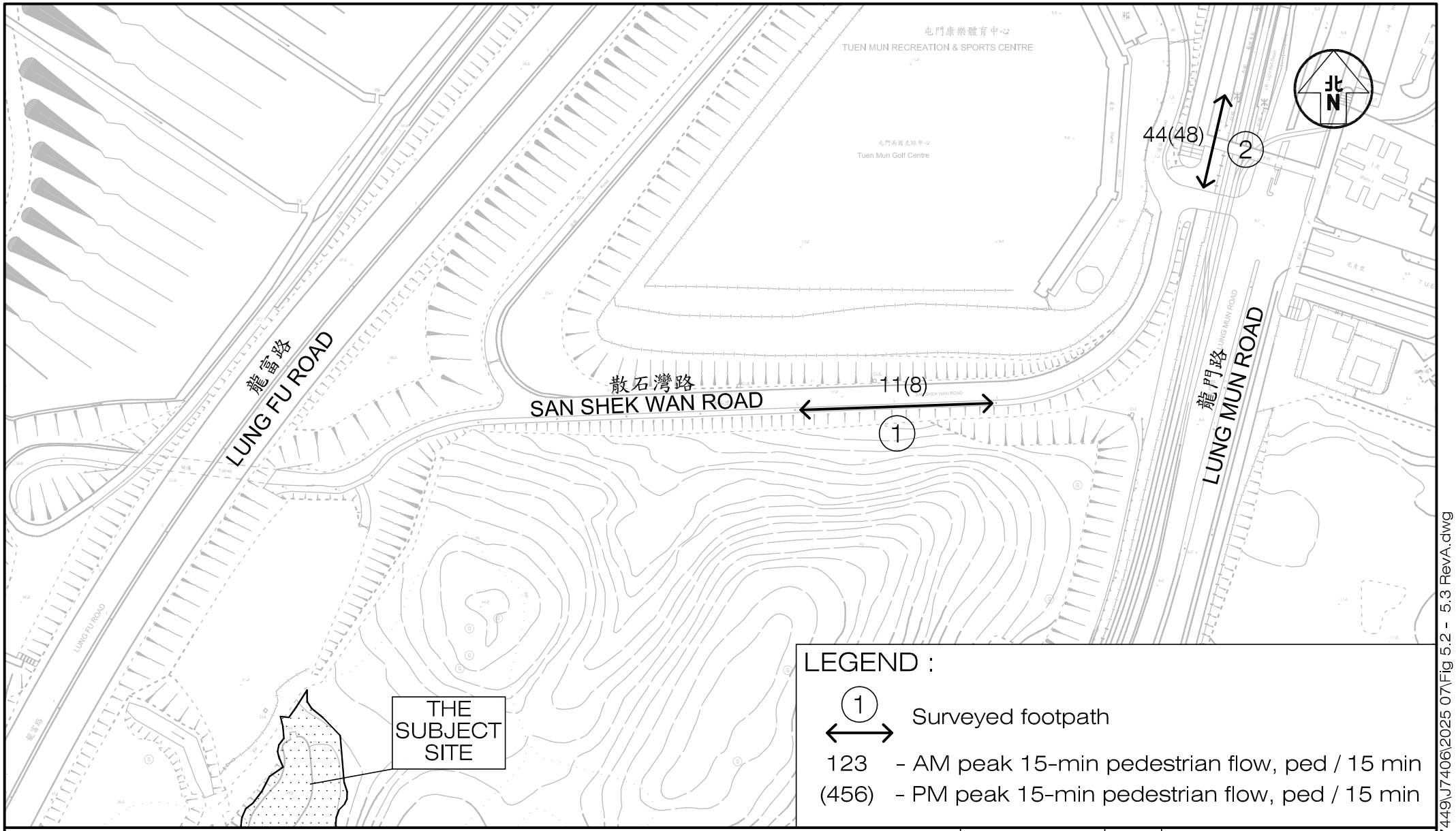


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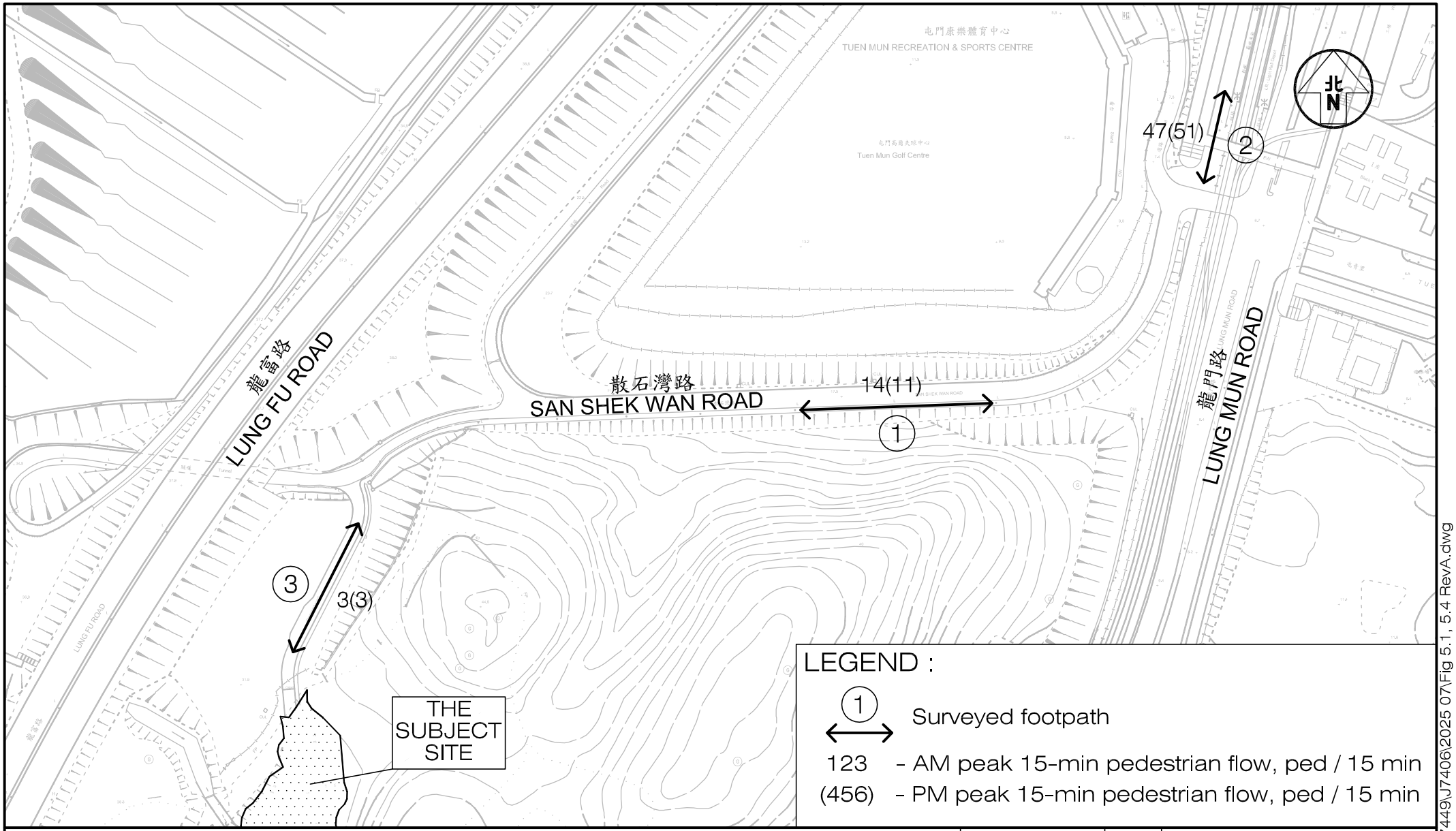
| Figure Title: YEAR 2034 PEDESTRIAN FLOWS WITHOUT THE PROPOSED DEVELOPMENT | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4: 1 : 2000 | Date: 31 JUL 2025 | |

T:\JOB\J7400-J7449\J7406\2025 07\Fig 5.2 - 5.3 RevA.dwg




| | | | |
|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 5.4 | Revision A | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: YEAR 2034 PEDESTRIAN FLOWS WITH THE PROPOSED DEVELOPMENT | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4: 1 : 2000 | Date: 31 JUL 2025 | |

T:\JOB\J7400-J7449\J7406\2025 07\Fig 5.1, 5.4 RevA.dwg

# Appendix 1 – Calculation

# Signal Junction Analysis

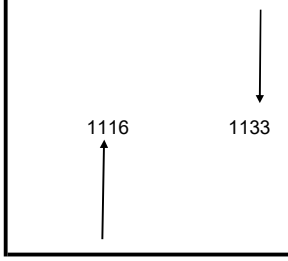
Junction: Lung Mun Road / Light Rail Transit Depot Access — Job Number: J7406

Scenario: Existing Condition — P. 1

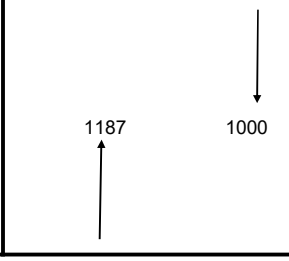
Design Year: 2025 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road NB | SA | A1 | 1 | 3.70 | | | | 1985 | 539 | 0.272 | | | 1985 | 573 | 0.289 | 0.289 |
| | SA | A2 | 1 | 3.70 | | | | 2125 | 577 | 0.272 | | | 2125 | 614 | 0.289 | |
| | | | | | | | | | | | | | | | | |
| Lung Mun Road SB | SA | B1 | 1 | 3.60 | | | | 1975 | 547 | 0.277 | 0.277 | | 1975 | 483 | 0.245 | |
| | SA | B2 | 1 | 3.60 | | | | 2115 | 586 | 0.277 | | | 2115 | 517 | 0.244 | |
| pedestrian phase | | | | | | | | | | | | | | | | |

AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)

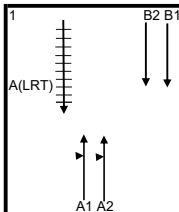
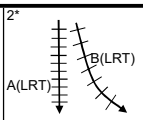
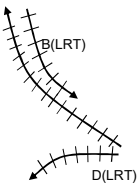



$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1 | | 1 | |
| Sum y | 0.277 | | 0.289 | |
| L (s) | 156 | | 104 | |
| C (s) | 3600 | | 3600 | |
| practical y | 0.861 | | 0.874 | |
| R.C. (%) | 211% | | 203% | |

Note:

| 1 | 2* | 3 | 4* | 5 |
|---|---|---|---|---|
|   |   | |   | |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM | G = | I/G = | G = | I/G = | 5 | G = | 33 | I/G = | 15 | G = | I/G = | G = | I/G = | | | |
| | G = | I/G = | G = | I/G = | | G = | | I/G = | | G = | I/G = | G = | I/G = | | | |
| PM | G = | I/G = | G = | I/G = | 5 | G = | 33 | I/G = | 15 | G = | I/G = | G = | I/G = | | | |
| | G = | I/G = | G = | I/G = | | G = | | I/G = | | G = | I/G = | G = | I/G = | | | |

# Signal Junction Analysis

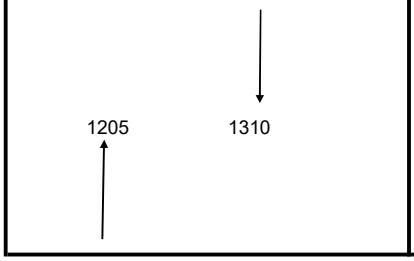
Junction: Lung Mun Road / Light Rail Transit Depot Access — Job Number: J7406

Scenario: Future Condition (Without Proposed Development) — P. 2

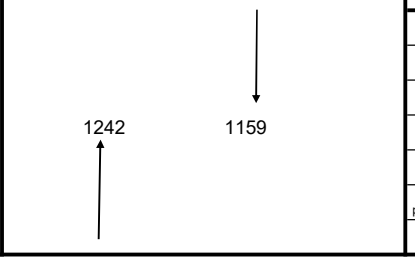
Design Year: 2031 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road NB | SA | A1 | 1 | 3.70 | | | | 1985 | 582 | 0.293 | | | 1985 | 600 | 0.302 | 0.302 |
| | SA | A2 | 1 | 3.70 | | | | 2125 | 623 | 0.293 | | | 2125 | 642 | 0.302 | |
| | | | | | | | | | | | | | | | | |
| Lung Mun Road SB | SA | B1 | 1 | 3.60 | | | | 1975 | 633 | 0.321 | 0.321 | | 1975 | 560 | 0.284 | |
| | SA | B2 | 1 | 3.60 | | | | 2115 | 677 | 0.320 | | | 2115 | 599 | 0.283 | |
| pedestrian phase | | | | | | | | | | | | | | | | |

AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)

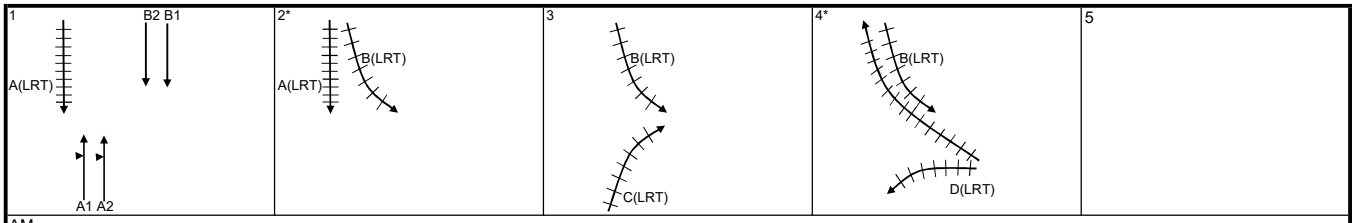



$S=1940+100(W-3.25)$ $S_M=S\div(1+1.5f/r)$

$S=2080+100(W-3.25)$ $S_M=(S-230)\div(1+1.5f/r)$

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1 | | 1 | |
| Sum y | 0.321 | | 0.302 | |
| L (s) | 156 | | 104 | |
| C (s) | 3600 | | 3600 | |
| practical y | 0.861 | | 0.874 | |
| R.C. (%) | 169% | | 189% | |

Note:




| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM | G = | I/G = | G = | I/G = | 5 | G = | 33 | I/G = | 15 | G = | I/G = | G = | I/G = |
| | G = | I/G = | G = | I/G = | | G = | | I/G = | | G = | I/G = | G = | I/G = |
| PM | G = | I/G = | G = | I/G = | 5 | G = | 33 | I/G = | 15 | G = | I/G = | G = | I/G = |
| | G = | I/G = | G = | I/G = | | G = | | I/G = | | G = | I/G = | G = | I/G = |

# Signal Junction Analysis

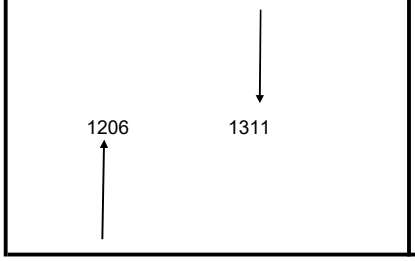
Junction: Lung Mun Road / Light Rail Transit Depot Access — Job Number: J7406

Scenario: Future Condition (With Proposed Development) — P. 3

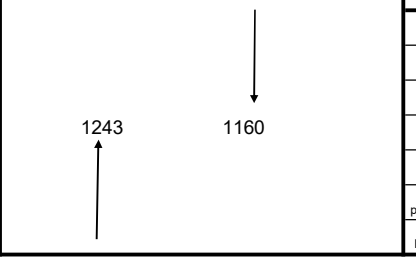
Design Year: 2036 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road NB | SA | A1 | 1 | 3.70 | | | | 1985 | 582 | 0.293 | | | 1985 | 600 | 0.302 | 0.302 |
| | SA | A2 | 1 | 3.70 | | | | 2125 | 624 | 0.294 | | | 2125 | 643 | 0.303 | |
| Lung Mun Road SB | SA | B1 | 1 | 3.60 | | | | 1975 | 633 | 0.321 | 0.321 | | 1975 | 560 | 0.284 | |
| | SA | B2 | 1 | 3.60 | | | | 2115 | 678 | 0.321 | | | 2115 | 600 | 0.284 | |
| pedestrian phase | | | | | | | | | | | | | | | | |

AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)

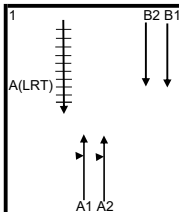
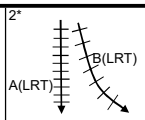
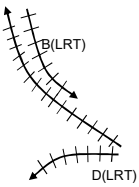



$S=1940+100(W-3.25)$ $S_M=S\div(1+1.5f/r)$

$S=2080+100(W-3.25)$ $S_M=(S-230)\div(1+1.5f/r)$

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1 | | 1 | |
| Sum y | 0.321 | | 0.302 | |
| L (s) | 156 | | 104 | |
| C (s) | 3600 | | 3600 | |
| practical y | 0.861 | | 0.874 | |
| R.C. (%) | 169% | | 189% | |

Note:

| 1 | 2* | 3 | 4* | 5 |
|---|---|---|---|---|
|   |   | |   | |
| AM G = I/G = | AM G = I/G = | AM G = 33 I/G = 15 | AM G = I/G = | AM G = I/G = |
| G = I/G = | G = I/G = | G = I/G = | G = I/G = | G = I/G = |
| PM G = I/G = | PM G = I/G = | PM G = 33 I/G = 15 | PM G = I/G = | PM G = I/G = |
| G = I/G = | G = I/G = | G = I/G = | G = I/G = | G = I/G = |

# Signal Junction Analysis

Junction: Lung Mun Road / Tuen Tsing Lane — Job Number: J7406

Scenario: Existing Condition — P. 4

Design Year: 2025 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road NB | SA | A1 | 2 | 3.20 | | | | 2075 | 468 | 0.226 | | | 2075 | 519 | 0.250 | 0.250 |
| | SA | A2 | 2 | 3.10 | | | | 2065 | 466 | 0.226 | | | 2065 | 516 | 0.250 | |
| | RT | A3 | 1 | 3.30 | 20.0 | | 100 | 1940 | 103 | 0.053 | 0.053 | 100 | 1940 | 58 | 0.030 | 0.030 |
| | | | | | | | | | | | | | | | | |
| Access Road to | LT+SA+RT | B1 | 3 | 3.50 | 13.0 | | 78 | 1803 | 11 | 0.006 | 0.006 | 92 | 1776 | 41 | 0.023 | 0.023 |
| Sports Centre EB | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Lung Mun Road SB | SA+LT | C1 | 2 | 4.70 | 14.0 | | 22 | 2037 | 552 | 0.271 | 0.271 | 30 | 2020 | 476 | 0.236 | |
| | SA | C2 | 2 | 3.70 | | | | 2125 | 575 | 0.271 | | | 2125 | 500 | 0.235 | |
| | RT | C3 | 1 | 3.10 | 12.0 | | 100 | 1836 | 6 | 0.003 | | 100 | 1836 | 24 | 0.013 | |
| | | | | | | | | | | | | | | | | |
| Tuen Tsing Lane WB | LT+SA+RT | D1 | 4 | 3.40 | 13.0 | | 99 | 1755 | 120 | 0.068 | | 99 | 1755 | 80 | 0.046 | |
| | RT | D2 | 4 | 3.40 | 22.0 | | 100 | 1961 | 134 | 0.068 | 0.068 | 100 | 1961 | 89 | 0.045 | 0.045 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
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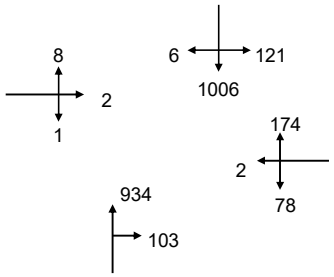
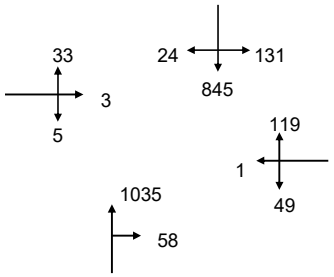
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| pedestrian phase | | Ip | 1 | | min crossing time = | | 7 | sec GM + | 7 | sec FGM = | | 14 | sec | | | |
| | | Jp | 3,4 | | min crossing time = | | 10 | sec GM + | 10 | sec FGM = | | 20 | sec | | | |
| | | Kp | 4 | | min crossing time = | | 5 | sec GM + | 6 | sec FGM = | | 11 | sec | | | |
| | | Lp | 1,2,3 | | min crossing time = | | 5 | sec GM + | 6 | sec FGM = | | 11 | sec | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)

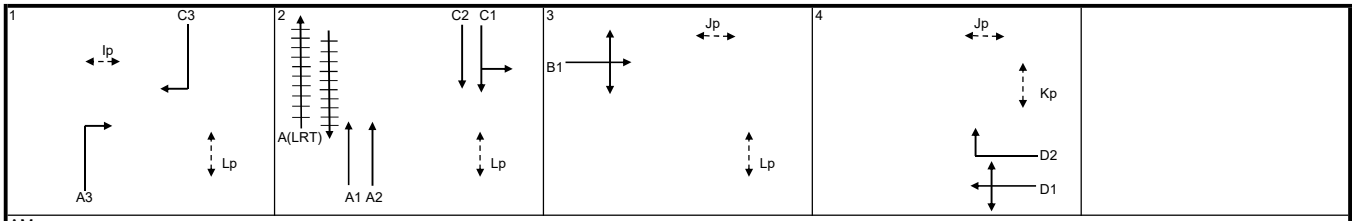



$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1+2+3+4 | | 1+2+3+4 | |
| Sum y | 0.399 | | 0.348 | |
| L (s) | 1012 | | 1161 | |
| C (s) | 3600 | | 3600 | |
| practical y | 0.647 | | 0.610 | |
| R.C. (%) | 62% | | 75% | |

Note:




| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM | | | | | | | | | | | | | | | | | | | |
| | G = | | I/G = | 7 | G = | | I/G = | 14 | G = | | I/G = | 13 | G = | | I/G = | 14 | G = | | I/G = |
| | G = | | I/G = | | G = | | I/G = | | G = | | I/G = | | G = | | I/G = | | G = | | I/G = |
| PM | | | | | | | | | | | | | | | | | | | |
| | G = | | I/G = | 5 | G = | | I/G = | 15 | G = | | I/G = | 13 | G = | | I/G = | 14 | G = | | I/G = |
| | G = | | I/G = | | G = | | I/G = | | G = | | I/G = | | G = | | I/G = | | G = | | I/G = |

# Signal Junction Analysis

Junction: Lung Mun Road / Tuen Tsing Lane — Job Number: J7406

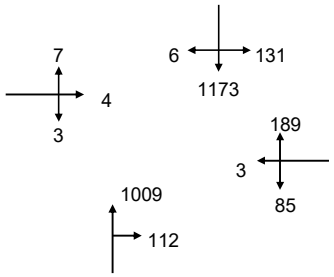
Scenario: Future Condition (Without Proposed Development) — P. 5

Design Year: 2031 — Designed By: — Checked By: — Date: 15 Jul 2025

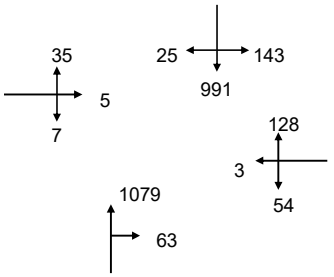
| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road NB | SA | A1 | 2 | 3.20 | | | | 2075 | 506 | 0.244 | | | 2075 | 541 | 0.261 | 0.261 |
| | SA | A2 | 2 | 3.10 | | | | 2065 | 503 | 0.244 | | | 2065 | 538 | 0.261 | |
| | RT | A3 | 1 | 3.30 | 20.0 | | 100 | 1940 | 112 | 0.058 | 0.058 | 100 | 1940 | 63 | 0.032 | 0.032 |
| Access Road to Sports Centre EB | LT+SA+RT | B1 | 3 | 3.50 | 13.0 | | 83 | 1793 | 14 | 0.008 | 0.008 | 93 | 1775 | 47 | 0.026 | 0.026 |
| Lung Mun Road SB | SA+LT | C1 | 2 | 4.70 | 14.0 | | 21 | 2039 | 639 | 0.313 | 0.313 | 27 | 2026 | 553 | 0.273 | |
| | SA | C2 | 2 | 3.70 | | | | 2125 | 665 | 0.313 | | | 2125 | 581 | 0.273 | |
| | RT | C3 | 1 | 3.10 | 12.0 | | 100 | 1836 | 6 | 0.003 | | 100 | 1836 | 25 | 0.014 | |
| Tuen Tsing Lane WB | LT+SA+RT | D1 | 4 | 3.40 | 13.0 | | 98 | 1756 | 131 | 0.075 | | 98 | 1756 | 87 | 0.050 | |
| | RT | D2 | 4 | 3.40 | 22.0 | | 100 | 1961 | 146 | 0.074 | 0.074 | 100 | 1961 | 98 | 0.050 | 0.050 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| pedestrian phase | Ip | 1 | | min crossing time = | 7 | sec GM + | 7 | sec FGM = | 14 | sec |
| | Jp | 3,4 | | min crossing time = | 10 | sec GM + | 10 | sec FGM = | 20 | sec |
| | Kp | 4 | | min crossing time = | 5 | sec GM + | 6 | sec FGM = | 11 | sec |
| | Lp | 1,2,3 | | min crossing time = | 5 | sec GM + | 6 | sec FGM = | 11 | sec |

AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)

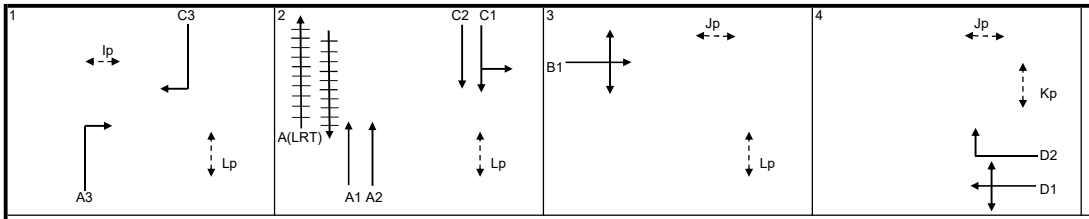



$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1+2+3+4 | | 1+2+3+4 | |
| Sum y | 0.453 | | 0.370 | |
| L (s) | 1012 | | 1161 | |
| C (s) | 3600 | | 3600 | |
| practical y | 0.647 | | 0.610 | |
| R.C. (%) | 43% | | 65% | |

Note:




| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM | | | | | | | | | | | | | | | |
| G = | I/G = | 7 | G = | I/G = | 14 | G = | I/G = | 13 | G = | I/G = | 14 | G = | I/G = | | |
| G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | |
| PM | | | | | | | | | | | | | | | |
| G = | I/G = | 5 | G = | I/G = | 15 | G = | I/G = | 13 | G = | I/G = | 14 | G = | I/G = | | |
| G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | |

# Signal Junction Analysis

Junction: Lung Mun Road / Tuen Tsing Lane — Job Number: J7406

Scenario: Future Condition (With Proposed Development) — P. 6

Design Year: 2036 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road NB | SA | A1 | 2 | 3.20 | | | | 2075 | 506 | 0.244 | | | 2075 | 541 | 0.261 | 0.261 |
| | SA | A2 | 2 | 3.10 | | | | 2065 | 503 | 0.244 | | | 2065 | 538 | 0.261 | |
| | RT | A3 | 1 | 3.30 | 20.0 | | 100 | 1940 | 112 | 0.058 | 0.058 | 100 | 1940 | 63 | 0.032 | 0.032 |
| | | | | | | | | | | | | | | | | |
| Access Road to | LT+SA+RT | B1 | 3 | 3.50 | 13.0 | | 85 | 1789 | 15 | 0.008 | 0.008 | 93 | 1775 | 48 | 0.027 | 0.027 |
| Sports Centre EB | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Lung Mun Road SB | SA+LT | C1 | 2 | 4.70 | 14.0 | | 21 | 2039 | 639 | 0.313 | 0.313 | 27 | 2026 | 553 | 0.273 | |
| | SA | C2 | 2 | 3.70 | | | | 2125 | 665 | 0.313 | | | 2125 | 581 | 0.273 | |
| | RT | C3 | 1 | 3.10 | 12.0 | | 100 | 1836 | 7 | 0.004 | | 100 | 1836 | 26 | 0.014 | |
| | | | | | | | | | | | | | | | | |
| Tuen Tsing Lane WB | LT+SA+RT | D1 | 4 | 3.40 | 13.0 | | 98 | 1756 | 131 | 0.075 | | 98 | 1756 | 87 | 0.050 | |
| | RT | D2 | 4 | 3.40 | 22.0 | | 100 | 1961 | 146 | 0.074 | 0.074 | 100 | 1961 | 98 | 0.050 | 0.050 |
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|---|---|---|---|---|---|---|---|---|---|---|---|
| pedestrian phase | Ip | 1 | | min crossing time = | 7 | sec GM + | 7 | sec FGM = | 14 | sec | |
| | Jp | 3,4 | | min crossing time = | 10 | sec GM + | 10 | sec FGM = | 20 | sec | |
| | Kp | 4 | | min crossing time = | 5 | sec GM + | 6 | sec FGM = | 11 | sec | |
| | Lp | 1,2,3 | | min crossing time = | 5 | sec GM + | 6 | sec FGM = | 11 | sec | |
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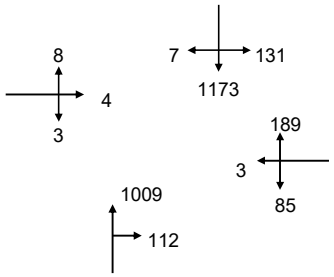
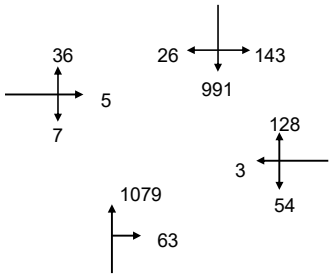
AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)

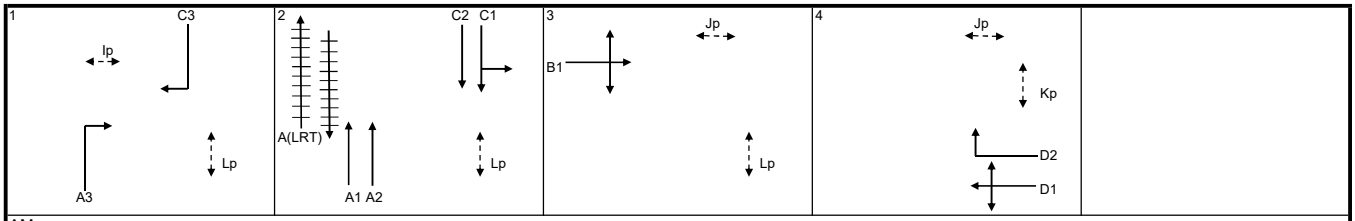



$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1+2+3+4 | | 1+2+3+4 | |
| Sum y | 0.454 | | 0.370 | |
| L (s) | 1012 | | 1161 | |
| C (s) | 3600 | | 3600 | |
| practical y | 0.647 | | 0.610 | |
| R.C. (%) | 43% | | 65% | |

Note:




AM

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G = | I/G = | 7 | G = | I/G = | 14 | G = | I/G = | 13 | G = | I/G = | 14 | G = | I/G = | | |
| G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | |

PM

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G = | I/G = | 5 | G = | I/G = | 15 | G = | I/G = | 13 | G = | I/G = | 14 | G = | I/G = | | |
| G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | |

# Signal Junction Analysis

Junction: Lung Mun Road / Wu Shan Road — Job Number: J7406

Scenario: Existing Condition — P. 7

Design Year: 2025 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road SB | LT* | A1 | 1,2,3 | 3.20 | | | | | 173 | | | | | 210 | | |
| | SA | A2 | 1 | 3.70 | | | | 2125 | 456 | 0.215 | 0.215 | | 2125 | 345 | 0.162 | 0.162 |
| | SA | A3 | 1 | 3.70 | | | | 2125 | 456 | 0.215 | | | 2125 | 344 | 0.162 | |
| | | | | | | | | | | | | | | | | |
| Wu Shan Road WB | LT | B1 | 3 | 3.20 | 10.0 | | 100 | 1683 | 250 | 0.149 | 0.149 | 100 | 1683 | 101 | 0.060 | 0.060 |
| | LT+RT | B2 | 3 | 3.20 | 12.0 | | 100 | 1844 | 274 | 0.149 | | 100 | 1844 | 111 | 0.060 | |
| | RT | B3 | 3 | 3.20 | 15.0 | | 100 | 1886 | 279 | 0.148 | | 100 | 1886 | 113 | 0.060 | |
| | | | | | | | | | | | | | | | | |
| Lung Mun Road NB | SA | C1 | 1,2 | 3.60 | | | | 2115 | 294 | 0.139 | | | 2115 | 462 | 0.218 | |
| | SA | C2 | 1,2 | 3.60 | | | | 2115 | 294 | 0.139 | | | 2115 | 461 | 0.218 | |
| | RT | C3 | 2 | 3.60 | 25.0 | | 100 | 1995 | 138 | 0.069 | 0.069 | 100 | 1995 | 296 | 0.148 | 0.148 |
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| pedestrian phase | | | | | | | | | | | | | | | | |
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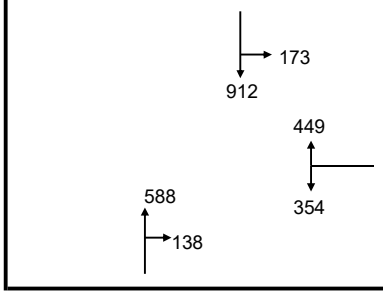
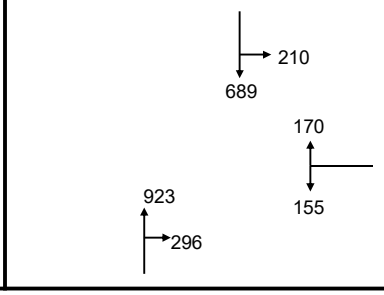
AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)



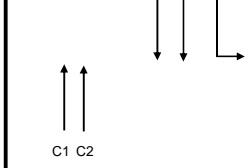

**$S=1940+100(W-3.25)$** **$S=2080+100(W-3.25)$**

**$S_M=S\div(1+1.5f/r)$** **$S_M=(S-230)\div(1+1.5f/r)$**

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1+2+3 | 1,2 + 3 | 1+2+3 | 1,2 + 3 |
| Sum y | 0.432 | 0.288 | 0.371 | 0.278 |
| L (s) | 14 | 10 | 14 | 10 |
| C (s) | 120 | 120 | 108 | 108 |
| practical y | 0.795 | 0.825 | 0.783 | 0.817 |
| R.C. (%) | 84% | 187% | 111% | 193% |

Note:

1

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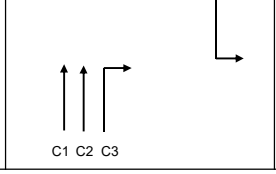


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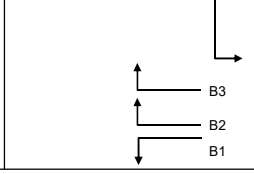


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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM | | | | | | | | | | | | | |
| G = | I/G = | 5 | G = | I/G = | 7 | G = | I/G = | 5 | G = | I/G = | G = | I/G = | |
| G = | I/G = | | G = | I/G = | 7 | G = | I/G = | 5 | G = | I/G = | G = | I/G = | |
| PM | | | | | | | | | | | | | |
| G = | I/G = | 5 | G = | I/G = | 7 | G = | I/G = | 5 | G = | I/G = | G = | I/G = | |
| G = | I/G = | | G = | I/G = | 7 | G = | I/G = | 5 | G = | I/G = | G = | I/G = | |

# Signal Junction Analysis

Junction: Lung Mun Road / Wu Shan Road — Job Number: J7406

Scenario: Future Condition (Without Proposed Development) — P. 8

Design Year: 2031 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road SB | LT* | A1 | 1,2,3 | 3.20 | | | | | 279 | | | | | 308 | | |
| | SA | A2 | 1 | 3.70 | | | | 2125 | 491 | 0.231 | 0.231 | | 2125 | 372 | 0.175 | 0.175 |
| | SA | A3 | 1 | 3.70 | | | | 2125 | 491 | 0.231 | | | 2125 | 372 | 0.175 | |
| | | | | | | | | | | | | | | | | |
| Wu Shan Road WB | LT | B1 | 3 | 3.20 | 10.0 | | 100 | 1683 | 271 | 0.161 | 0.161 | 100 | 1683 | 110 | 0.065 | 0.065 |
| | LT+RT | B2 | 3 | 3.20 | 12.0 | | 100 | 1844 | 297 | 0.161 | | 100 | 1844 | 120 | 0.065 | |
| | RT | B3 | 3 | 3.20 | 15.0 | | 100 | 1886 | 304 | 0.161 | | 100 | 1886 | 123 | 0.065 | |
| | | | | | | | | | | | | | | | | |
| Lung Mun Road NB | SA | C1 | 1,2 | 3.60 | | | | 2115 | 317 | 0.150 | | | 2115 | 478 | 0.226 | |
| | SA | C2 | 1,2 | 3.60 | | | | 2115 | 317 | 0.150 | | | 2115 | 478 | 0.226 | |
| | RT | C3 | 2 | 3.60 | 25.0 | | 100 | 1995 | 154 | 0.077 | 0.077 | 100 | 1995 | 331 | 0.166 | 0.166 |
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| pedestrian phase | | | | | | | | | | | | | | | | |
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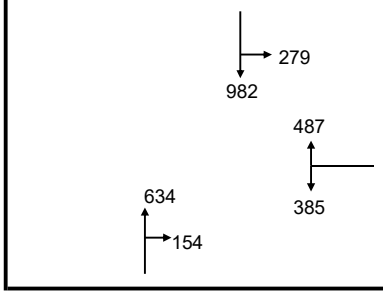
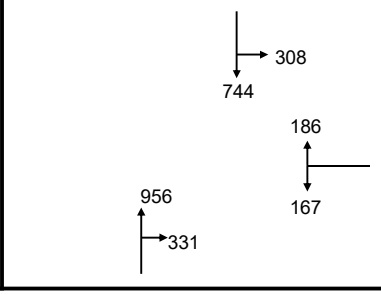
AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)



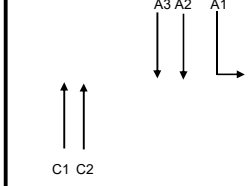

$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1+2+3 | 1,2 + 3 | 1+2+3 | 1,2 + 3 |
| Sum y | 0.469 | 0.311 | 0.406 | 0.291 |
| L (s) | 14 | 10 | 14 | 10 |
| C (s) | 120 | 120 | 108 | 108 |
| practical y | 0.795 | 0.825 | 0.783 | 0.817 |
| R.C. (%) | 69% | 165% | 93% | 180% |

Note:

1

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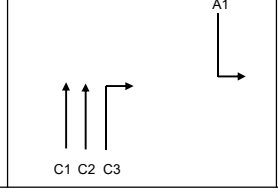


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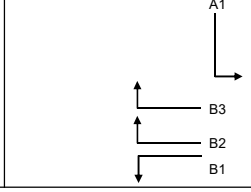


AM

G = I/G = 5 G = I/G = 7 G = I/G = 5 G = I/G = G = I/G =

G = I/G = G = I/G = 7 G = I/G = 5 G = I/G = G = I/G =

PM

G = I/G = 5 G = I/G = 7 G = I/G = 5 G = I/G = G = I/G =

G = I/G = G = I/G = 7 G = I/G = 5 G = I/G = G = I/G =

# Signal Junction Analysis

Junction: Lung Mun Road / Wu Shan Road — Job Number: J7406

Scenario: Future Condition (With Proposed Development) — P. 9

Design Year: 2036 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road SB | LT* | A1 | 1,2,3 | 3.20 | | | | | 279 | | | | | 308 | | |
| | SA | A2 | 1 | 3.70 | | | | 2125 | 491 | 0.231 | 0.231 | | 2125 | 372 | 0.175 | 0.175 |
| | SA | A3 | 1 | 3.70 | | | | 2125 | 491 | 0.231 | | | 2125 | 372 | 0.175 | |
| | | | | | | | | | | | | | | | | |
| Wu Shan Road WB | LT | B1 | 3 | 3.20 | 10.0 | | 100 | 1683 | 271 | 0.161 | 0.161 | 100 | 1683 | 110 | 0.065 | 0.065 |
| | LT+RT | B2 | 3 | 3.20 | 12.0 | | 100 | 1844 | 297 | 0.161 | | 100 | 1844 | 120 | 0.065 | |
| | RT | B3 | 3 | 3.20 | 15.0 | | 100 | 1886 | 304 | 0.161 | | 100 | 1886 | 123 | 0.065 | |
| | | | | | | | | | | | | | | | | |
| Lung Mun Road NB | SA | C1 | 1,2 | 3.60 | | | | 2115 | 317 | 0.150 | | | 2115 | 478 | 0.226 | |
| | SA | C2 | 1,2 | 3.60 | | | | 2115 | 317 | 0.150 | | | 2115 | 478 | 0.226 | |
| | RT | C3 | 2 | 3.60 | 25.0 | | 100 | 1995 | 154 | 0.077 | 0.077 | 100 | 1995 | 331 | 0.166 | 0.166 |
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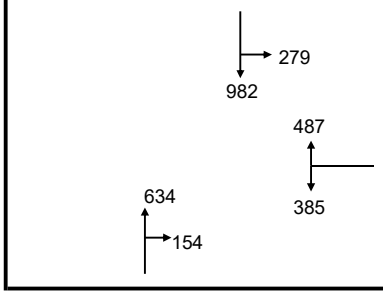
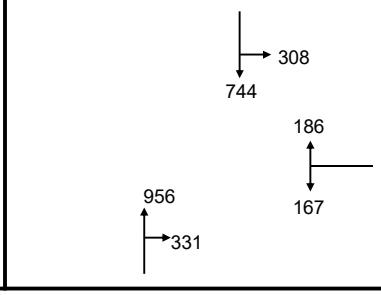
AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)



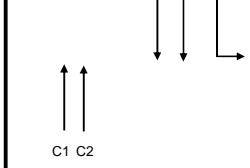

$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1+2+3 | 1,2 + 3 | 1+2+3 | 1,2 + 3 |
| Sum y | 0.469 | 0.311 | 0.406 | 0.291 |
| L (s) | 14 | 10 | 14 | 10 |
| C (s) | 120 | 120 | 108 | 108 |
| practical y | 0.795 | 0.825 | 0.783 | 0.817 |
| R.C. (%) | 69% | 165% | 93% | 180% |

Note:

1

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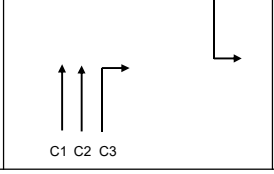


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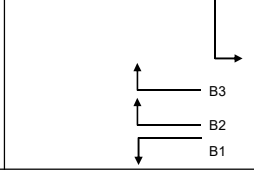


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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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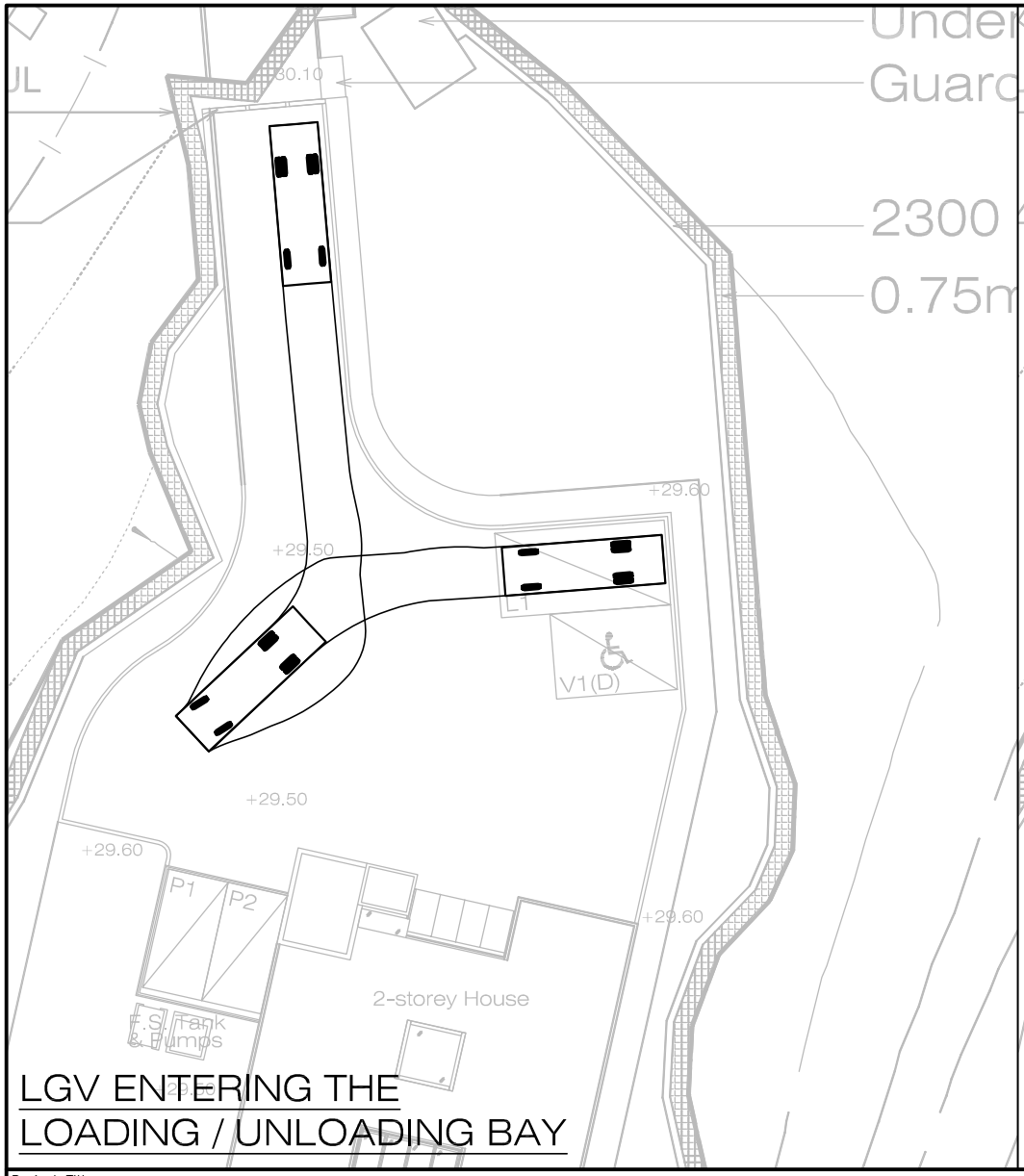
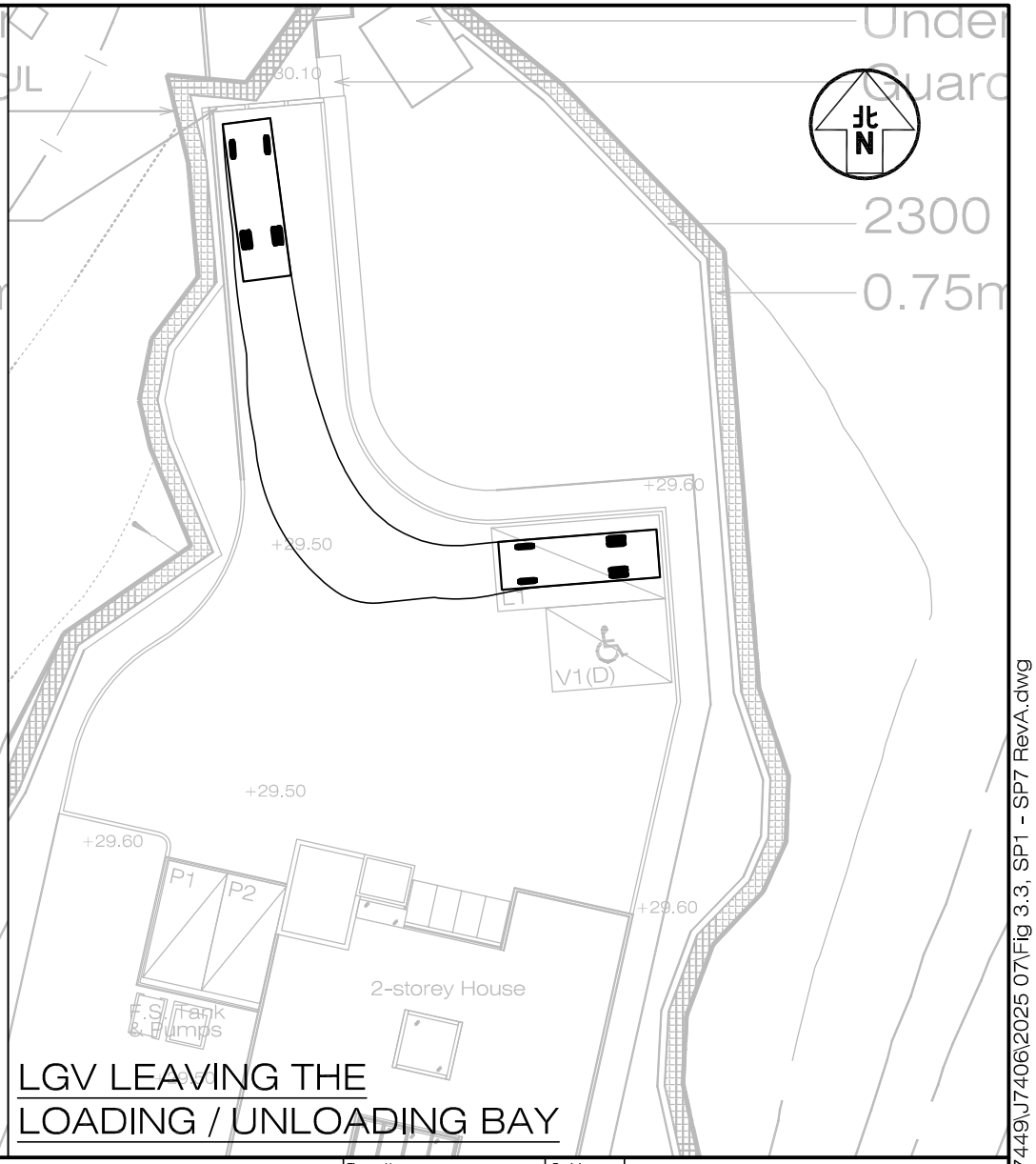
| | G = | I/G = | 5 | G = | I/G = | 7 | G = | I/G = | 5 | G = | I/G = | | G = | I/G = | | | | | |
| | G = | I/G = | | G = | I/G = | 7 | G = | I/G = | 5 | G = | I/G = | | G = | I/G = | | | | | |
| PM | | | | | | | | | | | | | | | | | | | |
| | G = | I/G = | 5 | G = | I/G = | 7 | G = | I/G = | 5 | G = | I/G = | | G = | I/G = | | | | | |
| | G = | I/G = | | G = | I/G = | 7 | G = | I/G = | 5 | G = | I/G = | | G = | I/G = | | | | | |

# Appendix 2 –
# Swept Path Analysis




LGV ENTERING THE LOADING / UNLOADING BAY




LGV LEAVING THE LOADING / UNLOADING BAY

| | | | |
|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. SP1 | Revision A | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: SWEPT PATH OF LGV ENTERING AND LEAVING THE LOADING / UNLOADING BAY L1 | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4: 1 : 300 | Date: 31 JUL 2025 | |

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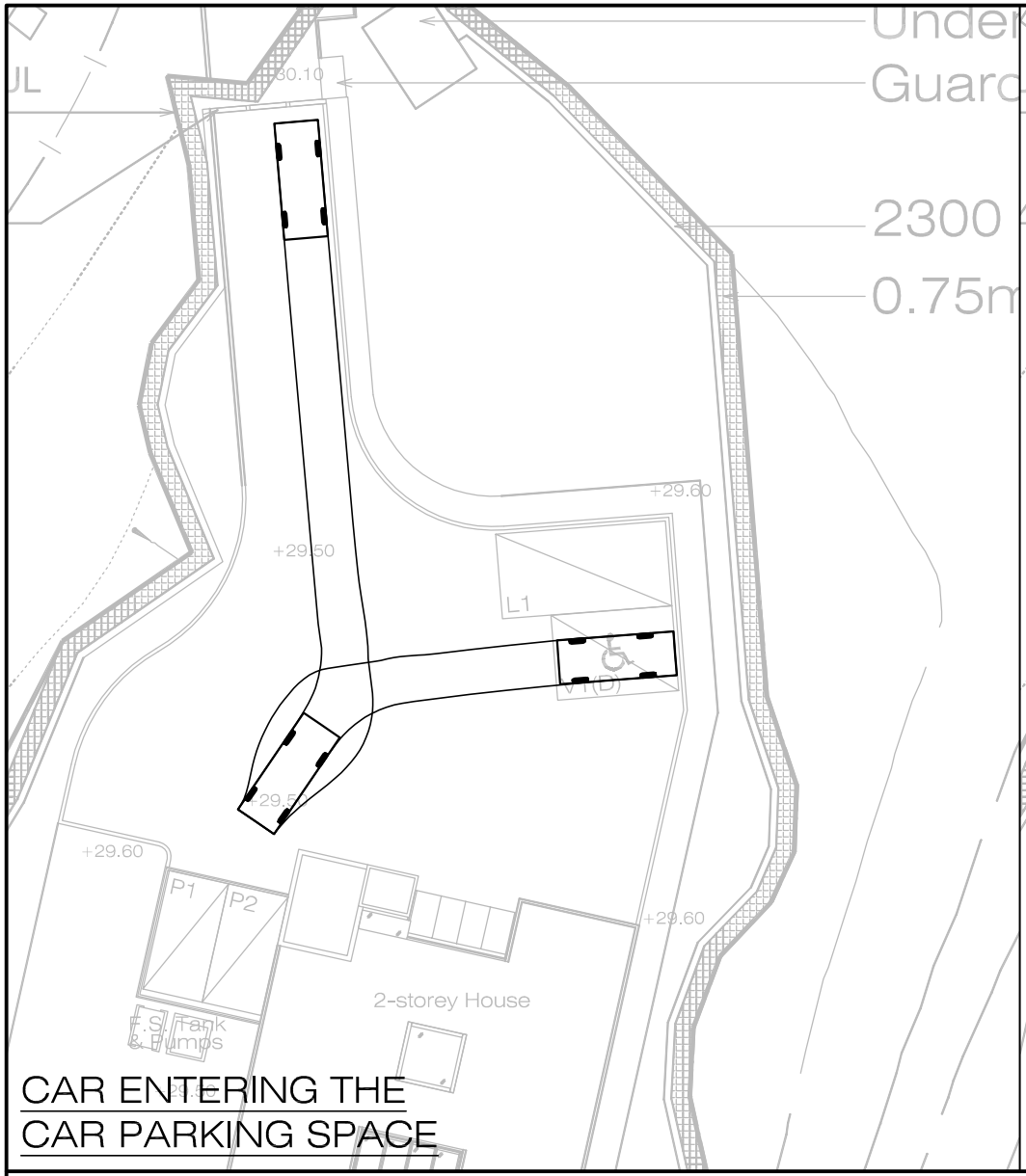
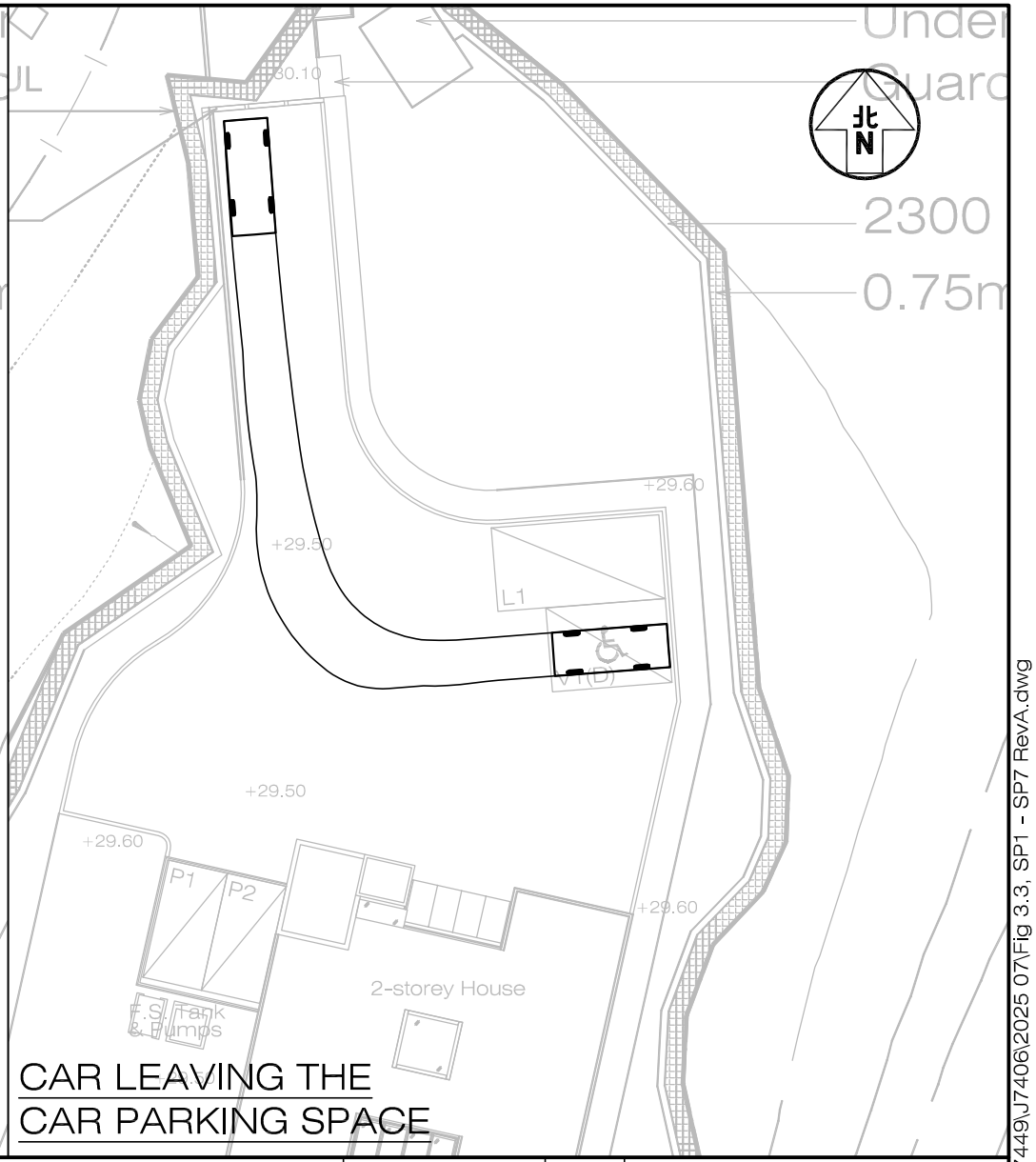



CAR ENTERING THE CAR PARKING SPACE




CAR LEAVING THE CAR PARKING SPACE

| | | | |
|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No.: SP2 | Revision: A | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE V1(D) | Designed by: C Y Y / Drawn by: N C M / Checked by: K C | | |
| | Scale in A4: 1 : 300 | Date: 31 JUL 2025 | |

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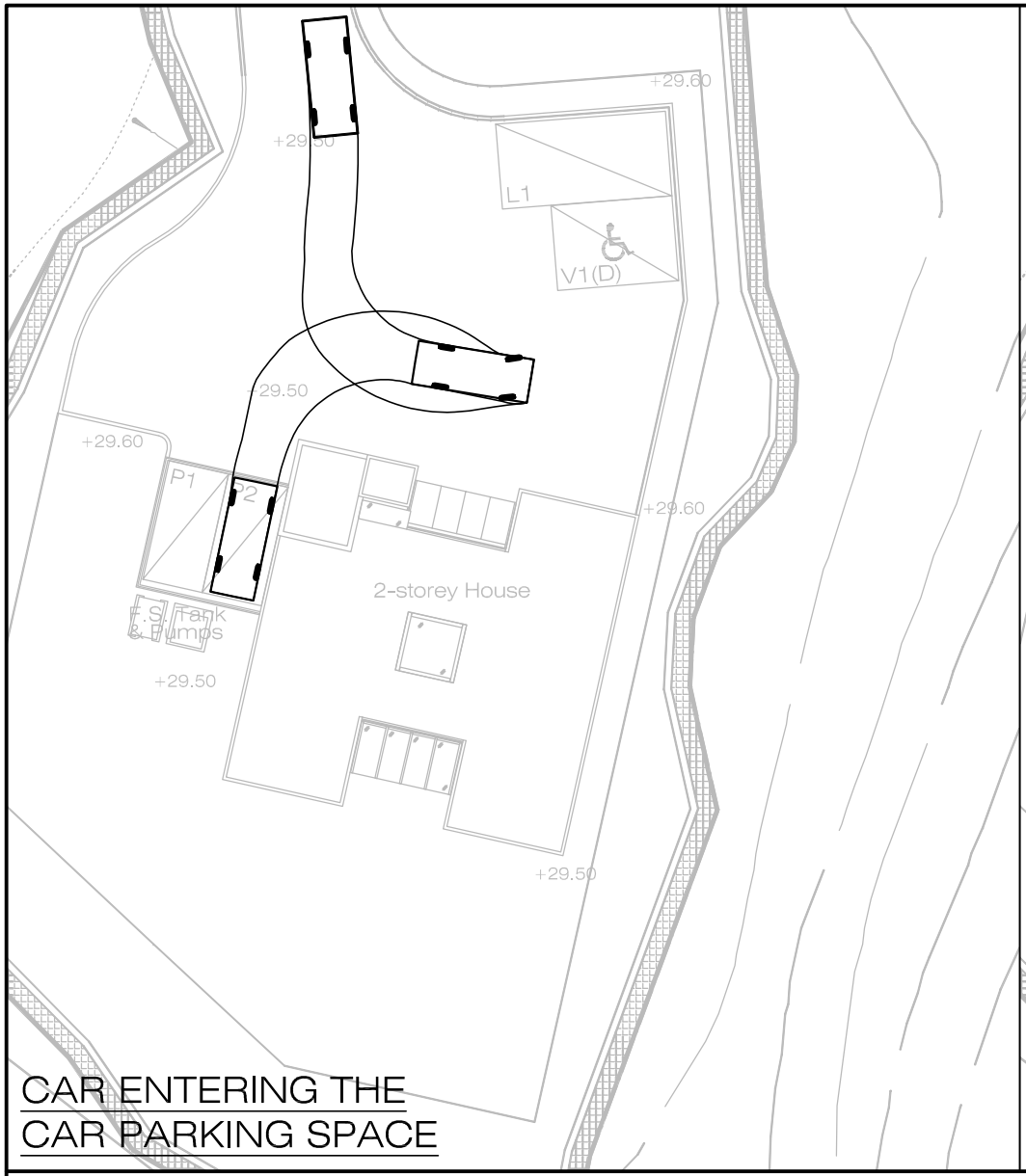
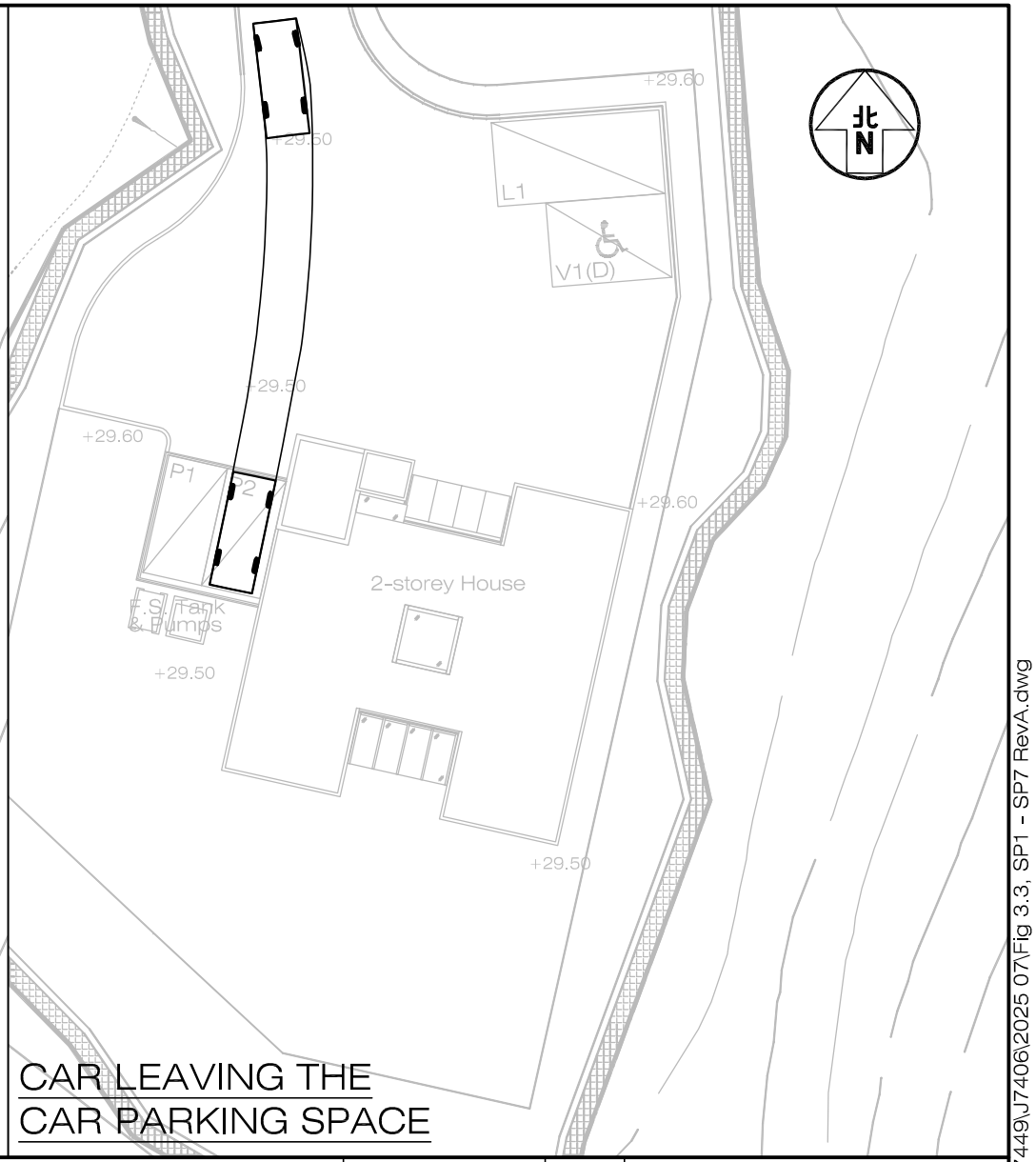



CAR ENTERING THE CAR PARKING SPACE




CAR LEAVING THE CAR PARKING SPACE

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| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. SP3 | Revision A | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE P2 | Designed by C Y Y / Drawn by N C M / Checked by K C | | [redacted] |
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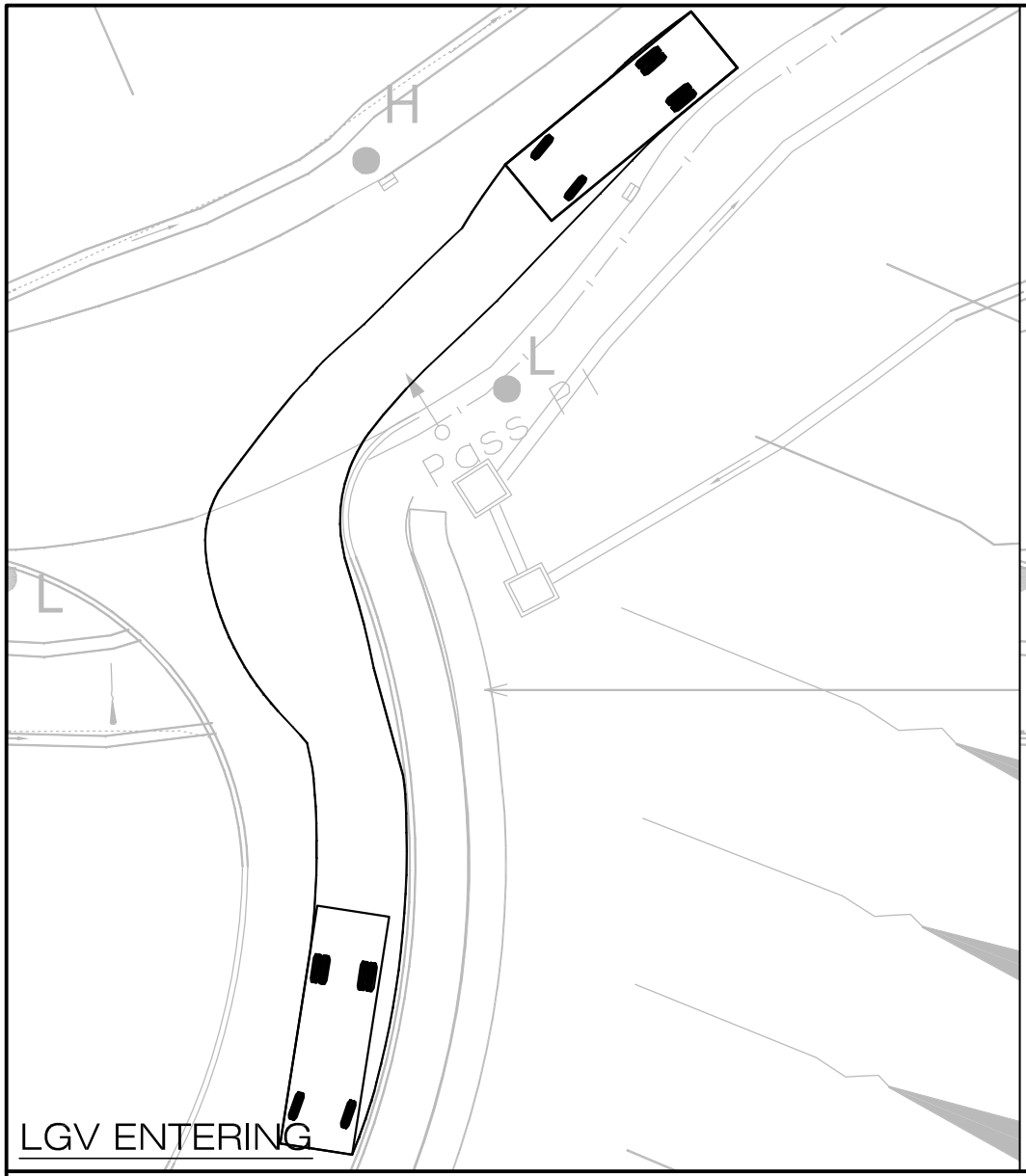
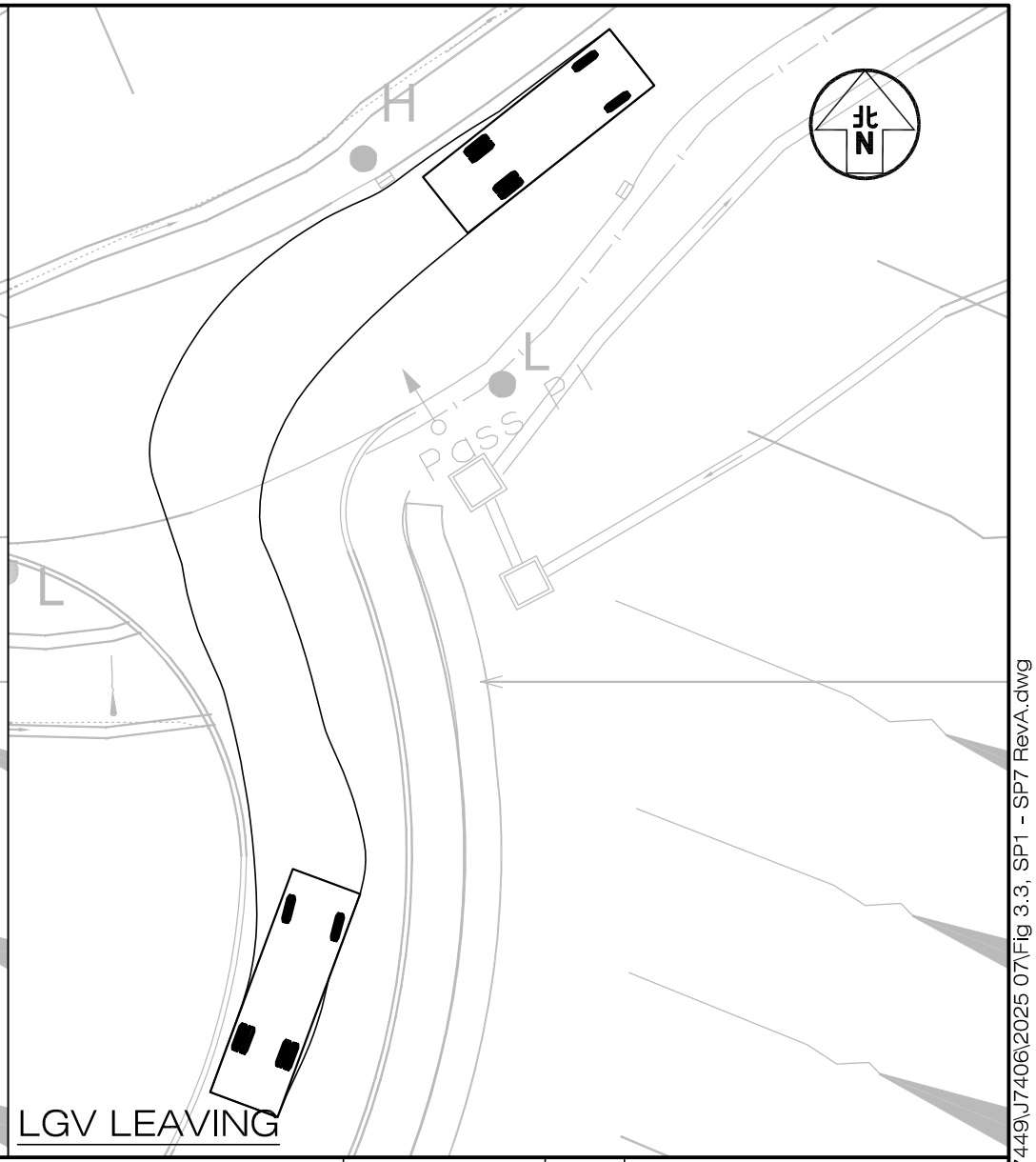



LGV ENTERING




LGV LEAVING

| | | | | |
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| Figure Title: SWEPT PATH OF LGV ENTERING AND LEAVING THE PROPOSED ACCESS ROAD | Designed by C Y Y | Drawn by N C M | Checked by K C | |
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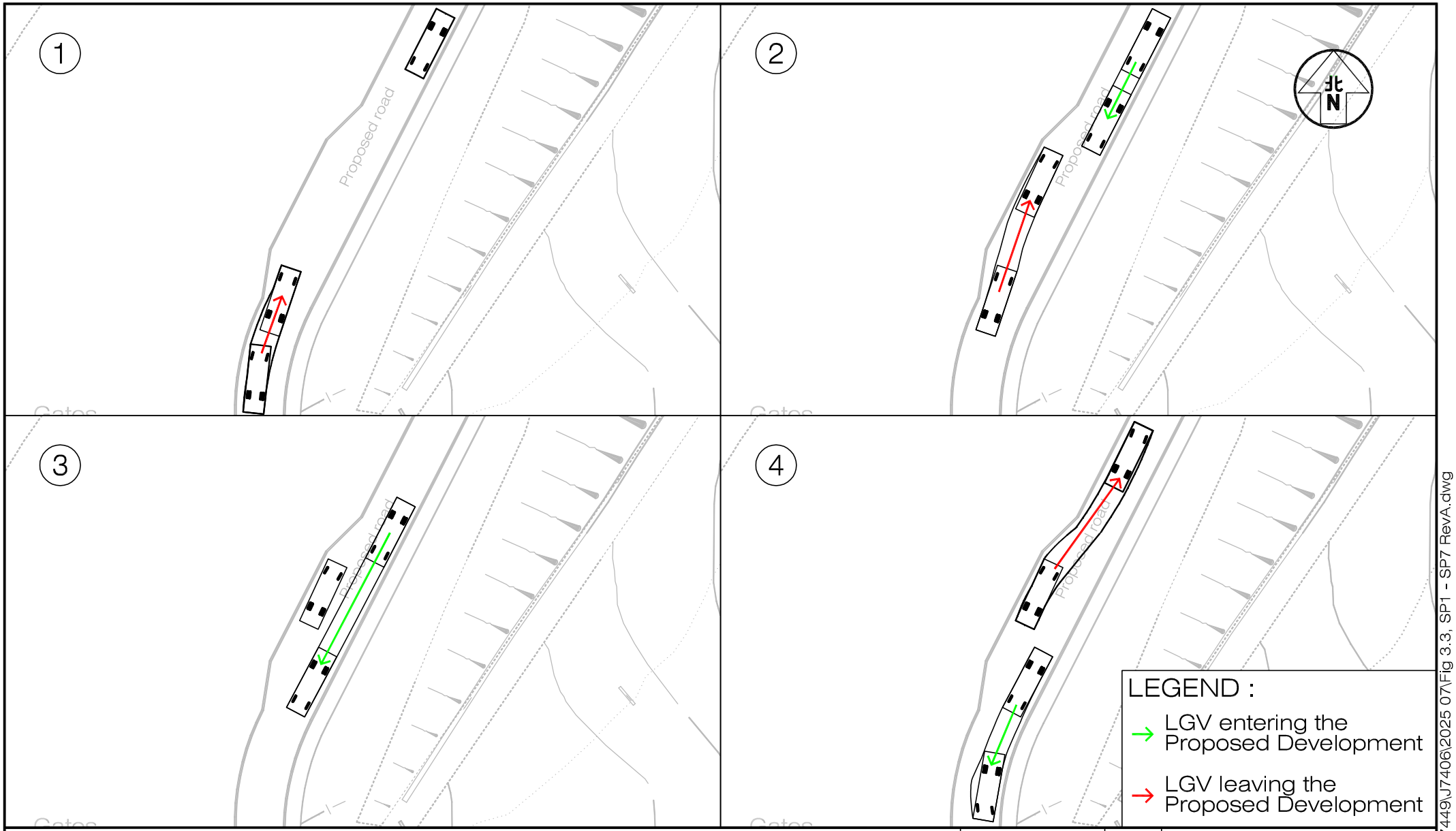


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| Figure Title: SWEPT PATH OF 2-WAY TRAFFIC OPERATION AT THE PROPOSED ACCESS ROAD | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4 1 : 500 | Date 31 JUL 2025 | |

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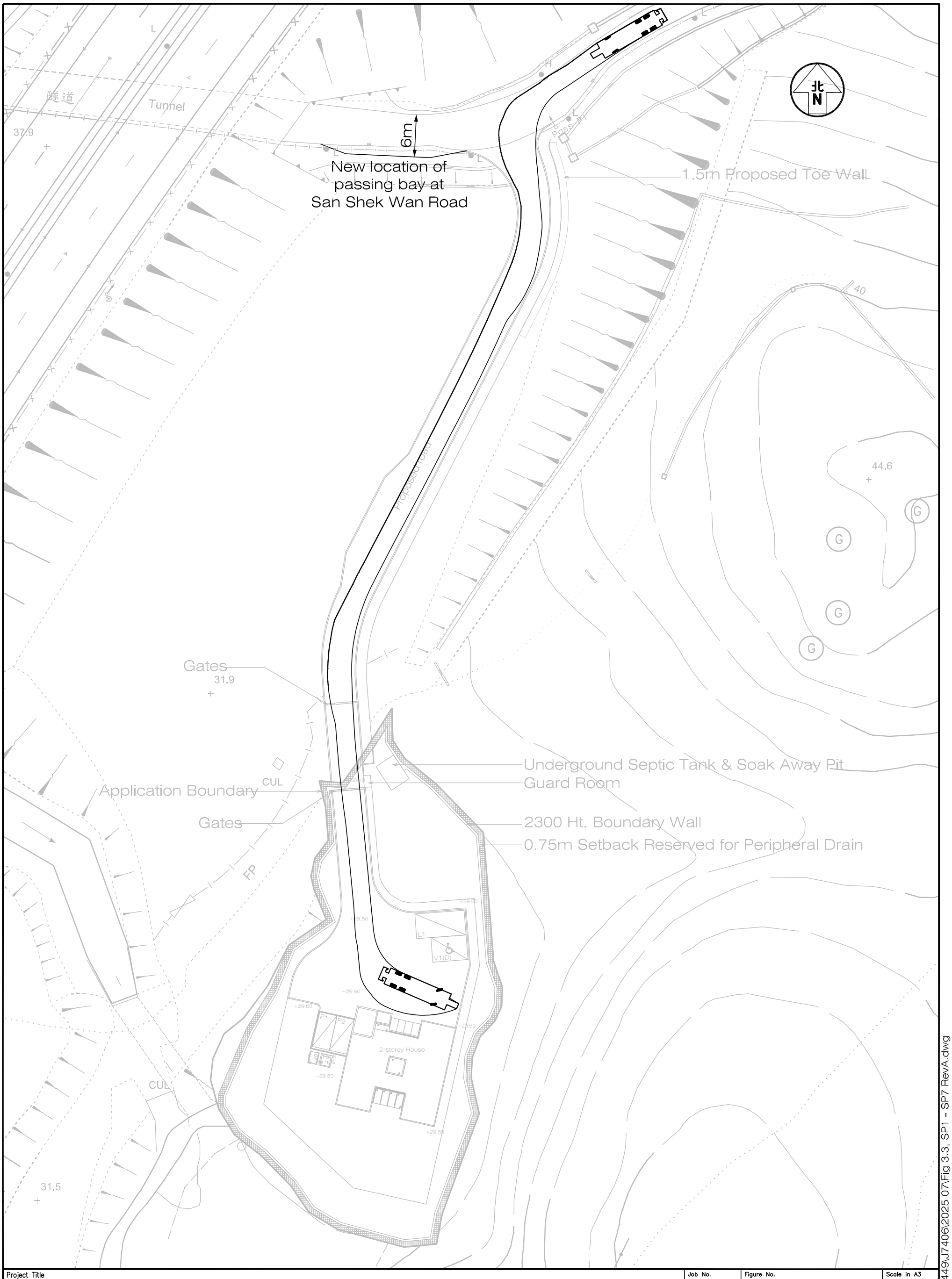


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| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. | Job No. J7406 | Figure No. SP6 | | | Scale in A3 1 : 500 |
| | Designed by C Y Y | Drawn by N C M | Checked by K C | Revision A | Date 31 JUL 2025 |
| Figure Title: SWEPT PATH OF FIRE APPLIANCE ENTERING THE SUBJECT SITE | CKM Asia Limited<br>Traffic and Transportation Planning Consultants | | | | |

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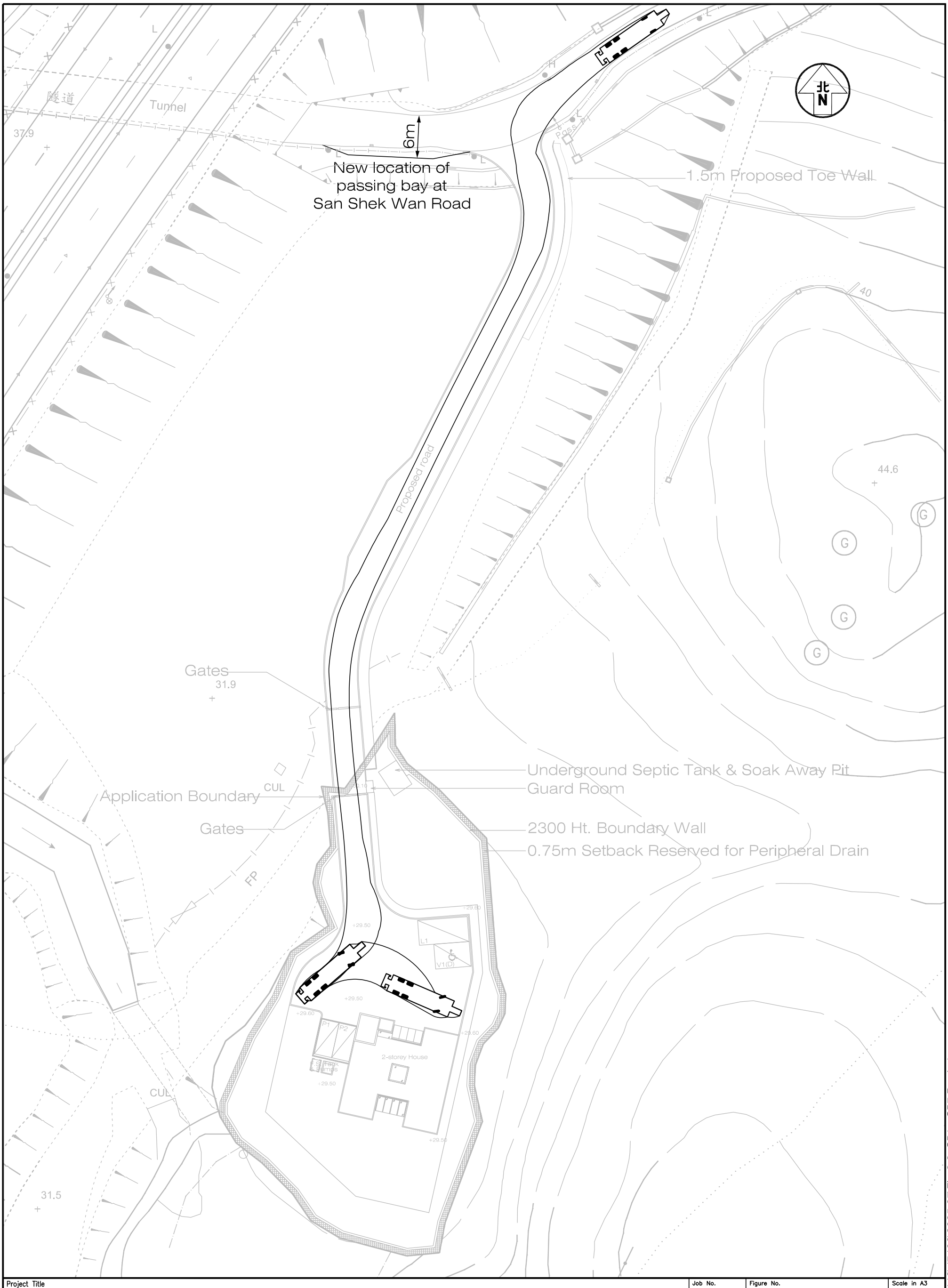


Project Title

PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T.

Figure Title

SWEPT PATH OF FIRE APPLIANCE LEAVING THE SUBJECT SITE

| Job No. | Figure No. | | | Scale in A3 |
|---|---|---|---|---|
| J7406 | SP7 | | | 1 : 500 |
| Designed by | Drawn by | Checked by | Revision | Date |
| C Y Y | N C M | K C | A | 31 JUL 2025 |

CKM Asia Limited
Traffic and Transportation Planning Consultants

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# Appendix 4

Geotechnical Planning Review Report

**Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.**
**Section 16 Planning Application**

# GEOTECHNICAL PLANNING REVIEW REPORT

Fugro reference: 090691.04

| Rev | Date | Purpose of Issue | Prepared | Checked |
|---|---|---|---|---|
| --- | Jul-25 | Original Issue | MYL | TW |
| A | | | | |
| B | | | | |
| C | | | | |

In the event of there being any questions or comments on the contents of this report, please contact Mr. Timothy Wong, telephone 2577 9023.

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| 1.5 | Town Planner | 2 |
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## PLATES

1 General View of the Site
(Looking South)

2 General View of the Natural Terrain
(To the North and East of the Site)

3 General View of the Existing Feature No. 5SE-D/C76
(To the North of the Site)

4 General View of the Unregistered Slope
(Within the Green Hatched Black Area along North-western Site Boundary)

## FIGURES

1 Location Plan
2 Aerial Photo of the Site and Proposed Access Road
3 Existing Conditions of the Site & Its Vicinity
4 Indicative Alignment of the Proposed Access Road
5 Indicative Master Layout Plan
6 Proposed Site Formation Plan
7 Site Plan
8 Geological Map
9 Site Plan (Showing Features)
10 ENTLI Map / HLC Inventory Map
11 Boulder Field Inventory Map
12 Physical Constraints Map
13 Land Use Map
14 Catchment Classification Map

## APPENDICES

A Sections of the Study Area and the Site

B SIMAR Slope Report, Feature Registration Form, Stage 1 Study Report and SIRST Report for Feature No. 5SE-D/C76

C Existing Ground Investigation Records

D Boulder Field Inventory Data

E Extent of Historical Landslide Catchments

F Stability Assessment of Existing Feature No. 5SE-D/C76

# 1. INTRODUCTION

## 1.1 The Project

The application site is located near San Shek Wan Road to the south of Tuen Mun Golf Centre, Tuen Mun, N.T. as shown on the Location Plan of **Figure 1**. The site is approximately in trapezoidal shape on plan, which includes Tuen Mun Town Lot No. 550. The site has a total area of approximately 1,852m$^2$, which was shown in the Approved Tuen Mun Outline Zoning Plan No. S/TM/41 gazetted on 13 June 2025.

The proposed development on the site comprises a two-storey house with gardens and guard room. In connection with the development, an access road with 4.5m clear width and 1.6m footpath is also proposed linking San Shek Wan Road to the development as shown on **Figure 2**.

A Geotechnical Planning Review Report was included as part of the Section 16 Planning Application for Proposed Holiday Camp at Lot 33RP in DD300, Area 45 in February 2015. The S16 Application was subsequently approved in May 2015. Following the land exchange of the application site, which was completed in February 2021, the concerned development site was renamed as TMTL 550. With the proposed change in the land use, a Section 16 Application for house development at TMTL 550 is proposed herein.

## 1.2 The Report

In view of the existing site conditions that the site of proposed development is located adjacent to a natural terrain, this Geotechnical Planning Review Report (GPRR) is prepared to assess whether a Natural Terrain Hazard Study is required based on the latest available geotechnical guidelines, aerial photographs and site inspection. In addition, this report also summarises the results of the stability analysis of the existing slope, Feature 5SE-D/C76 and an unregistered slope, which are located within the Green Hatched Black Area that may affect and be affected by the development and associated road access.

### 1.3 Client

King Brave Limited

### 1.4 Architect

Design Consultants Limited

### 1.5 Town Planner

Lawson David & Sung Surveyors Ltd.

### 1.6 Geotechnical Engineer

Fugro (Hong Kong) Limited

## 2. SITE CONDITIONS

### 2.1 The Site

The site is located near San Shek Wan Road bounded by a natural hillside terrain to the north and the east, a private land Lot no. 34 in DD300 to the south and a government land to the west. Tuen Mun Public Golf Centre and Tuen Mun Public Riding School are located at the north and the south of the site respectively. An existing horse riding trail is located outside the western site boundary. The existing site condition of the Application Site and surrounding land uses are shown on **Figure 3** with photographs.

The site area is predominantly characterized by rural landscape and environments, which consists of vacant agricultural land and covers with wild vegetation. There is a nullah running southbound outside the south-western site boundary. An abandonded culvert is situated within the site.

### 2.2 The Proposed Development

The proposed development comprises of a 2-storey house with private gardens and a guard room, as well as an access road linking between the Application Site and San Shek Wan Road. The indicative alignment of the proposed access road and the master layout plan of the development are shown on **Figures 4** and **5**.

## 3. DESK STUDY

### 3.1 Topography

The 1:5000 and 1:500 topographical survey maps of the Site and the area of the adjacent natural terrains obtained from the Lands Department are used as the base map for this review. Based on the topography of the adjoining natural terrain, the proposed study area is shown on **Figure 7**.

### 3.2 Geology

Sheet 5 of the Hong Kong Geology Survey 1:20,000 scale map series HGM20 (Ref. 1) (Geological Map is shown on **Figure 8**) indicates that the solid geology of the Site is underlain by Tuen Mun Formation, undivided (Andesite with tuff and tuffie), which is metamorphosed.

### 3.3 Hydrology

Based on the topographical survey map and site observation, a valley/ ephemeral drainage line is located to the north of the site. There are only two minor catchment areas on the natural hilly terrain to the north and east of the site uphill. Thus, the amount of surface run-off discharged into the site is minimal. The catchment areas are shown on the site plan of **Figure 9.**

### 3.4 Man-made Features (Feature No. 5SE-D/C76 & Unregistered Feature)

There are two man-made features affecting/ being affected by the proposed development – Feature No. 5SE-D/C76 abutting the proposed access road alignment (See **Plate 3**), and an unregistered feature partly within the western site boundary/ unallocated government land (See **Plate 4**). The locations of these features are shown on Site Plan of **Figure 9**.

Based on topographical survey plan as shown on **Figure 9**, Feature No. 5SE-D/C76 is an approx.. 7.36m high, maximum 30° soil cut slope covered with moderate vegetation, which is maintained by the Lands Department. Whereas, the unregistered feature (See **Plate 4**) has only a maximum height of 1m with the maximum slope gradient of 14°, which appears to be almost flush with the adjacent ground and is covered with heavy vegetation.

A copy of the SIMAR Slope Report, the Feature Registration Form and Stage 1 Study Report, and the SIRST Report for Feature No. 5SE-D/C76 are presented in **Appendix B**.

### 3.5 Enhanced Natural Terrain Landslide Inventory (ENTLI)

The ENTLI (Ref. 2) is a territory-wide catalogue of features considered to be natural terrain landslides as identified from aerial photographs. No relict / recent landslide was reported within and in the vicinity of the site. The ENTLI is reproduced on **Figure 10**.

### 3.6 Boulder Field Inventory

The site falls mainly within Polygon No. S5_720 of the Boulder Field Inventory (See **Figure 11**). However, the Attribute 1 of the Inventory was obscured by vegetation. Site inspection also revealed that no obvious boulders were identified on the natural terrain located to the east of the site.

### 3.7 Ground Investigation

A plan showing the locations of previous ground investigation works carried out in the vicinity of the site is presented on **Figure 9**. The drillhole logs indicated that the superficial geology is Alluvium overlying decomposed Porphyry and completely decomposed to slightly decomposed Andesite. The drillhole logs are presented in **Appendix C** for reference and shown in the sections in **Appendix A**. The geological information obtained from the drillhole logs is consistent with that inferred in the Geological Map.

### 3.8 Recorded Landslide Incident

No landslide incident within the vicinity of the site could be located at the GEO.

### 3.9 Historical Landslide Catchment (HLC)

No HLC falls within the site's catchment area. The extent of the nearby HLCs is shown in **Appendix E**.

### 3.10 Geotechnical Area Study (GAS)

The Physical Constraints Map (**Figure 12**) in GAS report (Ref. 5) for the West New Territories indicates that the study area is classified as the following zones:-

- The area is classified as the area as "instability on disturbed terrain".

The Geotechnical Land Use Map (**Figure 13**) in the GAS report indicates that Engineering cost for development of the Site is normal.

# 4. GEOTECHNICAL ASSESSMENT

## 4.1 Site Formation Works

The land formation strategy of the proposed development is formulated based on three design considerations, namely, land, drainage and minimization of earthwork. Basically, the land formation should adopt simple earth retaining structures, small-scale slope formation works and provision of drainage system, etc.

The proposed site formation works might include cutting and filling for platform formation, slope and retaining wall construction, slope stabilization and natural terrain hazard mitigation works, if necessary, above the existing ground levels to form the required platform levels (see **Figure 7**).

For the existing slopes and retaining walls affecting/ being affected by the proposed development, stability of the slopes and retaining walls will be assessed to cater for the change of ground profiles and any service loading. Stabilization measures to the slopes and retaining walls will be provided, if necessary.

Feature No. 5SE-D/C76 have been included as Green Hatched Black Areas in the lease plan in February 2021. The stability of the man-made slope shall be assessed and upgraded as required subject to the approval of BD and GEO.

For instance, the building platform within the lot will be formed to +29.5mPD to +30.1mPD in general. This will result in the provision of a 1.5m approx. high retaining wall at the front arm of of the proposed access road from the junction with San Shek Wan Road (see **Figure 4**).

Due to the uneven topography of the site area, minor retaining walls/ fence walls are expected at various locations of the site periphery to address the level difference between the +29.50mPD to +30.1mPD building platform and surrounding grounds (see **Figure 6**). It is anticipated that 1.5m approx.. buffer would be required locally for the construction of the retaining wall in

conjunction with the fence wall and peripherical drains to confine the retaining wall/fence wall alignments constructed within the site boundary.

### 4.2 Natural Terrain Hazards

Based on guideline given in Figure 2.5 of GEO Report No. 138 (Ref. 4), part of the proposed development meets the alert criteria for carrying out a natural terrain hazard study (NTHS). Critical cross-sections of the site to assess if the alert criteria are met as presented in **Appendix A**.

The study area marked as Green speckle blue in the lease plan (~8,500m$^2$) of the NTHS is shown on **Figure 7**. The toe and crest level of the study area are at about +31mPD and +44.5mPD respectively. General views of the study area are shown in **Plates 1** to **2**. Based on the observation during the field inspections since December 2022, the study area is composed of four hillside catchments (see **Figure 14**):

a) OH1 – An area of west to southwest facing, densely vegetated open hillslope.
b) OH2 – An area of northwest facing, densely vegetated open hillslope.
c) TD1 – An area between OH1 and OH2, where would allow landslide debris that originated from the upper slopes to converge and travel to a likely discharge point given sufficient mobility. According to GEO TGN 36 (Ref. 7), this catchment is considered a topographic depression catchment.
d) TD2 – An area of northwest facing, moderate concave terrain. A well-defined drainage line is not indicated in the 1:1000-scale topographic map nor observed during the field inspection. However, a relatively linear topographic depression is apparent and thus, this terrain is considered a topographic depression catchment.

Based on the findings of the desk study and field inspection, the study area is prone to the following natural terrain hazards:-

- Open Hillslope Failures (OHF) – Slope failures where the landslide debris remains wholly on the open hillside and is not channelized along a stream course; and
- Topographic Depression Failures (TDF) – Potential hazards focused across a topographic depression and/or an area of natural drainage, due to the potential to confine debris and concentrate surface flows.

In view of this, a natural terrain hazard assessment study is recommended to be carried out to assess the potential hazards in detail.

### 4.3 Preliminary Stability Assessment of Existing Feature No. 5SE-D/C76

Preliminary stability assessment has been carried out for the existing Feature No. 5SE-D/C76, which is considered as a Category 2A feature affecting the proposed widened double track road leading to the development site. The minimum requirement of Factor of Safety (FOS) is 1.4, as stipulated in Table 1 of Works Bureau Technical Circular No. 13/99 (Ref. 8). The slope-forming material of the feature is assumed to be completely decomposed Andesite according to the nearby drillhole logs. For the purpose of stability analysis, the design soil shear strength parameters of c' = 5kPa, $\phi$' = 35°and $\gamma$ = 19kN/m$^3$ were adopted and the design groundwater level was modelled at one-third of the slope height.

A critical section C-C of the Feature has been analyzed using Morgenstern-Price Method in a computer program "SLOPE/W" and the results are summarised in the following table. The relevant computer outputs are presented in **Appendix F**.

**Table 1 – Section C-C (Refer to Appendix F1 – F2)**

| Slip No. | Calculated Factors of Safety (F.O.S) |
|---|---|
| 1 | 2.047 |
| 2 | 1.787 |
| 3 | 1.780 (Min) |
| 4 | 1.794 |
| 5 | 1.906 |

Based on the preliminary stability analysis results, the calculated minimum FOS is 1.780, which is greater than the required FOS of 1.4. Thus, the stability of Feature can meet the current safety standards, and it is unlikely to cause potential hazards to affect the proposed access road. This is further confirmed by the site inspections carried out since December 2022 where the slope was in satisfactory condition and no signs of seepage or distresses were observed.

However, ground investigation works are recommended to be carried out to reveal the actual site geology and refine the soil shear strength parameters for detailed slope stability assessment of the feature as part of the development. Stabilization measures will also be recommended to upgrade the Feature, if necessary.

## 5. CONCLUSIONS AND RECOMMENDATIONS

(1) The site meets the alert criteria for carrying out a NTHS.

(2) The following potential natural terrain hazard is likely to occur within the study area:-

a. Open Hillslope Failures (OHF); and

b. Topographic Depression Failures (TDF).

In view of this, a NTHS is recommended to be undertaken and necessary mitigation measures are recommended as part of the proposed development.

(3) The existing features within the Site will be upgraded as part of the site formation works to the current safety standards, based on the requirement of the Master Layout Plan.

(4) With the implementation of the appropriate mitigation measures for natural terrain hazards if necessary, and proposed site formation works based on detailed ground investigations and stability assessment to be carried out, the proposed development is considered geotechnically feasible.

Based on a review of the latest geotechnical guidelines, safety standards, coupled with an interpretation of the aerial photographs and site inspection, the recommendation and findings of the GPRR is confirmed to be valid.

## 6. REFERENCES

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Zones at Lot 33RP and Adjoining Government Land in DD300, Area 45, Tuen Mun, New Territories – Section 16 Application.

10. Fugro (Hong Kong) Limited (2023). Geotechnical Planning Review Report for Proposed Section 12A Rezoning Application – TMTL 550 at Tuen Mun, New Territories

Plates

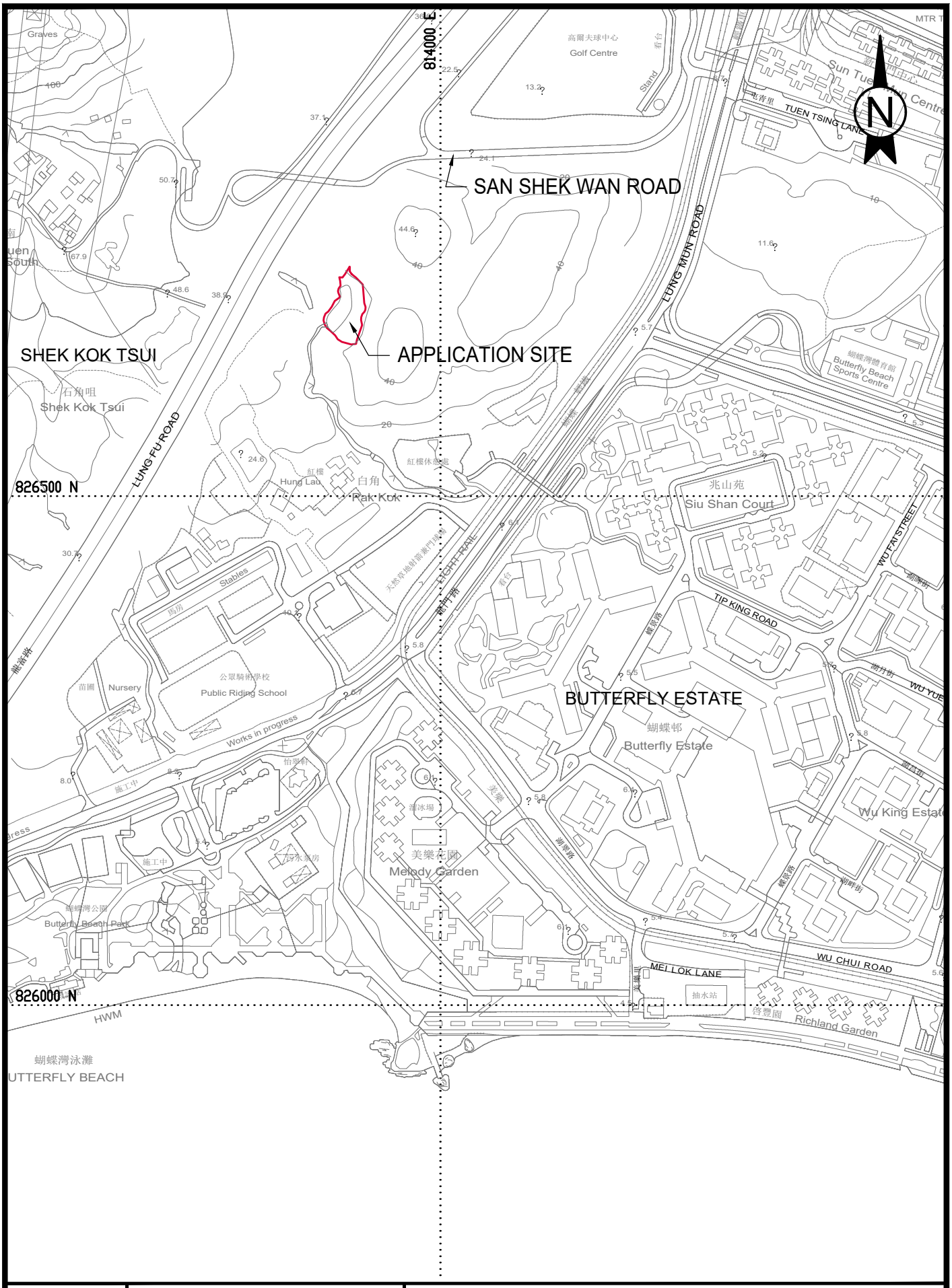
| | | | |
|---|---|---|---|
| Description: | **General View of the Site (Looking South)** | Scale: | - |
| FUGRO | **Project Title:**<br>**Proposed House Development of Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.**<br>**Section 16 Planning Application** | Project No.: | 090691 |
| | | Date: | 29-Dec-22 |
| | | **PLATE** | **1** |

| | | | |
|---|---|---|---|
| Description: | **General View of the Natural Terrain (To the North and East of the Site)** | Scale: | - |
| FUGRO | **Project Title:** **Proposed House Development of Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. Section 16 Planning Application** | Project No.: | 090691 |
| | | Date: | 29-Dec-22 |
| | | **PLATE** | **2** |

| | | | |
|---|---|---|---|
| Description: | **General View of the Existing Feature No. 5SE-D/C76 (To the North of the Site)** | Scale: | - |
| FUGRO | **Project Title:**<br>**Proposed House Development of Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.**<br>**Section 16 Planning Application** | Project No.: | 090691 |
| | | Date: | 29-Dec-22 |
| | | **PLATE** | **3** |

| | | | |
|---|---|---|---|
| Description: | **General View of the Unregistered Slope (within the Green Hatched Black Area along North-western Site Boundary)** | Scale: | - |
| FUGRO | **Project Title:**<br>**Proposed House Development of Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.**<br>**Section 16 Planning Application** | Project No.: | 090691 |
| | | Date: | 29-Dec-22 |
| | | **PLATE** | **4** |

Figures

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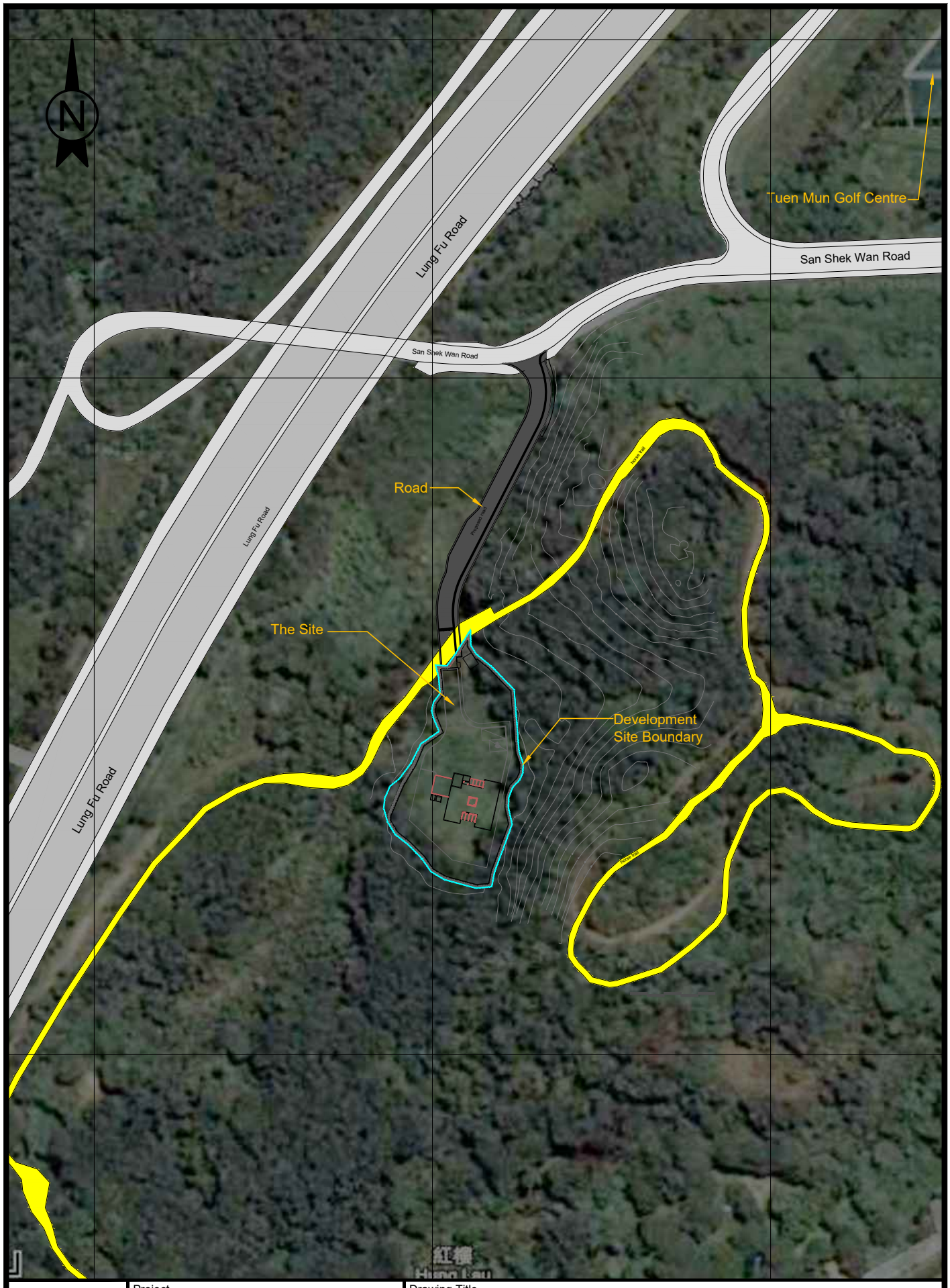
FUGRO

Project
PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. (TMTL 550), TUEN MUN, N.T. - SECTION 16 PLANNING APPLICATION

Drawing Title
LOCATION PLAN

| Job No. | Figure No. | Scale | Date |
|---|---|---|---|
| 090691 | 1 | 1:5000 | JUL-2025 |

CAD Reference : X:\WORKING\090691\GENERAL\090691-FIG01_P03-G.DWG Date & Time : 24-07-25 (9:32:04PM) Plotted By : HK.COMMUSER3

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Drawn by :

Compiled by :

FUGRO

Project

PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. (TMTL 550), TUEN MUN, N.T. - SECTION 16 PLANNING APPLICATION

Drawing Title

AERIAL PHOTO OF THE SITE AND PROPOSED ACCESS ROAD

| Job No. | Figure No. | Scale | Date |
|---|---|---|---|
| 090691 | 2 | N.T.S. | JUL-2025 |

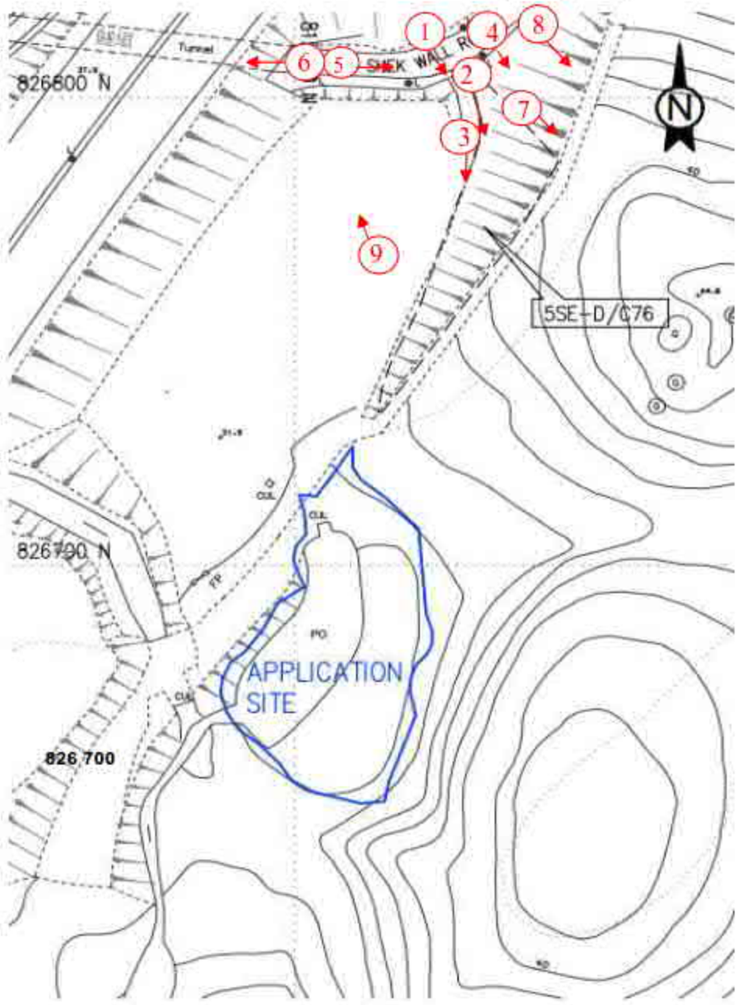
CAD Reference : X:\WORKING\090691\GENERAL\090691-FIG02_P10-G.DWG Date & Time : 29-07-25 (4:29:21PM) Plotted By : HK.COMMUSER3

V1 - Existing Site Entrance At San Shek Wan Road

V5 - San Shek Wan Road Near Site Entrance (Looking East)

V6 - San Shek Wan Road Near Site Entrance (Looking West)

V2 - Existing Footpath Leading to Fenced-off Government Land



V7 - Upper Portion of Feature No. 5SE-D/C76

V3 - Steel Gate to Government Land

V8 - Natural Hillside Terrain Above Feature No. 5SE-D/C76

V4 - General View of Feature No. 5SE-D/C76
(Abutting Proposed Access Road Alignment)

Legend:

Direction and Location of Plate No. 1

V9 - General View of Government Land (Looking North-West)

| | |
|---|---|
| **Title**<br>**Existing Conditions of the Site & Its Vicinity - Index Plan (Part 1)** | **Figure** 3a<br>**(Sheet 1 of 3)** |
| **Project Title**<br>**Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.**<br>**Section 16 Planning Application** | **Scale**<br>**1 : 1500** |

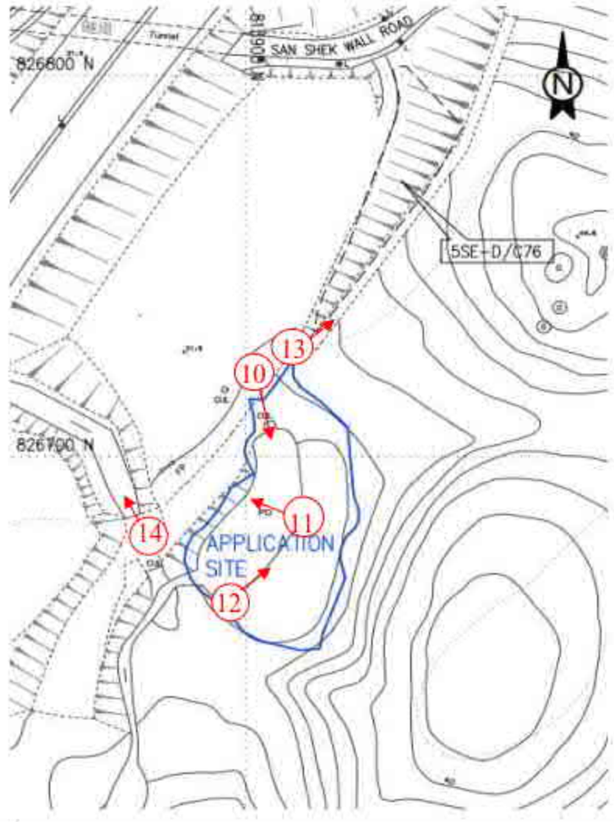
V10 - General View of the Natural Terrain (Looking South-East)

V11 - General View of the Unregistered Slope (Along North-western site boundary)

V12 - General View of the Natural Terrain (Looking North-East)

V13 - General View of the Existing Horse Riding Track

V14 - General View of the Nullah (Near South-western boundary)



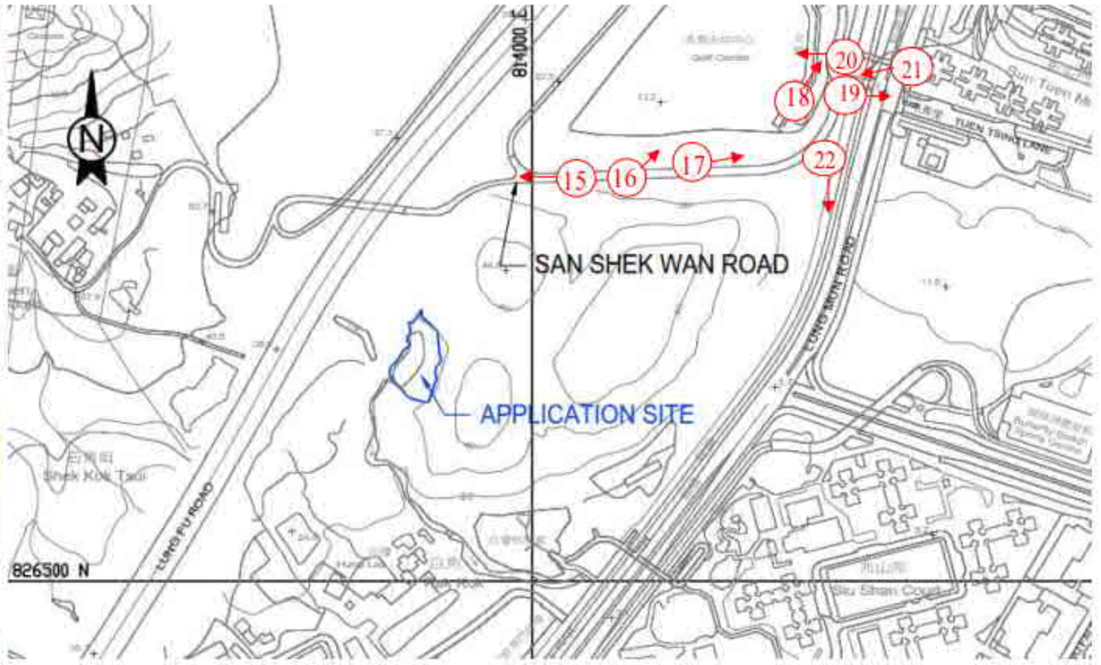

| | |
|---|---|
| **Title**<br>**Existing Conditions of the Site & Its Vicinity - Index Plan (Part 1)** | **Figure** 3b<br>**(Sheet 2 of 3)** |
| **Project Title**<br>**Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.**<br>**Section 16 Planning Application** | **Scale**<br>**1 : 1500** |

V15 - San Shek Wan Road Leading to the Site Uphill

V16 - Tuen Mun Golf Centre

V17 - San Shek Wan Road Heading Tuen Mun New Tuen Mun Centre

V18 - Light Railway Station (LRT Depot)




Legend:

19 Direction and Location of Plate No. 19

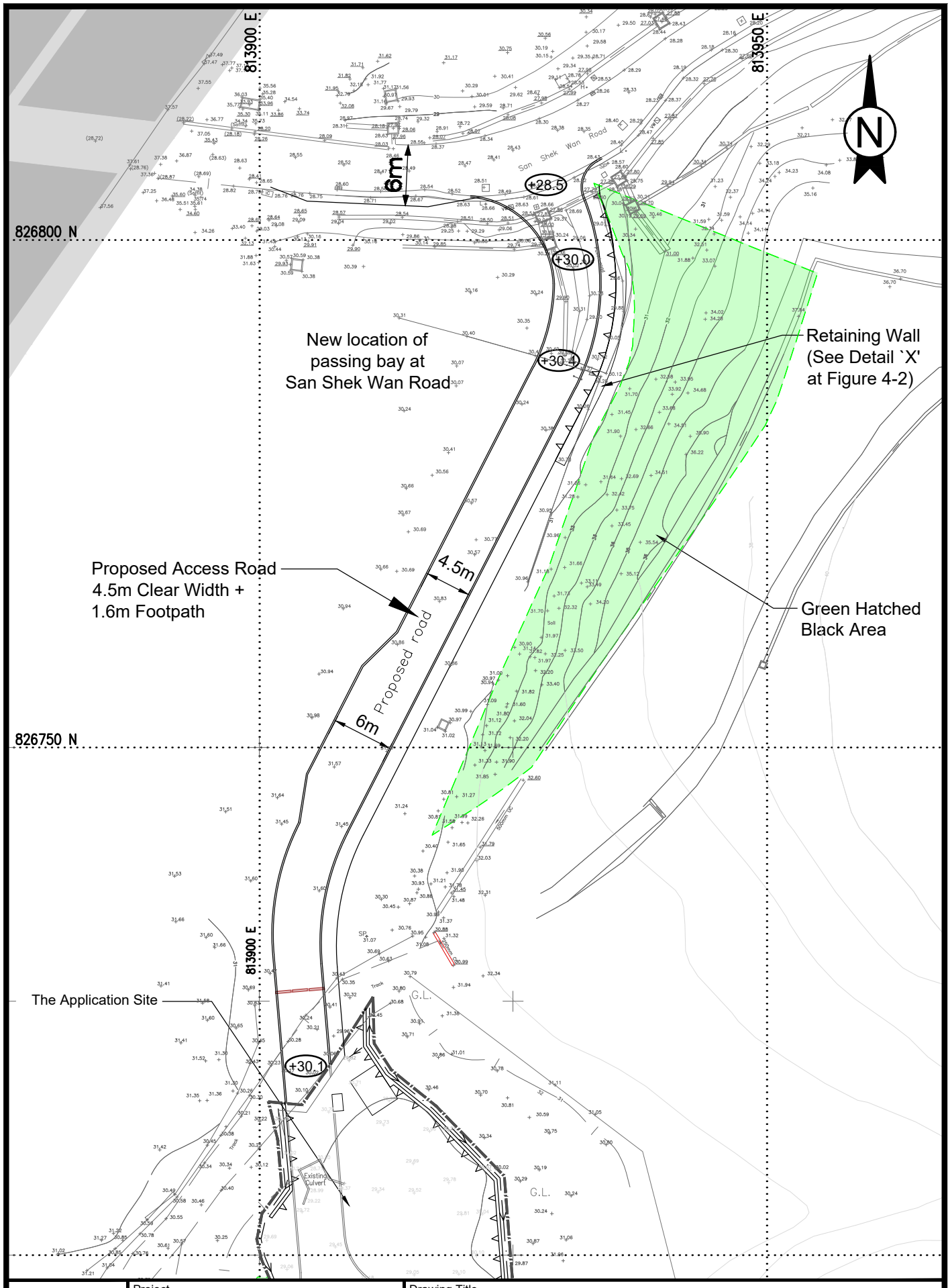
V19 - Lung Mun Road Near Sun Tuen Mun Centre

V20 - Entrance of Tuen Mun Golf Centre

V21 - San Shek Wan Road

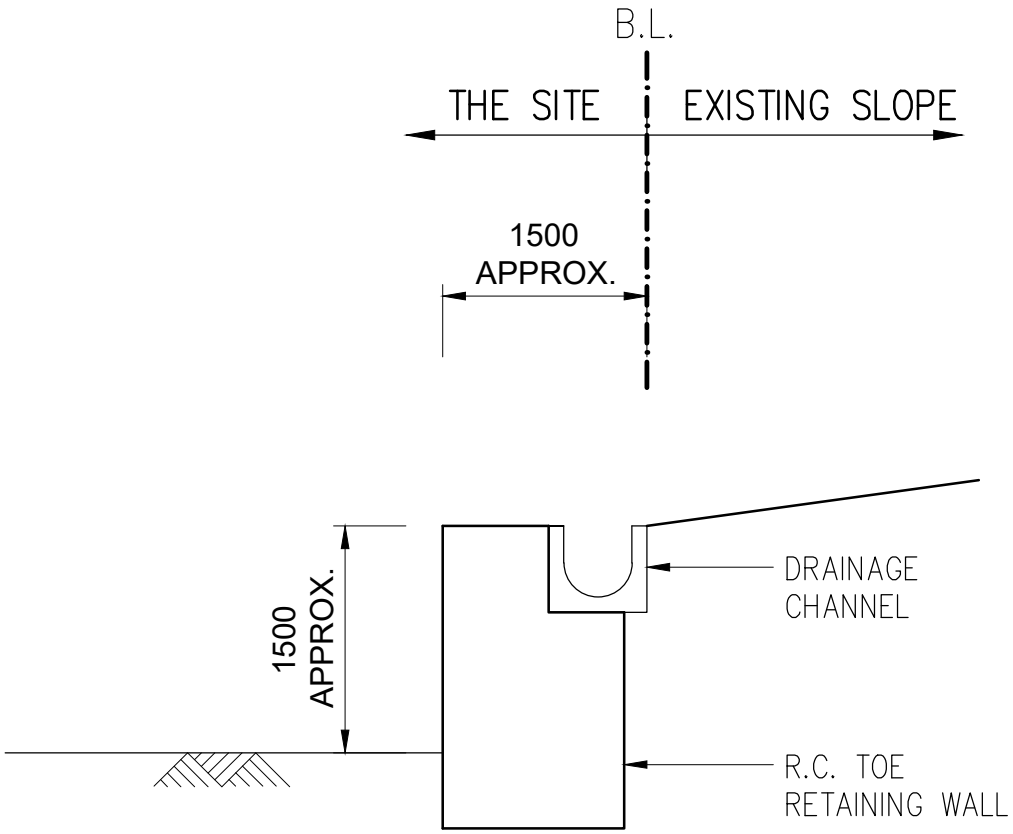
V22 - Railway Next to Lung Mun Road

| | |
|---|---|
| **Title**<br>**Existing Conditions of the Site & Its Vicinity - Index Plan (Part 1)** | **Figure** 3c<br>**(Sheet 3 of 3)** |
| **Project Title**<br>**Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.**<br>**Section 16 Planning Application** | **Scale**<br>**1 : 5000** |




| | | | | |
|---|---|---|---|---|
| FUGRO | Project: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. 550 (TMTL 550), TUEN MUN, N.T. | Drawing Title: INDICATIVE ALIGNMENT OF THE PROPOSED ACCESS ROAD | | |
| | | Job No. 090691 | Figure No. 4-1 | Scale 1:500 | Date JUNE-2025 |

CAD Reference : X:\WORKING\090691\GENERAL\090691-FIG04-1_P03-G.DWG Date & Time : 07-07-25 (4:32:55PM) Plotted By : HK.COMMUSER3




## DETAIL 'X'

N.T.S.

Checked by :

Drawn by :

Compiled by :

| | | | | |
|---|---|---|---|---|
| FUGRO | Project: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. 550 (TMTL 550), TUEN MUN, N.T. | Drawing Title: DETAIL `X' | | |
| | | Job No. 090691 | Figure No. 4-2 | Scale N.T.S. | Date JUNE-2025 |

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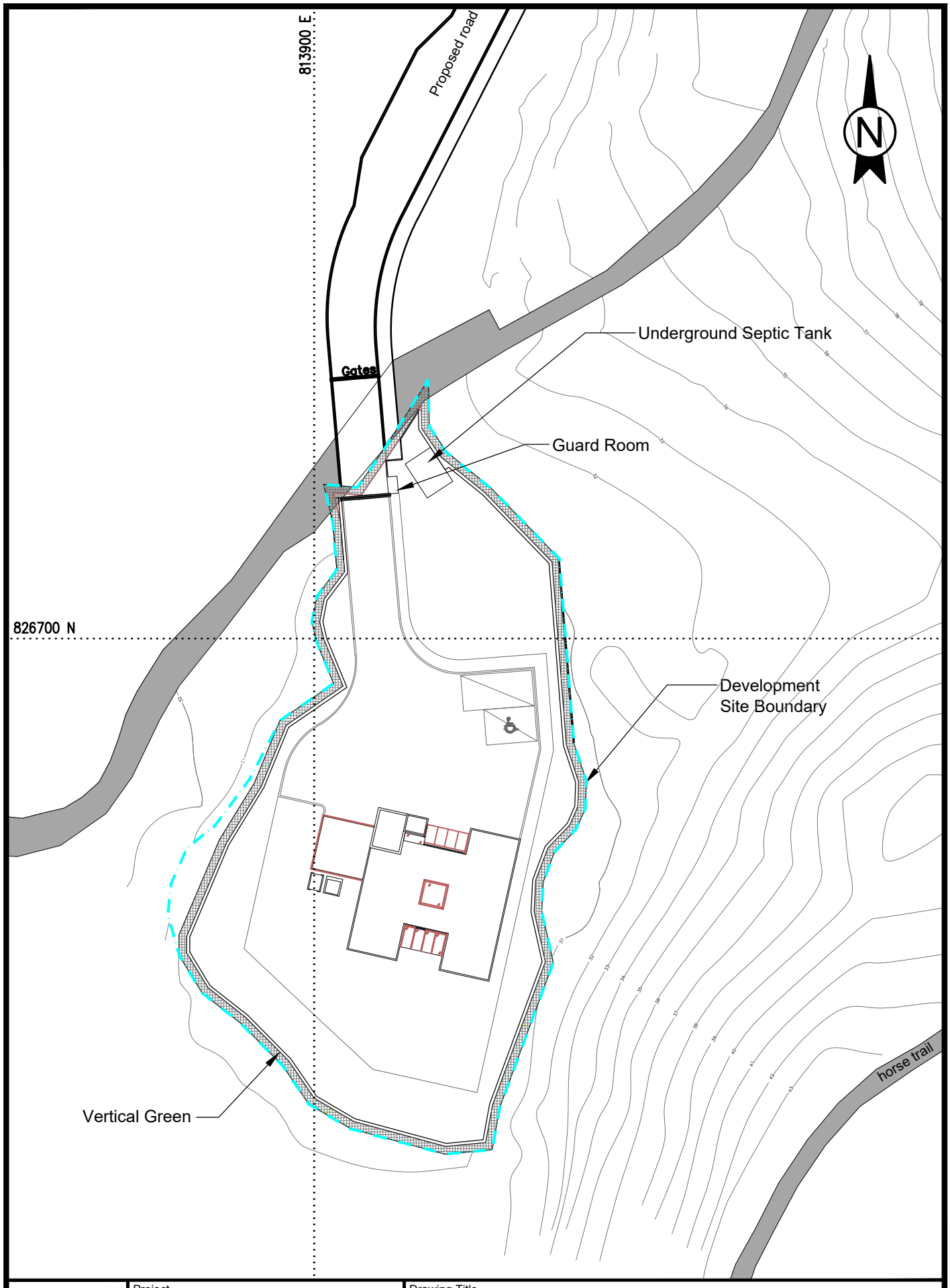


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Drawn by :

Compiled by :

FUGRO

Project

PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. (TMTL 550), TUEN MUN, N.T. - SECTION 16 PLANNING APPLICATION

Drawing Title

INDICATIVE MASTER LAYOUT PLAN

| Job No. | Figure No. | Scale | Date |
|---|---|---|---|
| 090691 | 5 | N.T.S. | JUL-2025 |

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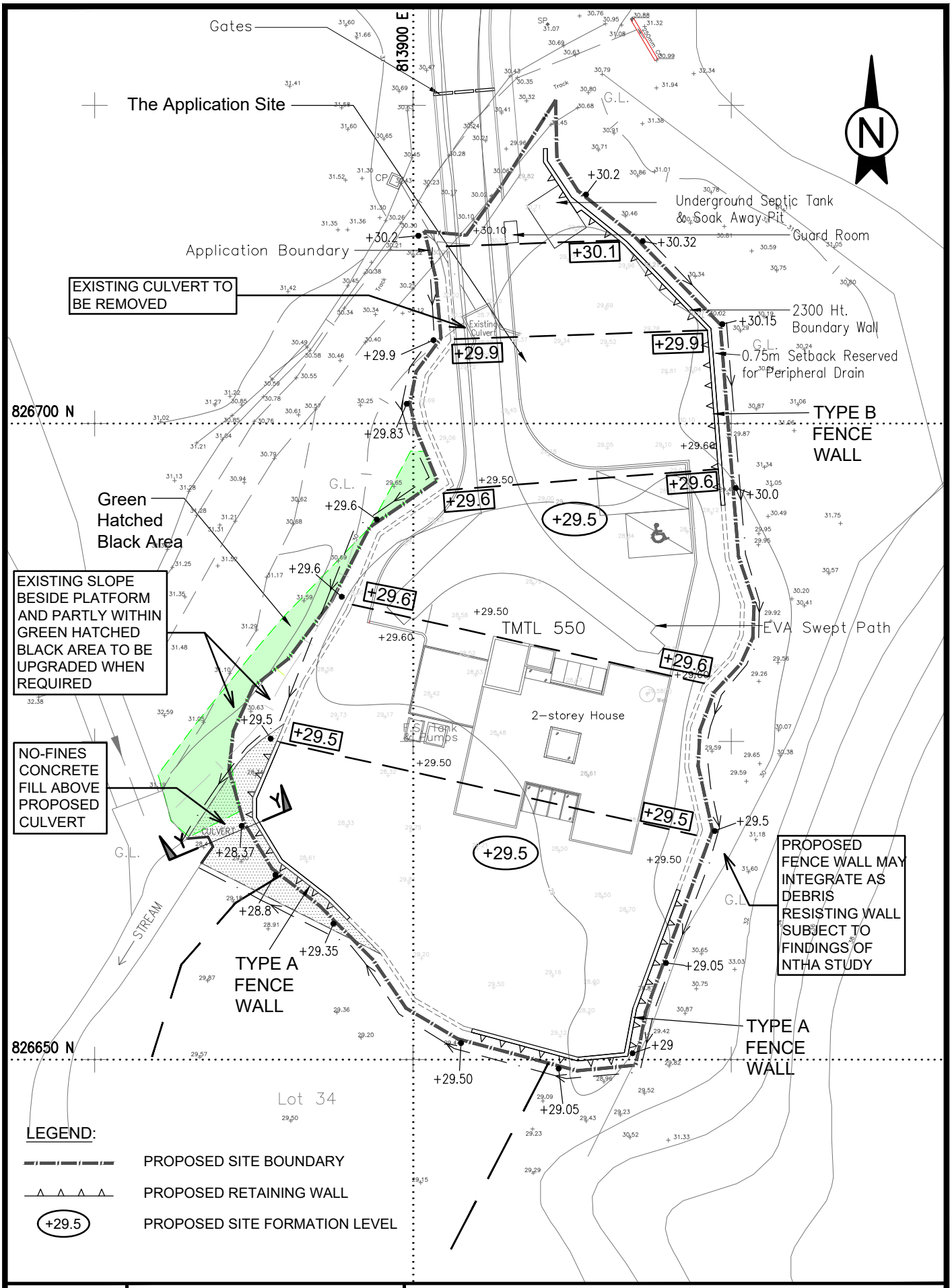


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FUGRO

Project
PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. (TMTL 550), TUEN MUN, N.T. - SECTION 16 PLANNING APPLICATION

Drawing Title
PROPOSED SITE FORMATION PLAN

| Job No. | Figure No. | Scale | Date |
|---|---|---|---|
| 090691 | 6-1 | 1:400 | JUL-2025 |

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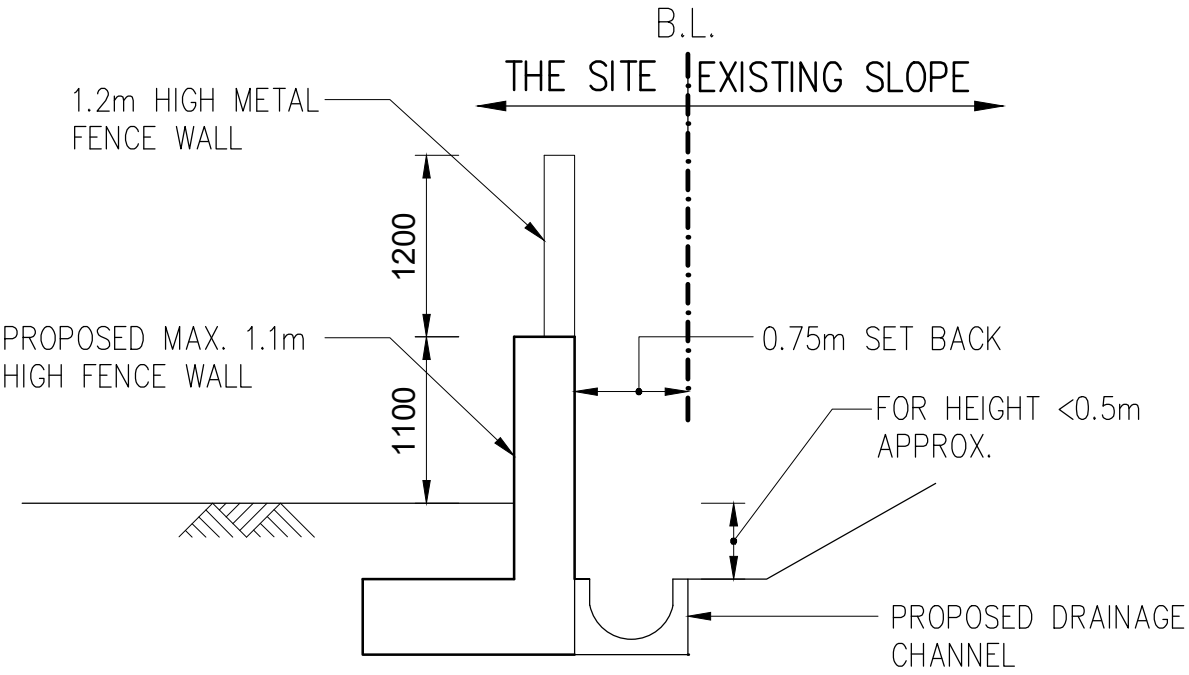
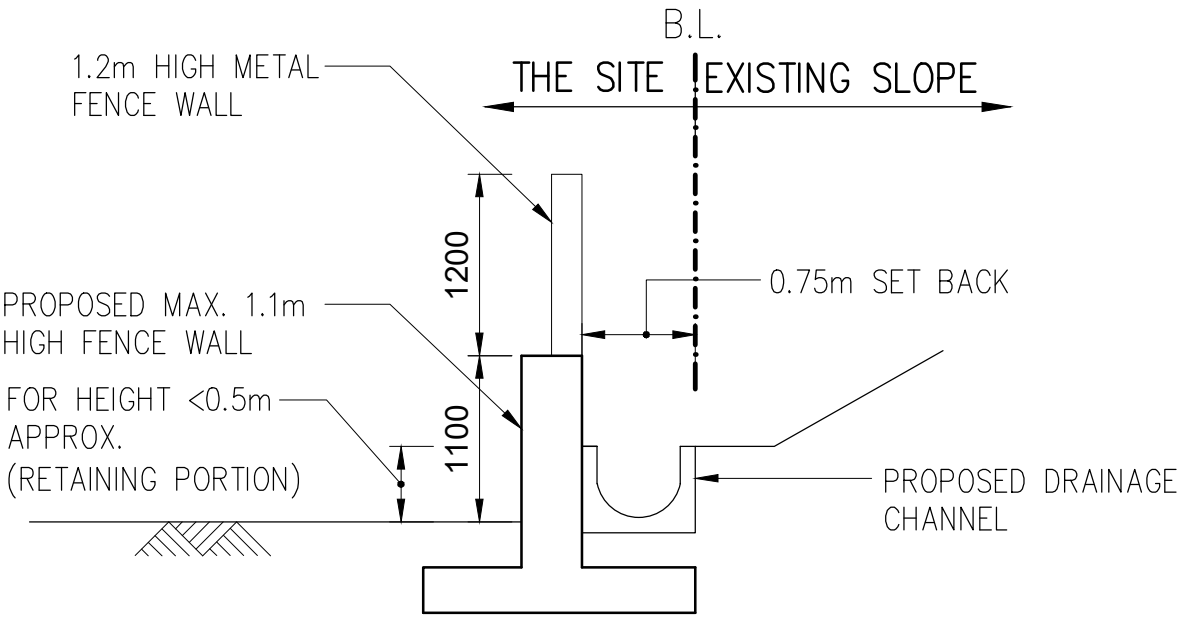



# FENCE WALL FOOTING TYPE A

1:50




# FENCE WALL FOOTING TYPE B

1:50

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Drawn by :

Compiled by :

FUGRO

Project
PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. (TMTL 550), TUEN MUN, N.T. - SECTION 16 PLANNING APPLICATION

Drawing Title
PROPOSED FENCE WALL TYPE A AND B

| Job No. | Figure No. | Scale | Date |
|---|---|---|---|
| 090691 | 6-2 | 1:50 | JUL-2025 |

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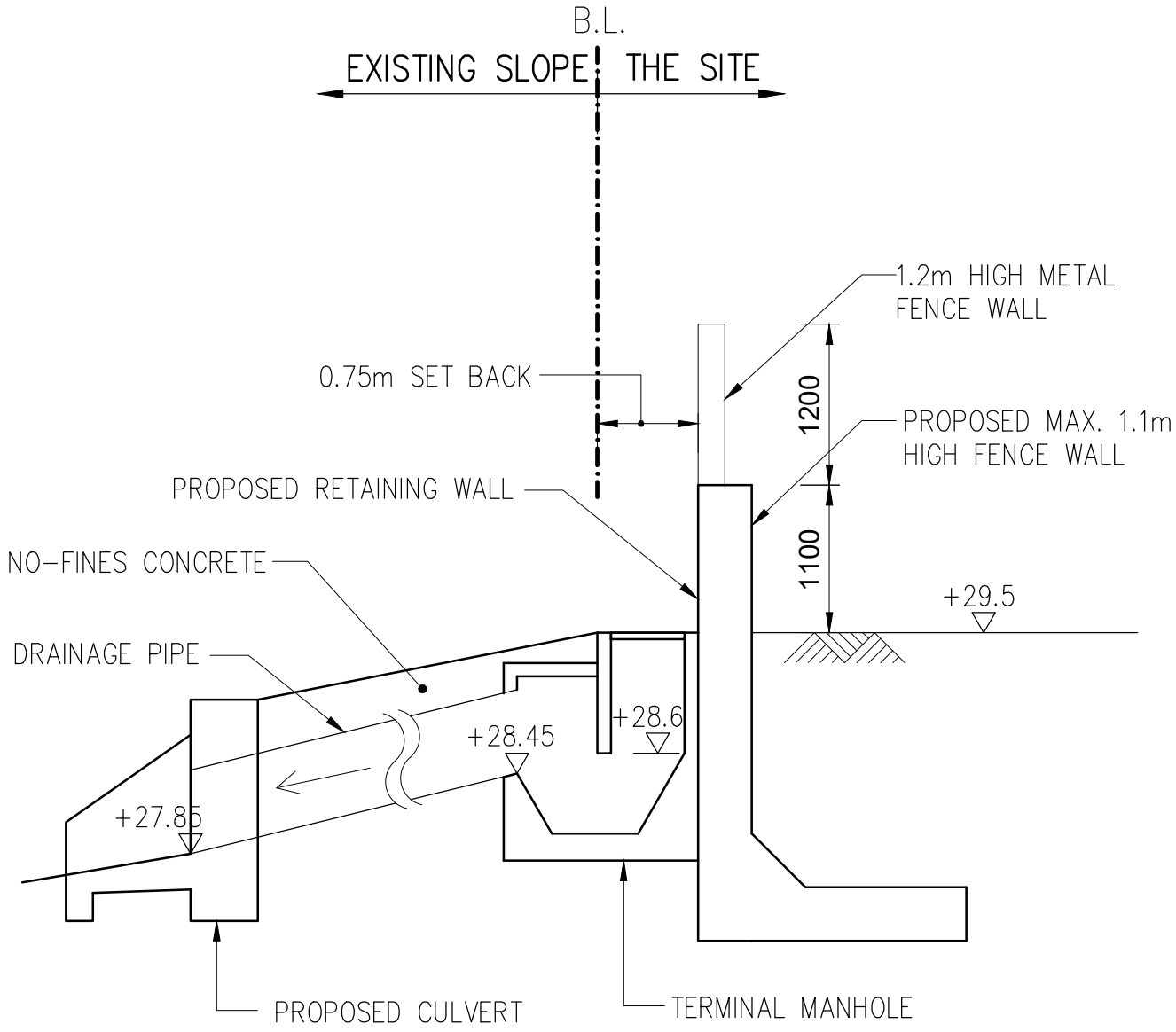


# SECTION Y-Y

1:50

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Drawn by :

Compiled by :

FUGRO

Project
PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. (TMTL 550), TUEN MUN, N.T. - SECTION 16 PLANNING APPLICATION

Drawing Title
SECTION Y-Y

| Job No. | Figure No. | Scale | Date |
|---|---|---|---|
| 090691 | 6-3 | 1:50 | JUL-2025 |

CAD Reference : X:\WORKING\090691\GENERAL\090691-FIG06-3_P03-G.DWG Date & Time : 16-07-25 (12:26:36PM) Plotted By : HK.COMMUSER3

826800 N

826700 N

813900 E

NATURAL TERRAIN HAZARD
STUDY (NTHS) AREA

PROPOSED
DEVELOPMENT
OF THE SITE

PROPOSED
ACCESS ROAD

Proposed road

LEGEND :

DEVELOPMENT SITE BOUNDARY

NATURAL TERRAIN HAZARD
STUDY (NTHS) BOUNDARY

# PLAN

SCALE 1 : 500

Checked by :

Drawn by :

Compiled by :

FUGRO (HONG KONG) LIMITED

[redacted]

Project
PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. (TMTL 550), TUEN MUN, N.T. - SECTION 16 PLANNING APPLICATION

Drawing Title
SITE PLAN

| Job No. | Figure |
|---|---|
| 090691 | 7 |
| Scale | Date |
| 1:500 | JUL-2025 |

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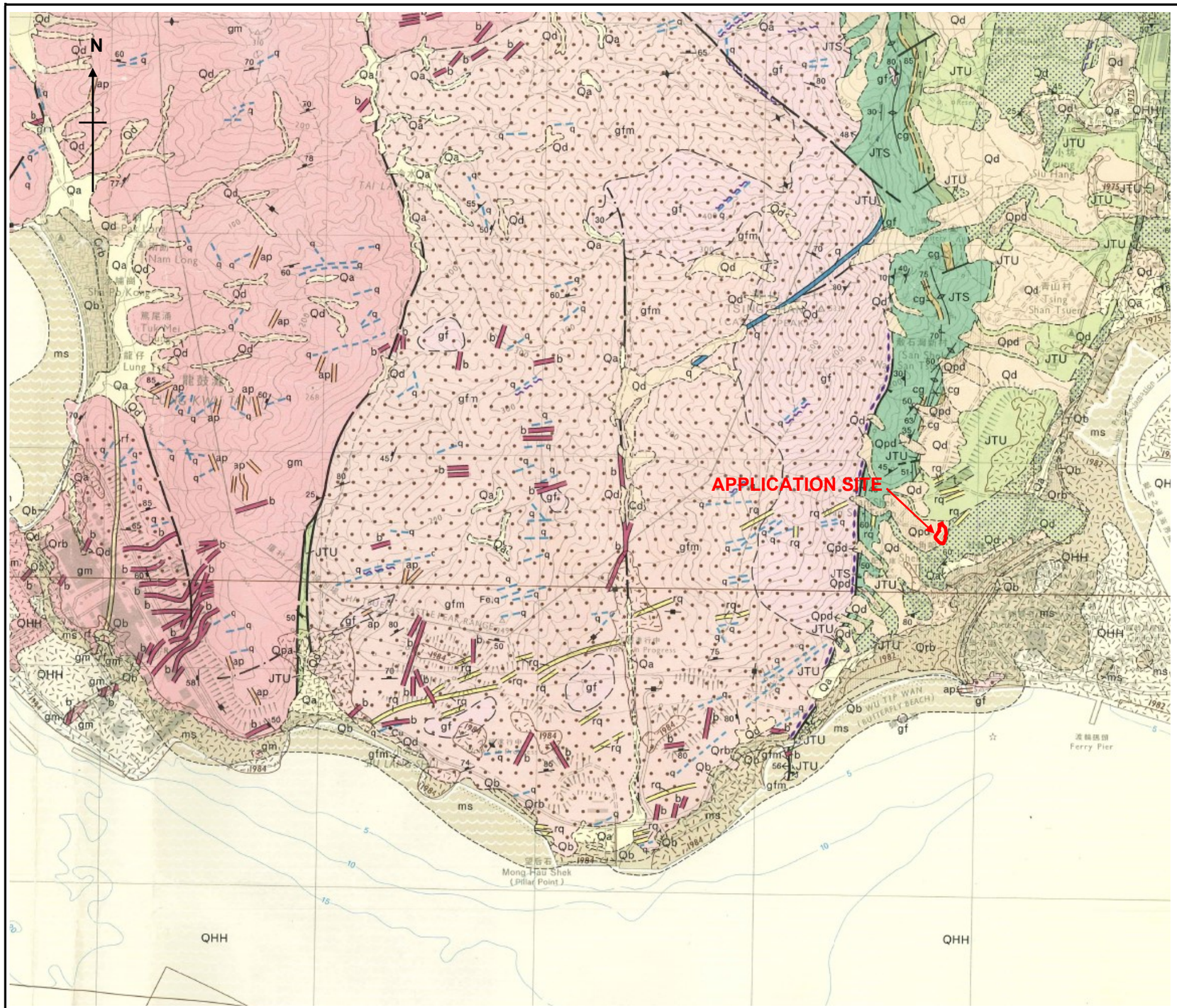


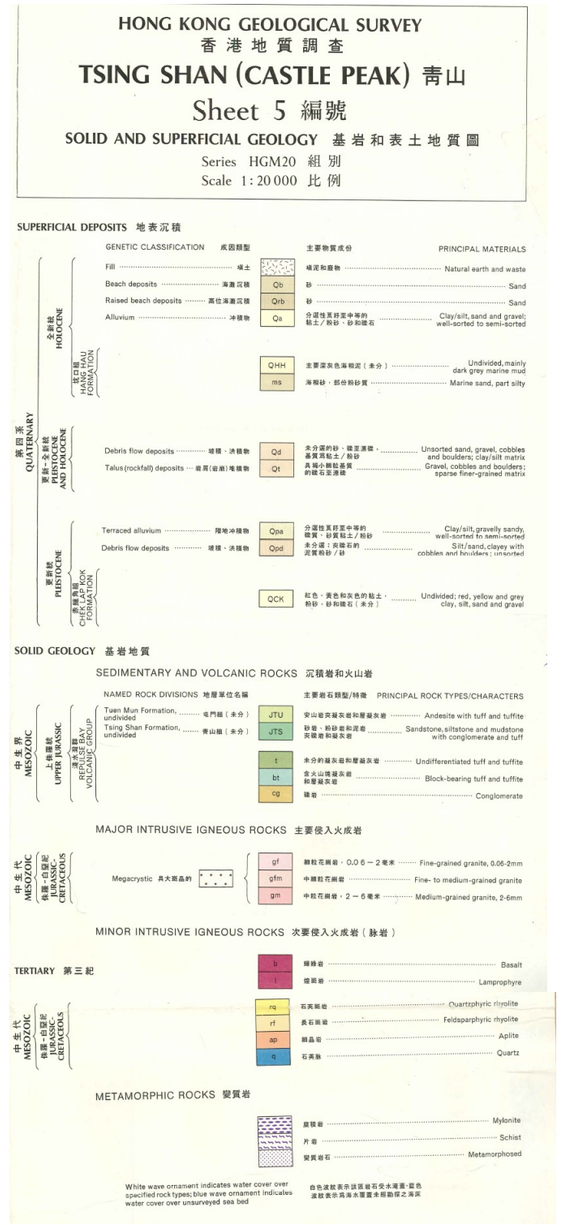


Description: **GEOLOGICAL MAP**

Scale: **1:20 000**

FUGRO

Project Title:

**Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. – Section 16 Planning Application**

| | |
|---|---|
| Project No.: | 090691 |
| Date: | Jul-25 |

**FIGURE 8**

Checked by :

Drawn by :

Compiled by :

826800 N

826700 N

813900 E

5SE-D/C76

NATURAL TERRAIN HAZARD STUDY (NTHS) AREA

PROPOSED DEVELOPMENT OF THE SITE

PROPOSED ACCESS ROAD

Proposed road

UNREGISTERED FEATURE

TP14,15,16

A

B

C

# PLAN

LEGEND :

- DEVELOPMENT SITE BOUNDARY
- NATURAL TERRAIN HAZARD STUDY (NTHS) BOUNDARY
- FEATURE BOUNDARY (UNDER STUDY)
- CROSS-SECTION
- TP14,15,16 EXISTING TRIAL PIT

FUGRO (HONG KONG) LIMITED

[redacted]

Project
PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. (TMTL 550), TUEN MUN, N.T. - SECTION 16 PLANNING APPLICATION

Drawing Title
SITE PLAN (SHOWING FEATURES)

| Job No. | Figure |
|---|---|
| 090691 | 9 |
| Scale | Date |
| 1:500 | JUL-2025 |

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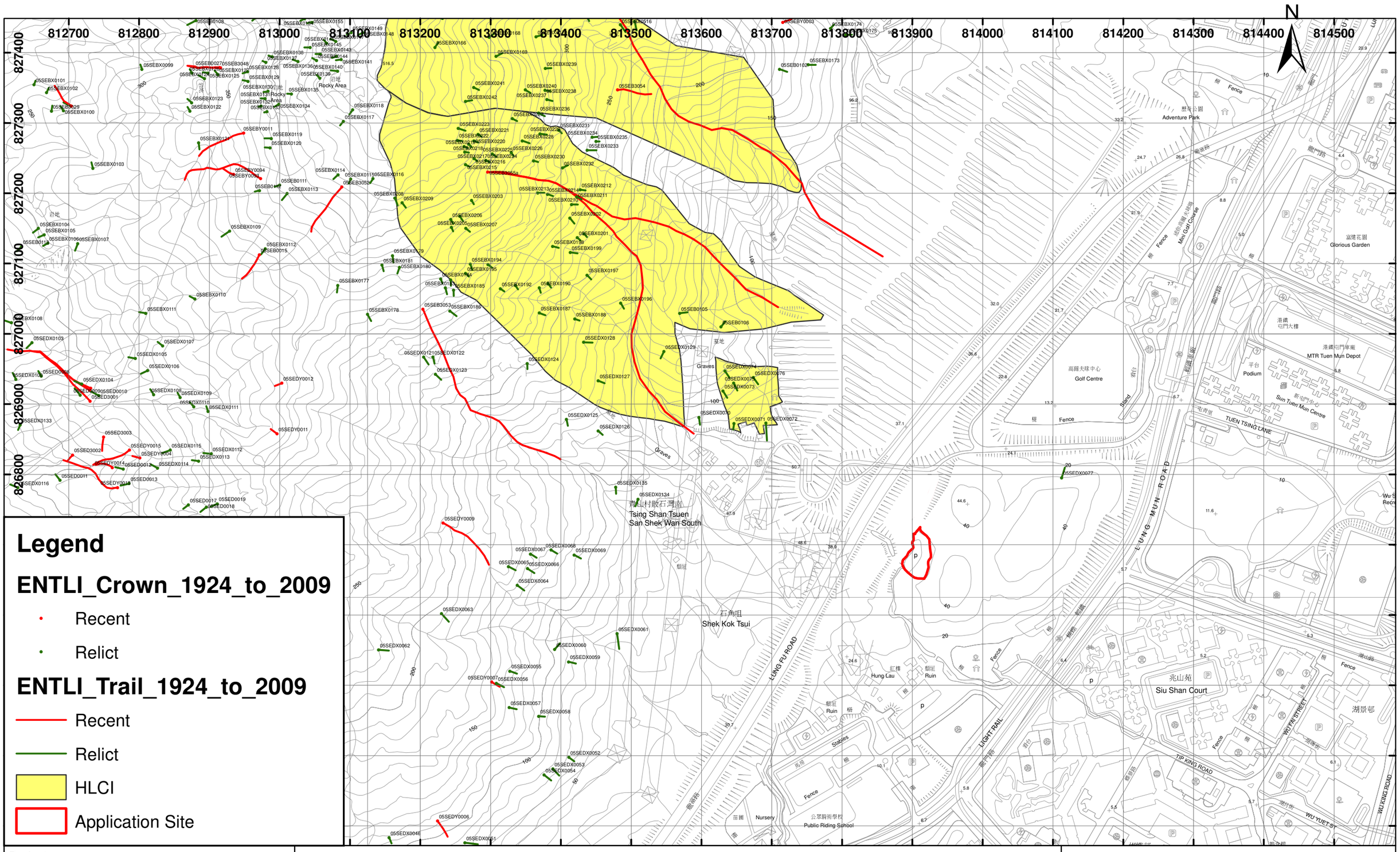



## Legend

### ENTLI_Crown_1924_to_2009

- Recent
- Relict

### ENTLI_Trail_1924_to_2009

- Recent
- Relict
- HLCI
- Application Site

Project

Proposed House Development at
Tuen Mun Town Lot No. 550 (TMTL 550),
Tuen Mun, N.T.
Section 16 Planning Application

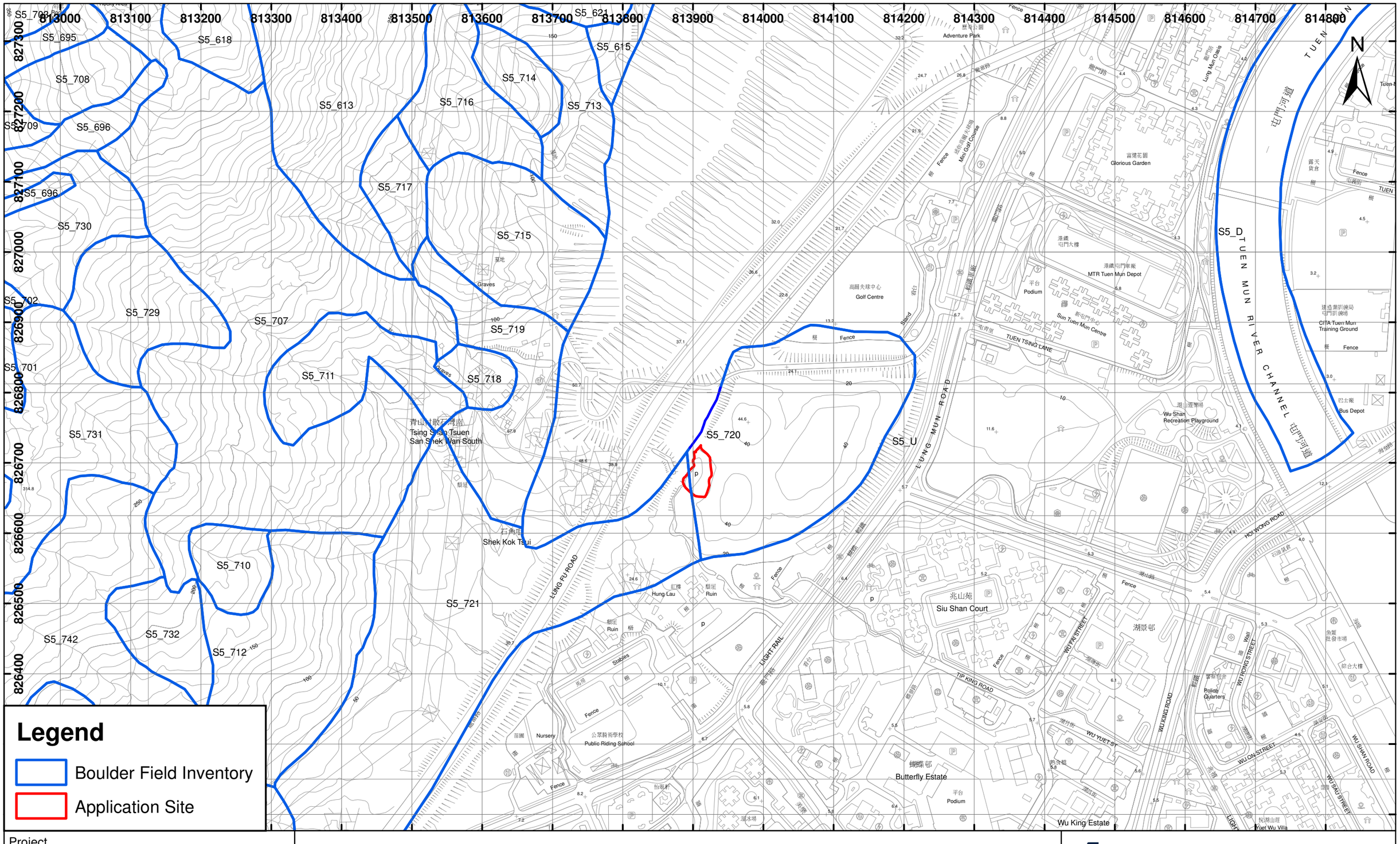
# Enhanced Natural Terrain Landslide Inventory Map
# Historical Landslide Catchment Inventory Map

FUGRO (HONG KONG) LTD

Figure 10

Scale: 1:5,000

PROJECT No. 090691




## Legend

- Boulder Field Inventory
- Application Site

Project

Proposed House Development at
Tuen Mun Town Lot No. 550 (TMTL 550),
Tuen Mun, N.T.
Section 16 Planning Application

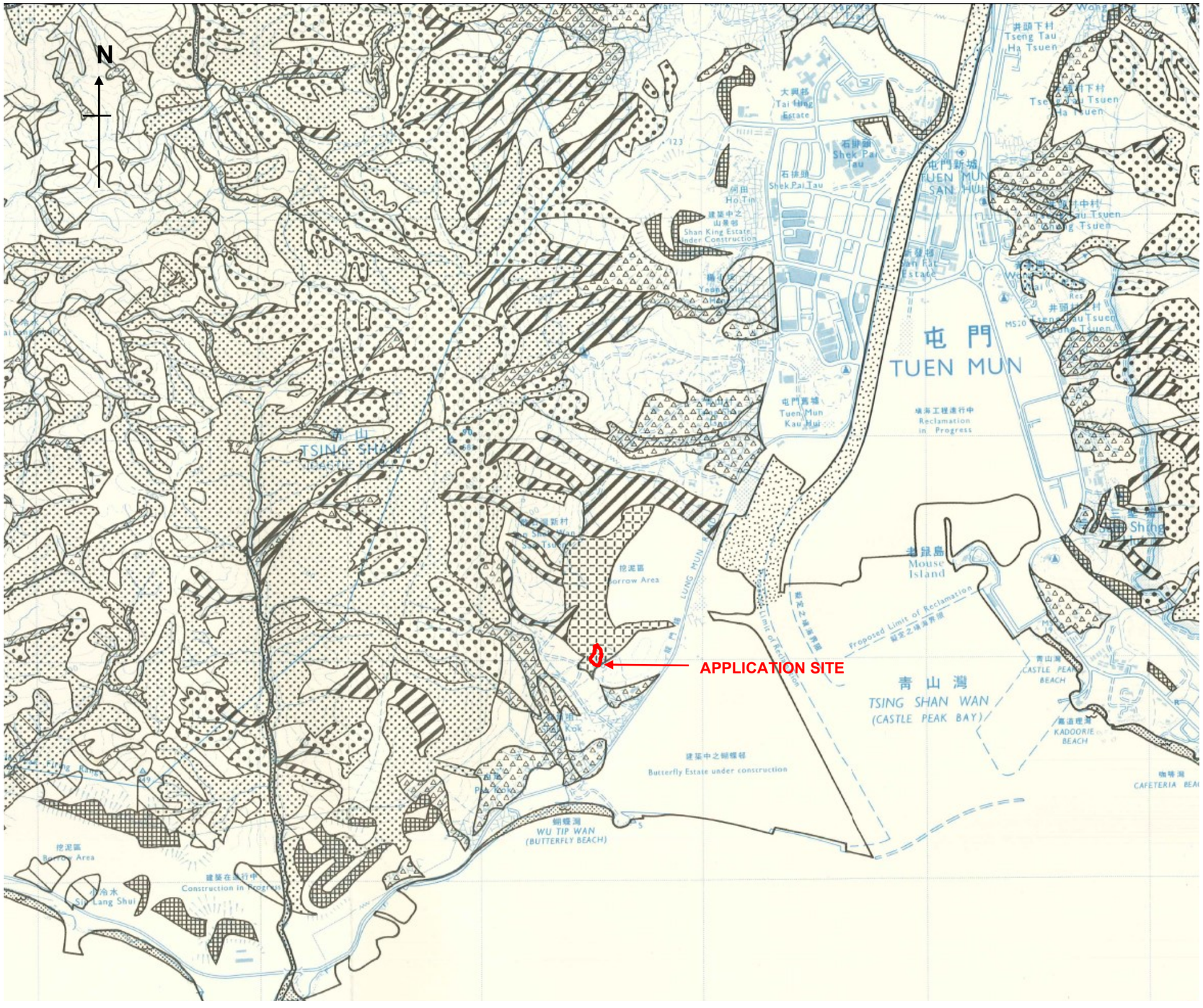
# Boulder Field Inventory Map

FUGRO (HONG KONG) LTD

Figure 11

Scale: 1:5,000

PROJECT No. 090691




**LEGEND**

- Colluvium
- Zones of colluvium which are subject to overland flow and periodic inundation. Evidence of unusual groundwater regime (delineated as drainage plain on Landform
- Floodplain - subject to overland flow and regular inundation. Evidence of unusual groundwater regime (delineated as floodplain on Landform Map)
- Zones of general instability associated with predominantly colluvial terrain
- Zones of general instability associated with predominantly insitu terrain
- Slopes on insitu terrain which are generally steeper than 30 degrees (other than those delineated as colluvial or unstable)
- Disturbed terrain - extensive cut and fill batters which generally exceed 30 degrees
- Instability on disturbed terrain
- Waterbodies (streams, man-made channels, storage dams)
- Ponds
- Moderate or severe gully erosion (may be superimposed upon other constraints)
- Littoral zone (generally subject to tidal action)

Description: **PHYSICAL CONSTRAINTS MAP**

Scale: **1:20 000**

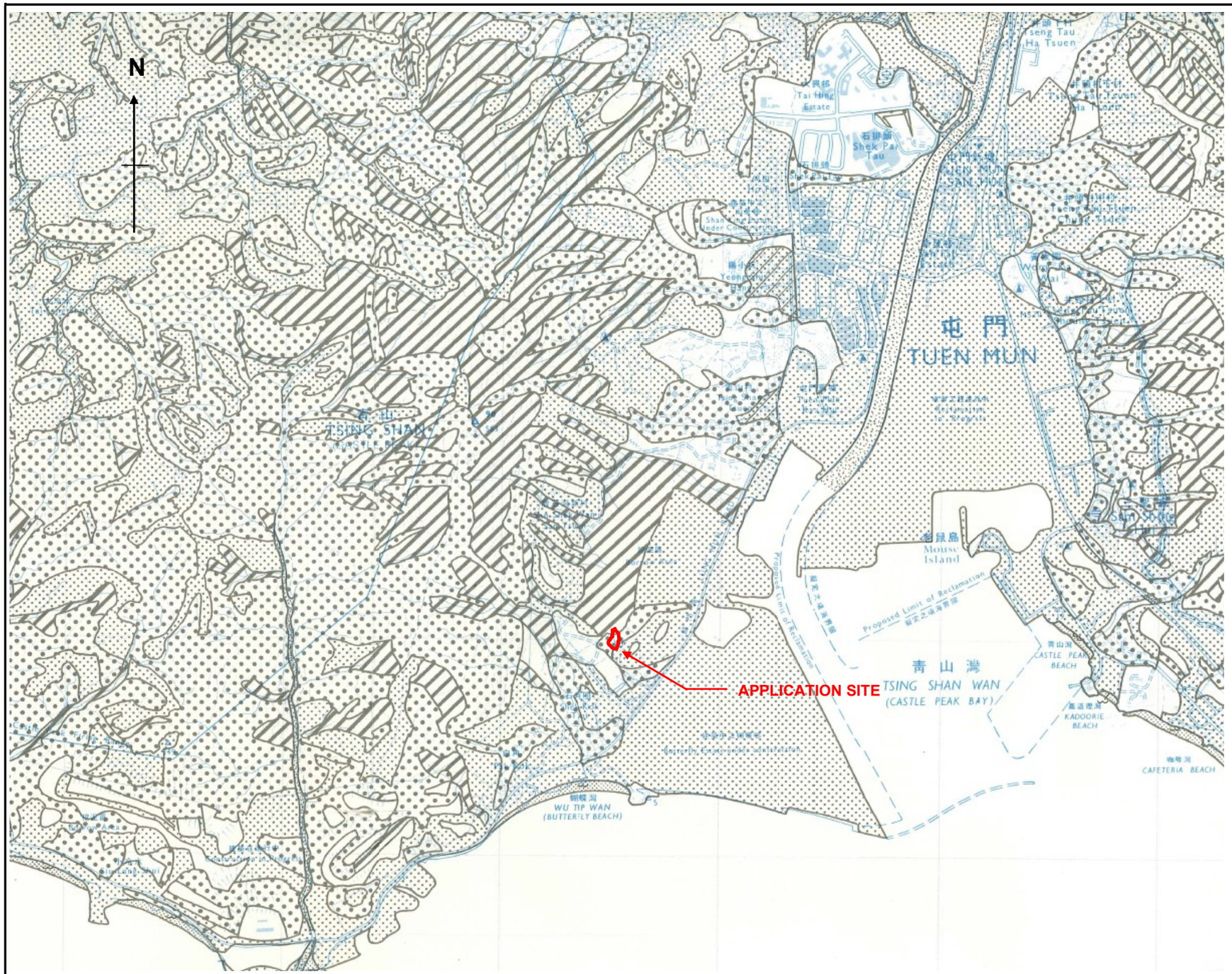
FUGRO

Project Title:

**Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. – Section 16 Planning Application**

| | |
|---|---|
| Project No.: | 090691 |
| Date: | Jul-25 |

**FIGURE 12**




**LEGEND**

| CLASS | CODE | GEOTECHNICAL LIMITATIONS | SUITABILITY FOR DEVELOPMENT | ENGINEERING COST FOR DEVELOPMENT | INTENSITY OF SITE INVESTIGATION REQUIRED |
|---|---|---|---|---|---|
| I | | Low | High | Low | Normal |
| II | | Moderate | Moderate | Normal | Normal |
| IIs | | Moderate | Moderate - Low | Normal - High | Normal |
| III | | High | Low | High | Intensive |
| IV | | Extreme | Probably Unsuitable | Very High | Very Intensive |

General Features - terrain which is not classified within GLUM system

- Waterbodies (streams, man-made channels, storage dams)
- Ponds
- Littoral zone (generally subject to tidal action)

Description: **LAND USE MAP**

Scale: **1:20 000**

FUGRO

Project Title:

**Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. – Section 16 Planning Application**

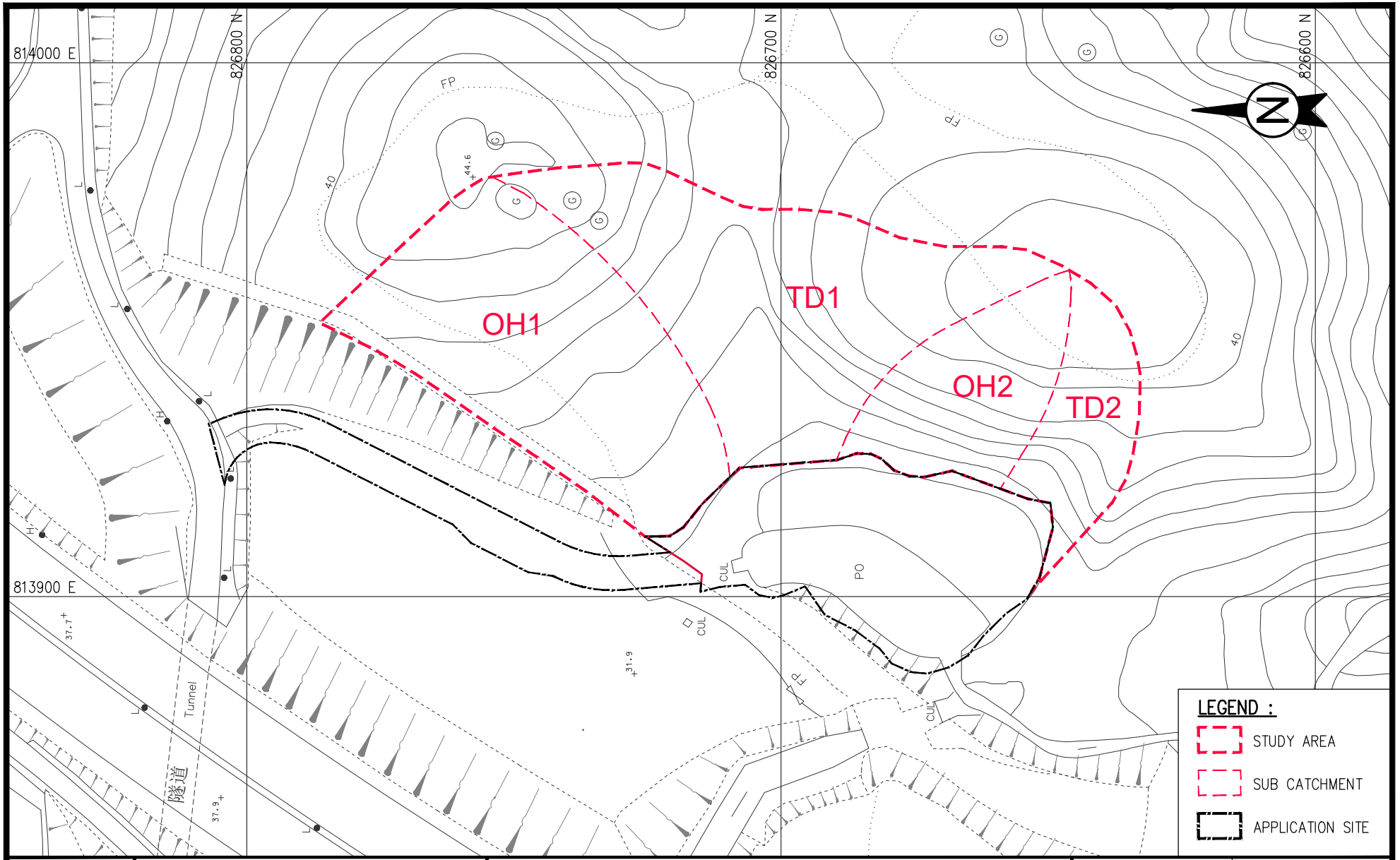
| | |
|---|---|
| Project No.: | 090691 |
| Date: | Jul-25 |

**FIGURE 13**

Compiled by :

Drawn by :

Checked by :




| | | | | |
|---|---|---|---|---|
| FUGRO | Project<br>PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. (TMTL 550), TUEN MUN, N.T. - SECTION 16 PLANNING APPLICATION | Drawing Title<br>CATCHMENT CLASSIFICATION MAP | Job No.<br>090691<br>Scale<br>1:1000 | Figure No.<br>14<br>Date<br>JUL-2025 |

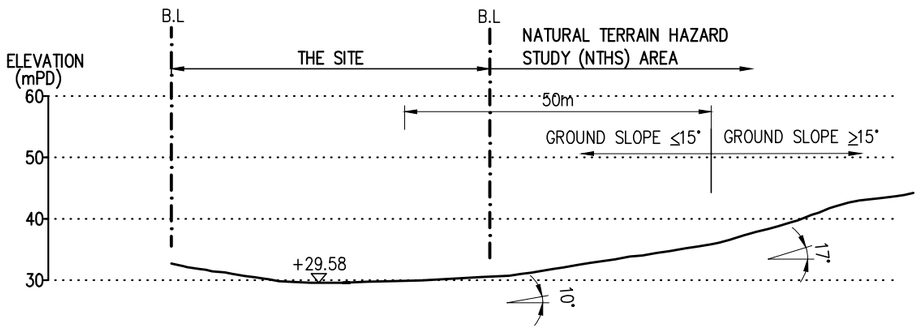
CAD Reference : X:\WORKING\090691\GENERAL\090691-FIG14_P02-G.DWG Date & Time : 16-07-25 (11:58:52AM) Plotted By : HK.COMMUSER3

# Appendix A

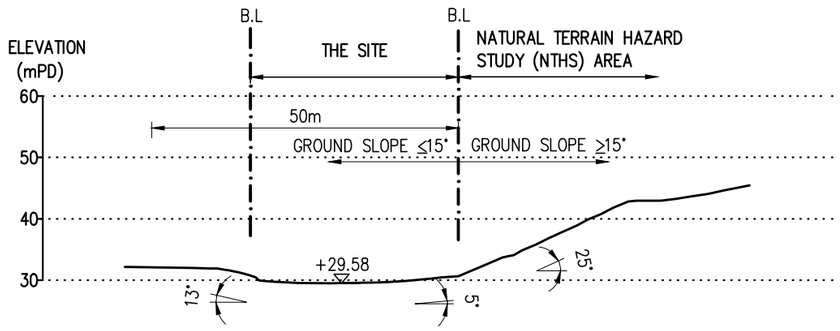
# Sections of the Study Area and the Site

LEGEND :

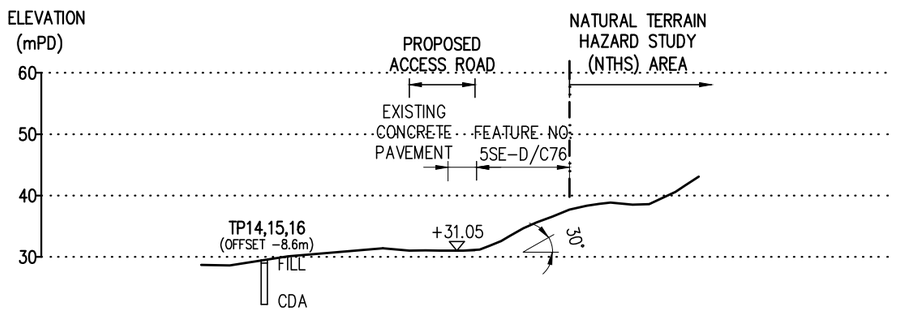
- SITE BOUNDARY
- NATURAL TERRAIN HAZARD STUDY (NTHS) BOUNDARY
- FILL — FILL
- CDA — COMPLETELY DECOMPOSED ANDESITE




SECTION A – A




SECTION B – B




SECTION C – C

Checked by :

Drawn by :

Compiled by :

| | | | | |
|---|---|---|---|---|
| FUGRO (HONG KONG) LIMITED [redacted] | Project: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. (TMTL 550), TUEN MUN, N.T. - SECTION 16 PLANNING APPLICATION | Drawing Title: SECTIONS OF THE STUDY AREA | Job No.: 090691 | Figure: A1 |
| | | | Scale: 1:1000 | Date: JUL-2025 |

CAD Reference : X:\WORKING\090691\GENERAL\090691-FIG_A1_P05-G.DWG Date & Time : 18-07-25 (9:39:13AM) Plotted By : HK.COMMUSER3

are used by the GEO to help decide whether a site falls under this category:

(a) It is a new development site involving provision of Group 1 to 3 facilities (Table 2.2), or it is a redevelopment that requires modification of the lease conditions and involves either a significant population at risk or a significant increase in population at risk.

(b) Where there is natural terrain outside the site, but within the same catchment, that is at an angular elevation of 20° or more from the site and where there is ground sloping at more than 15° within 50 m horizontally upslope of the site boundary, provided that there is a credible debris flow path to the site.

| Site | Angular elevation of natural terrain ≥20° | Within 50m of ground sloping at >15° | Alert Criteria met? |
|---|---|---|---|
| A | Yes | Yes | Yes |
| B | Yes | No | No |

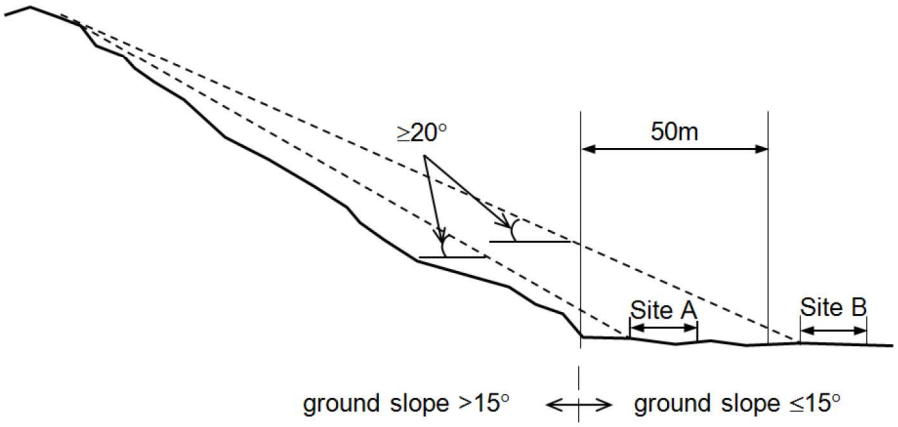



**Figure 2.5 Application of Alert Criteria**

An NTHS may be required for sites that lie beyond the area delineated by the above criteria, as for example for sites where there are historical landslides with long debris runout extending beyond these limits, and for sites that are either intersected by, or adjacent to, a natural drainage course.

A "credible debris flow path" is generally a downhill path followed by surface water. However, flow paths that debris could follow, but are deemed unlikely to do so would not be regarded as "credible". For example, a debris flow path down a ridge line, rather than descending into the catchment on either side of the ridge line, would not be "credible". Another example would be a site that is shielded from debris by a substantial structure such as a large building.

# Appendix B

# SIMAR Slope Report, Feature Registration Form, Stage 1 Study Report and SIRST Report for Feature No. 5SE-D/C76

## BASIC INFORMATION

| | |
|---|---|
| Location: | 150m SE of Lamppost No.FA30226, San Wan , Tuen Mun |
| Registration Date: | 25-02-1998 |
| Ranking Score (NPRS): | 0 (EI) |
| Date of Formation: | pre-1977 |
| Date of Construction/ Modification: | |
| Data Source: | EI |
| Approximate Coordinates: | Easting : 813943 Northing : 826779 |

## CONSEQUENCE-TO-LIFE CATEGORY

| | |
|---|---|
| Facility at Crest: | Undeveloped green belt |
| Distance of Facility from Crest (m): | 0 |
| Facility at Toe: | Road/footpath with low traffic density |
| Distance of Facility from Toe (m): | 5 |
| Consequence-to-life Category: | 3 |
| Remarks: | N/A |

## SLOPE PART

(1) Max. Height (m): 5 Length (m): 110 Average Angle (deg): 42

## WALL PART

N/A

## MAINTENANCE RESPONSIBILITY

(1) Sub Div.: 0 Government Feature Party: Lands D Agent: Lands D Land Cat.: 5b(vi) Reason Code: 62 MR Endorsement Date: 05-06-2002

## DETAILS OF SLOPE / RETAINING WALL

| | |
|---|---|
| Date of Inspection: | 08-04-2002 |
| Data Source: | EI |
| Slope Part Drainage: | N/A |
| Wall Part Drainage: | N/A |

## SLOPE PART

Slope Part (1)
Surface Protection (%): Bare: 0 Vegetated: 100 Chunam: 0 Shotcrete: 0 Other Cover: 0
Material Description: Material type: Soil Geology: Decomposed granite
Berm: No. of Berms: N/A Min. Berm Width (m): N/A
Weepholes: Size (mm): 40 Spacing (m): 1.2

## WALL PART

N/A

## SERVICES

N/A

## CHECKING STATUS INFORMATION

N/A

## BACKGROUND INFORMATION

| | |
|---|---|
| GIU Cell Ref.: | 5SE15C5 |
| Map Sheet Reference (1:1000): | 5SE-15C |
| Aerial Photos: | 20700-1 (1978), |
| Nearest Rainguage Station (Station Number): | Tuen Mun Technical Institute, Tsing Wun Road(N07) |
| Data Collected On: | 08-04-2002 |
| Date of Construction, Subsequent Modification and Demolition: | Modification: Constructed Before: 1978 After: 1976 |
| Related Reports/Files or Documents: | File/Report: Development Ref. No.: GCMd2/B5/10, GCMd3/2/88, GCMd2/B5/14<br>File/Report: Development Ref. No.: GCMd2/B5/10, GCMd3/2/88, GCMd2/B5/14<br>File/Report: LA Ref. No.: GCMd5/3/5 Pt11 f56(2),64,65,72,76<br>File/Report: LA Ref. No.: GCMd5/3/5 Pt11 f56(2),64,65,72,76<br>File/Report: LA Ref. No.: GCMd5/3/5 Pt19 f17,31,54, 6/5/5 Pt5 f18,19,12,14<br>File/Report: LA Ref. No.: GCMd5/3/5 Pt19 f17,31,54, 6/5/5 Pt5 f18,19,12,14<br>File/Report: LA Ref. No.: GCMd5/6/5 Pt10 f4,23,30,34, Pt13 f2,3<br>File/Report: LA Ref. No.: GCMd5/6/5 Pt10 f4,23,30,34, Pt13 f2,3<br>File/Report: LA Ref. No.: GCMd5/6/5 Pt7 f120, 126, 160<br>File/Report: LA Ref. No.: GCMd5/6/5 Pt7 f120, 126, 160<br>File/Report: LA Ref. No.: GCMd5/6/5 Pt7 f73,79,80,81,85,97,103,104,116,118<br>File/Report: LA Ref. No.: GCMd5/6/5 Pt7 f73,79,80,81,85,97,103,104,116,118<br>File/Report: LA Ref. No.: GCMd5/6/5 Pt8 f32,34,36,39,59,67, Pt9 f115,129<br>File/Report: LA Ref. No.: GCMd5/6/5 Pt8 f32,34,36,39,59,67, Pt9 f115,129<br>File/Report: LA Ref. No.: GCMd5/6/5 Pt9 f83(2),90,105<br>File/Report: LA Ref. No.: GCMd5/6/5 Pt9 f83(2),90,105 |
| Remarks: | N/A |
| Follow Up Actions: | N/A |

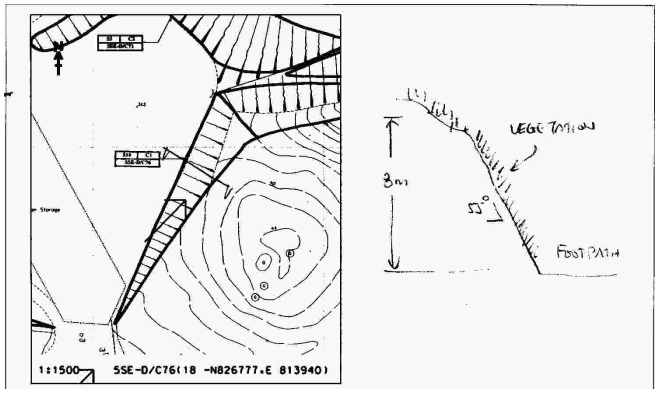
| | |
|---|---|
| DH-Order (To Be Confirmed with Buildings Department): | None |
| Advisory Letter (To Be Confirmed with Buildings Department): | None |
| LPMIS: | None |

## ENHANCED MAINTENANCE INFORMATION

From Maintenance Department: (Last Updated Date: 26/06/2025)

## STAGE 1 STUDY REPORT

| | |
|---|---|
| Inspected On: | 25-09-1997 |
| Weather: | Mainly Fine |
| District: | MW |




| | |
|---|---|
| Section No: | 1-1 |
| Height(m): | H1 : 8 , H2 : 0 |
| Type of Toe Facility: | Road/footpath with low traffic density |
| Distance from Toe(m): | 5 |
| Type of Crest Facility: | Undeveloped green belt |
| Distance from Crest(m): | 0 |
| Consequence Category: | 3 |
| Engineering Judgement: | P |
| Section No: | 2-2 |
| Type of Toe Facility: | N/A |
| Distance from Toe(m): | 0 |
| Type of Crest Facility: | N/A |
| Distance from Crest(m): | 0 |
| Consequence Category: | 3 |
| Engineering Judgement: | P |
| Sign of Seepage: | Slope : No signs of seepage<br>Wall : N/A |
| Criterion A satisfied: | N |
| Sign of Distress: | Slope : Reasonable (near crest, mid-portion, at toe)<br>Wall : N/A |

| | |
|---|---|
| Criterion D satisfied: | N |
| Non-routine maintenance required: | N |
| Note: | N/A |
| Masonry wall/Masonry facing: | N |
| Note: | N/A |
| Consequence category (for critical section): | 3 |
| Observations: | N/A |
| Emergency Action Required: | N |
| Action By: | N/A |

## ACTION TO INITIATE PREVENTIVE WORKS

| | |
|---|---|
| Criterion A/Criterion D: | N/A |
| Action By: | N/A |
| Further Study: | Y |
| Action By: | Mixed |

## OTHER EXTERNAL ACTION

| | |
|---|---|
| Check / repair Services: | N |
| Action By: | N/A |
| Non-routine Maintenance: | N |
| Action By: | N/A |

## PHOTO

5SE-D/F 71
5SE-D/F 68
5SE-D/F 76
5SE-D/F 73
5SE-D/C 167
5SE-D/F 67
5SE-D/C 75
5SE-D/C 76
5SE-D/F 66
5SE-D/F 75
5SE-D/F 72
5SE-D/C 166
5SE-D/F 69
SAN SHEK W
20
40
40
40
20
紅樓休憩處
紅樓
Hung Lau

49783

# SIRST - FIELD SHEET(FIELD OBSERVATION)

## GENERAL



Sift No C: 5SE - 15C / S 18

Examples
15NE- 4C/S123
7SW-12A/S 6

Feature No C: 5SE - D / C - 76

11SW-A/C -1013
7NE-B/FR- 5

Slope/Wall Location C: 150m S.E. of Lamp Post No. FA 30226, San Shek Wan, Tuen Mun

Toe Elevation C: 51.2

Examples
Date: 30/ 1/97
8/12/96

| Inspected/Checked date C | Inspected by (TO) C | Checked by C | Consequence Category C1 | Weather ( past 48 hours to now ) C1 |
|---|---|---|---|---|
| 25 / 9 / 97 | SKH | ASL | ○ 1-H ○ 2-L ● 3-N | ● Mainly Fine ○ Some Rain ○ Heavy Rain |

**GENERAL** **Complete this GENERAL section for ALL features**

Nearest structure on critical consequence section 1

| TOE Structure type C | TOE distance (m) C | TOE Struct Elevation (for Fill feature only) | CREST Structure type C | CREST distance (m) C |
|---|---|---|---|---|
| 4R | 0.0 | | 5B | 0.0 |

Road / FootPath Name (no. of lanes, AADT) DC: FOOTPATH

Road / FootPath Name (no. of lanes, AADT) DC:

| Service Conduit | water main | sewer drain | gas main | telecom cable | electricity | Other duct |
|---|---|---|---|---|---|---|
| Crest Size (mm) | | | | | | |
| On Slope (mm) | | | | | | |

○ Reinforcement/supports (e.g. soil nail, buttress, propping, rock bolts/dowels)

Observation

Found to be
○ NE ○ WIP
○ NR ○ bdy amend
○ AP ○ type amend
○ U

Follow up notes DC

Follow Up C1
○ Yes ● No

Reviewed & checked items in accordance with SIRST Procedural Manual (Mar 96)

# SIRST - FIELD SHEET(FIELD OBSERVATION)

41370

## SLOPE



C Feature No: 55E - D / C - 76

**SLOPE** **This SLOPE section should be completed if the feature has a significant slope portion**

C1: (●) soil ( ) rock ( ) soil & rock

Cut Slope Soil Type DC1: ( ) colluvium (●) d.volcanic ( ) d.granite ( ) other geology

| Covering type and extent ( % age ) | Sealed C | Vegetated C | Bare soil/rock C | Seal Type DC2 | Condition |
|---|---|---|---|---|---|
| Slope Face | | 100 | 0 | ( ) chunam ( ) shotcrete | C1 ( ) poor (●) fair ( ) good |
| Beyond Crest | C 0 | | | | C1 ( ) poor (●) fair ( ) good |

| Maximum Height(m) C | Length(m) C | Angle(deg) C | Berms No. | Min width (m) |
|---|---|---|---|---|
| 8.0 | 110.0 | 55 | 0 | . |

| C1 | Spacing(m) | Size(mm) | Condition | Flow |
|---|---|---|---|---|
| ( ) WeepHole | ( ) Occasional ( ) 1.4-1.8 | ( ) < 30 ( ) 51-80 | ( ) Blocked | ( ) None ( ) Major |
| ( ) Horiz. Drains | ( ) Random ( ) <1.4 | ( ) 31-50 ( ) > 80 | ( ) Partially Blocked | ( ) Minor ( ) With soil/muddy |
| (●) None | ( ) 1.9-2.5 | | ( ) Clear | |

| Uchannel Type | Size (mm) C1 for each group: <100 | 101-150 | 151-200 | 201-250 | 251-300 | >300 | None | CND | condition: severe cracks | crack | blocked | partially blocked | clear | flow: dry | small | high | ponding |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| stepped | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | (●) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) |
| crest | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | (●) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) |
| berm | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | (●) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) |
| slope | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | (●) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) | ( ) |
| toe | ( ) | ( ) | ( ) | ( ) | ( ) | (●) | ( ) | ( ) | ( ) | ( ) | ( ) | (●) | ( ) | (●) | ( ) | ( ) | ( ) |

DC1 DC1

Seepage

C1
- ( ) Heavy seepage at or above mid-ht or from several rock jt at one location
- ( ) slight/mod. seepage at or above mid-height or from several rock jt at one location
- ( ) heavy below mid-height or from isolated rock joints
- ( ) slight/mod. below mid-height or from isolated rock joints
- ( ) signs at slope or crest wall
- (●) no sign

Water-carrying Services

C1
- ( ) potential leaky services and leakage signs
- ( ) potential leaky services but no leakage sign
- (●) no potential leaky service

Leakage Notes DC

Inferred Past Instability

C1 ( ) Major ( ) Minor ( ) Multiple minor (●) None

Sign of Distress

C1 ( ) Severe ( ) Minor (●) Reasonable ( ) None

Distress Location DCM

(●) near crest (●) midportion (●) toe

Distress Notes DC

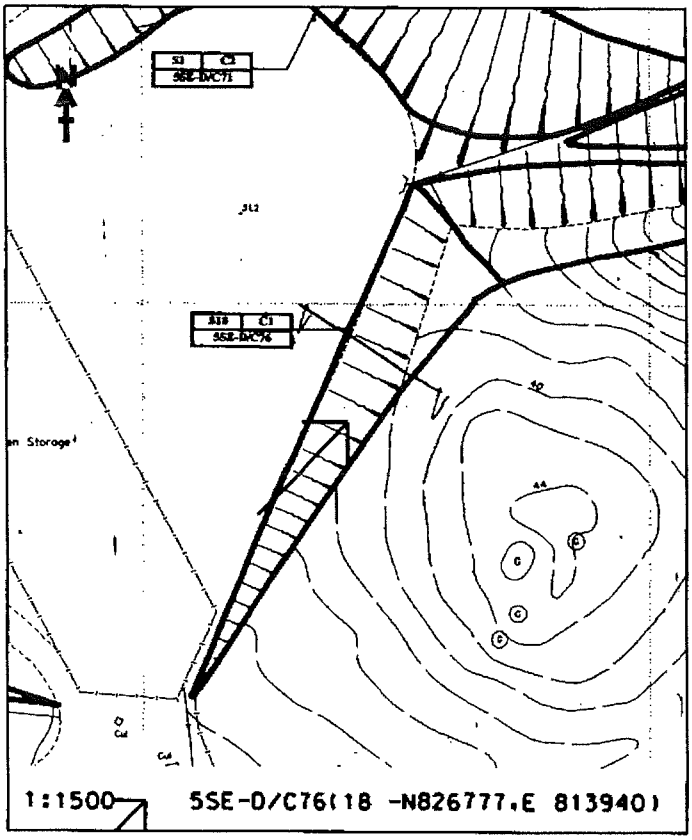
## STAGE1 CUT, and RETAINING WALL

Feature No C: 5SE - D/C76 - 75

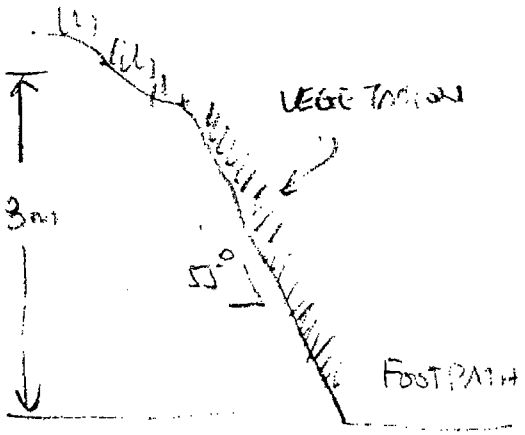
Date Inspected C: 25/9/97

Inspected by (GB) C: ASL

Sketch Plan :




Section: Critical consequence 1 (2)




| Critical Consequence Section | Consequence Category C1 | Engineering Judgement C1 | Overall Fail Possible (for Toe Wall only) | Weather ( past 48 hours to now ) C1 |
|---|---|---|---|---|
| | ○ 1-H ○ 2-L ● 3-N | ○ HP ● P ○ U | ○ Y ○ N | ● Mainly Fine ○ Some Rain ○ Heavy Rain |

| Masonry Wall/ Masonry Facing C1 | Masonry Notes | Non routine Maintenance Required C1 | NRM Notes DC |
|---|---|---|---|
| ○ Y ● N | | ○ Y ● N | |

Emergency action Required C1: ○ Y ● N

Action agency ( NRM or Emergency ) DCM: ○ Private(BD) ○ HyD ○ ASD ○ DLO ○ WSD ○ HD ○ Other

| Action to initiate preventive works/study | Criterion A C1 | Criterion D C1 | Further Study | Other External Action | Check / Repair Service | Action By | Inspection Agency |
|---|---|---|---|---|---|---|---|
| | ○ Y ● N | ○ Y ● N | ● | | ○ | Repair Services Agency DC1: ○ BD ○ WSD ○ DSD | B C L C |
| | Action By DC1: ○ BD(private) ○ Govt | | | | | | |

Recommendation Agreed by : C. L. LAM  Post: LGE/ES(BCL)  Date : 28 OCT 1997

37479

# CUT SLOPE ( NPCS )



Feature No C: 5SE - D / C - 76

Date Inspected C: 25 / 9 / 97

Inspected by (GE) C: ASL

**NEW PRIORITY CLASSIFICATION SYSTEM FOR SOIL AND ROCK CUT SLOPES** (Note : For ROCK NPCS, complete P.7 also)

## GEOMETRY

| | Critical 1 *all C* | Critical 2 | Max. Ht. (if ΔH > 25%) |
|---|---|---|---|
| $H_s$ (Soil part) | 8.0 m | m | m |
| $H_r$ (Rock part) | 0.0 m | m | m |
| $H_{cw}$ (Crest wall) | 0.0 m | m | m |
| $H_r$ (Toe wall) | 0.0 m | m | m |
| β (Upslope) | 35° | ° | ° |
| θ (Slope part) | 55° | ° | |
| α (Downslope) | 0° | ° | ° |
| Toe of realistic slip surface within Hs | ● YES ○ NO | ○ YES ○ NO | |
| Surcharge | 0 kPa | kPa | |

Weather ( past 48 hours to now ) *C1*
- ● Mainly Fine
- ○ Some Rain
- ○ Heavy Rain

## POTENTIAL FOR WATER INGRESS

Drainage Provisions *C1*
- ○ Few / no channel + potential for convergent surface water flow above crest
- ● Few / no channels
- ○ Some channels but insufficient size or number
- ○ Adequate channels

Lithology *C1*
- ● Typical Granite or Volcanics
- ○ Atypical Granite or Volcanics
- ○ Others

**This box is for Soil Cut only**

## NATURE OF SLOPE-FORMING MATERIAL

Adverse Geological Features *DC1*
- ○ AO relict jt., intensely weather/alter seams, dykes
- ○ Present which may weaken mass strength
- ● None

Weighting Factor, W *all C*

Good | Uncertain A

Moderate: 100 | Uncertain B

Poor

## CONSEQUENCE FACTOR *CM*

- ○ Large failure Volume ( > 500 cubic metre ) expected
- ○ buildings may collapse / covered in landslip, or mass transportation seriously affected
- ● None of the above or Conseq. Cat. 3

Soil Slope Failure Mode *C1*
- ● Full-scale
- ○ Partial
- ○ Minor

| Nearest structure on critical consequence section 2 | TOE Structure type | TOE distance (m) | TOE Struct Elevation (for Fill feature only) | CREST Structure type | CREST distance (m) |
|---|---|---|---|---|---|
| | | | | | |

# SIRST

## (PREVIOUS HISTORY /DOCUMENTATION -BACKGROUND INFORMATION)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| GE Area: MW | SIFT No.: 5SE-15C/S18 | SIFT Class.: C1 | 78 Catalog: N | Reference No.: 5SE-D/C76 | | | |
| Coordinates: N 826777 | E 813940 | Nearest Rain. Stn.: N07 | | Previous Feature No. | | | |
| Date of Construction & Subsequent Modification / Demolition | Original Constr'n Date: / / 1976-78 | Subsequent Modifications / Demolition: / / | | Aerial Photo (No. / year): 20700-1, 1978 | | | |
| Reference (File No., Folio No., Paper No., etc) | Previous Instability | Date of Incident: | Incident No. | Ground Anchors | | | |
| Confirmed Past Instability: ○ Major ○ Full-ht fail; ○ Multi Minor ○ Multi part-ht or struc fail; ○ Minor ○ Part-ht fail ○ struct fail only; ○ None ○ None | DB or DH | | | LRDC | | | |
| | PWDC | | | GCC | | | |
| | L&WC | | | DLC / BC | | | |
| | CLC | | | Disused Tunnels | Network Ref: | Location: | |
| | LA | GCMd 5/3/5 pt(11) f(56(2), 64, 65, 72, 76) ; 5/6/5 pt(1) f(73, 79, 80, 81, 85, 97, 103, 104, 116, 118, 120, 126, 160) | | Piezometer data available ? | | | |
| | | | | Within MTR Protection Zone | ○ N ○ Y | | |
| | | | | Ground Investigation - GIU Call Ref.: | 5SE15C5 | | |
| Public / Private Developments File Reference | File Ref: GCMd 2/B5/10 , GCMd 3/2/88, GCMd 2/B5/4 | | | | | | |
| Binnie & Partners reports | Mid Levels Study Report / B&P's Landslide Study Phase IIA / IIB / IIC : | | | | | | |
| GEO Reports | | | | | | | |
| LPM Works | | | | | | | |
| Other Reports | (None) Pre-SIRST Field Sheet / North Point Study / within Victoria Barrack Geotechnical Study area / Others (specify): | | | | | | |

**D-Notice? ***

(N) Y → File Ref (DH/DB File): | Date Recommended: / / | Date served (BD issue date): / / | Order No.

Recommendation

Defaulted (eg. beyond 4 month done by Dept) N / Y → Year Discharged: (when the works become satisfactory, order compiled):

**Advisory Letter? ***

(N) Y → File Ref (DH/DB File): | Date Recommended: / / | Date served (BD issue date): / /

Recommendation

Works Complete: N / Y → Year of Completion:

**Information from Design Div's Database:** Status as at( / / )

**Maintenance responsibility:**

Private (Government) / Mixed — Confirmed by DLO: Y / (N)

Dept Responsible: HyD / HD / DSD / WSD / TDD / Arch SD / AFD / USD / (DLO) / RSD / CED — Confirmed by DLO: Y / (N)

**Remarks:** L.A. GCMd 5/6/5 pt(8) f(32,34,36,39,59,67)
" " pt(9) f(115, 129)
" " pt(10) f(4, 23, 30, 34)
" " pt(13) f(2, 3)
" 5/3/5 pt(9) f(17, 31, 54)
" 5/5/5 pt(5) f(8, 9, 12, 14)
" 5/6/5 pt(9) f(83(2), 90, 105)

By: SSK Date: 19.8.97 | Checked: Date: / /

Feature requires Stage 1 and NPCS ? (Y) / N →

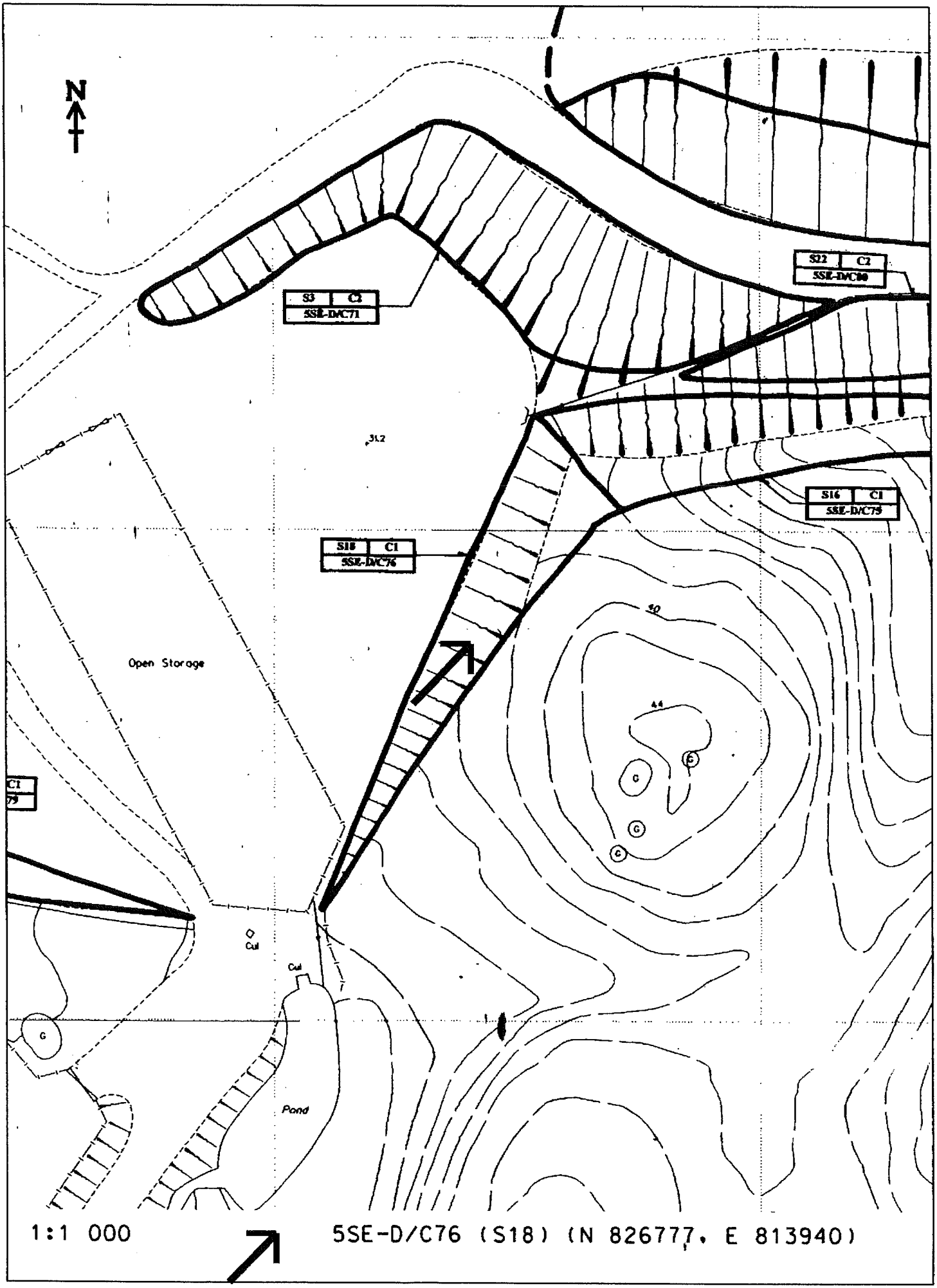
If N, due to:
- Formed or modified post mid 78 (after 30/6/78) Confirmed
- Feature removed
- Stabilised under LPM
- Checked by GEO/GCB
- Studied- report equiv to GEO Stage 1 → if only these, Just NPCS
- Fill / Undergone LPM Selection (88-91) → if only these, Just NPCS
- Studied or pending study equiv or above GEO Stage 2
- Being studied under LPM Programme
- D Notice recommended for overall stability study/investigation

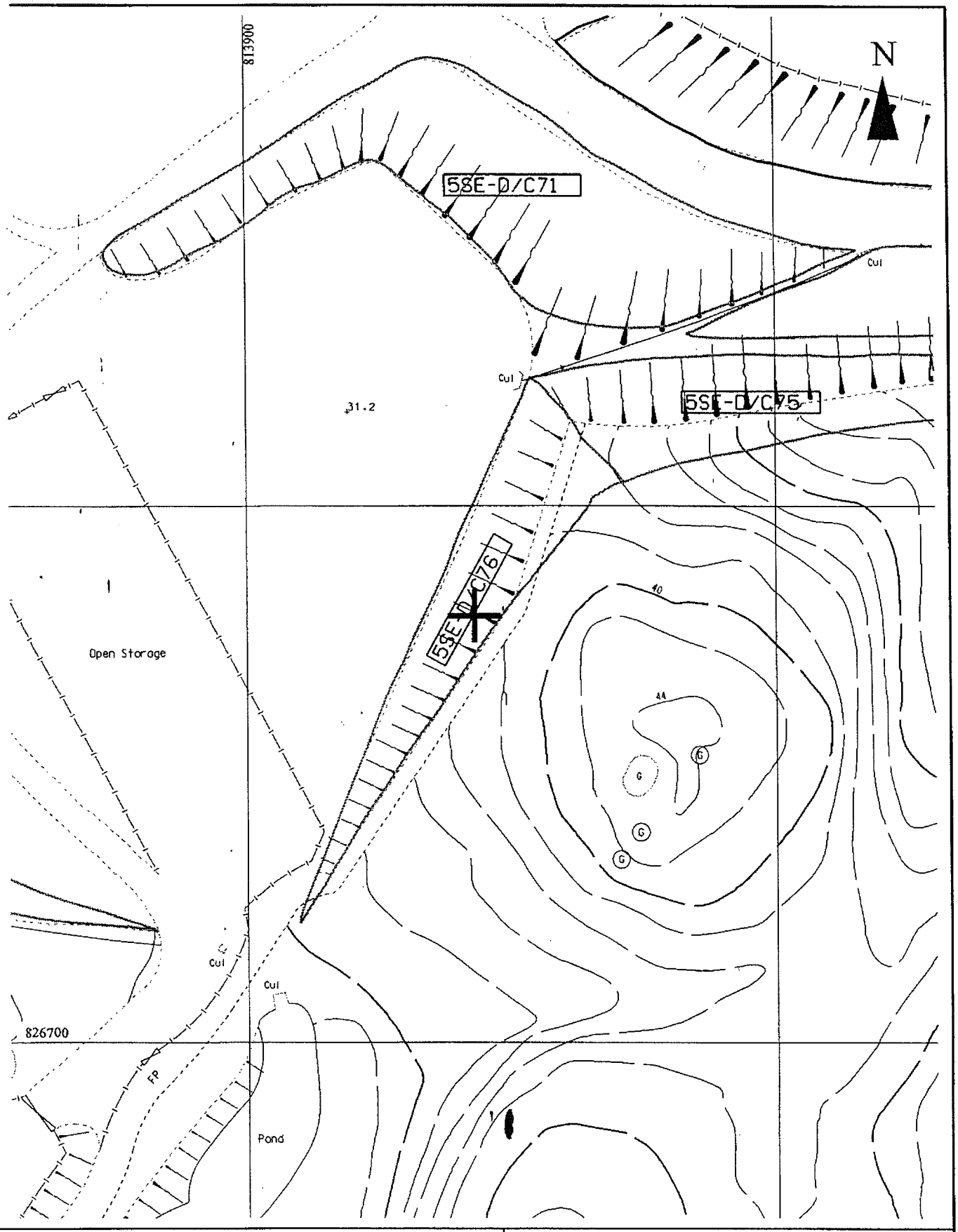
NOTES:

1. Confirmed Past Instability refers to past instability with confirmed documentary evidence of its occurrence - Read a) Landslip Incident Reports & Landslip Cards (If Landslip Card exists —> Major; Report/summary identified "Major" for slopes —> Major. Drg. A1 show locations of fill failure. For other cases and for all wall failures, study report and sketch to determine; eg. multi-minor, full-ht fail, etc.
   b) B&P Fieldsheets
   c) 1:2500 GAS Reports

| SLOPE | WALL |
|---|---|
| Major - failure volume >= 50 cu m (unbulked), or >= 25 cu m & involving major portion of upslope area | Full-ht failure - those involving overall wall ht (>= 75% wall ht) & retained material |
| Minor - not major | Part-ht (< 75% wall ht) failure - those not involving full wall ht |
| (upslope area refers to that within a horiz dist = half of the max. possible failure ht) | Structural failure - those of wall fabric only without movement of the retained material |

2. More D-Notice / Advisory Letter information may exist on additional page.
3. If feature requires SIRST Stage 1 Study, a NPCS would also be required to be performed at the same time.
4. If a SIRST Stage 1 is not required ONLY because of a previous Stage 1 or LPM selec (88-91), ie. no Stage 2 or higher level study nor any of the other criteria for no Stage 1 is satisfied, then a NPCS is still needed. Circle the "Just NPCS" selection to indicate this.


N
S3 C1
5SE-D/C71
S22 C2
5SE-D/C80
S16 C1
5SE-D/C75
S18 C1
5SE-D/C76
Open Storage
Cul
Cul
Pond
1:1 000
5SE-D/C76 (S18) (N 826777, E 813940)

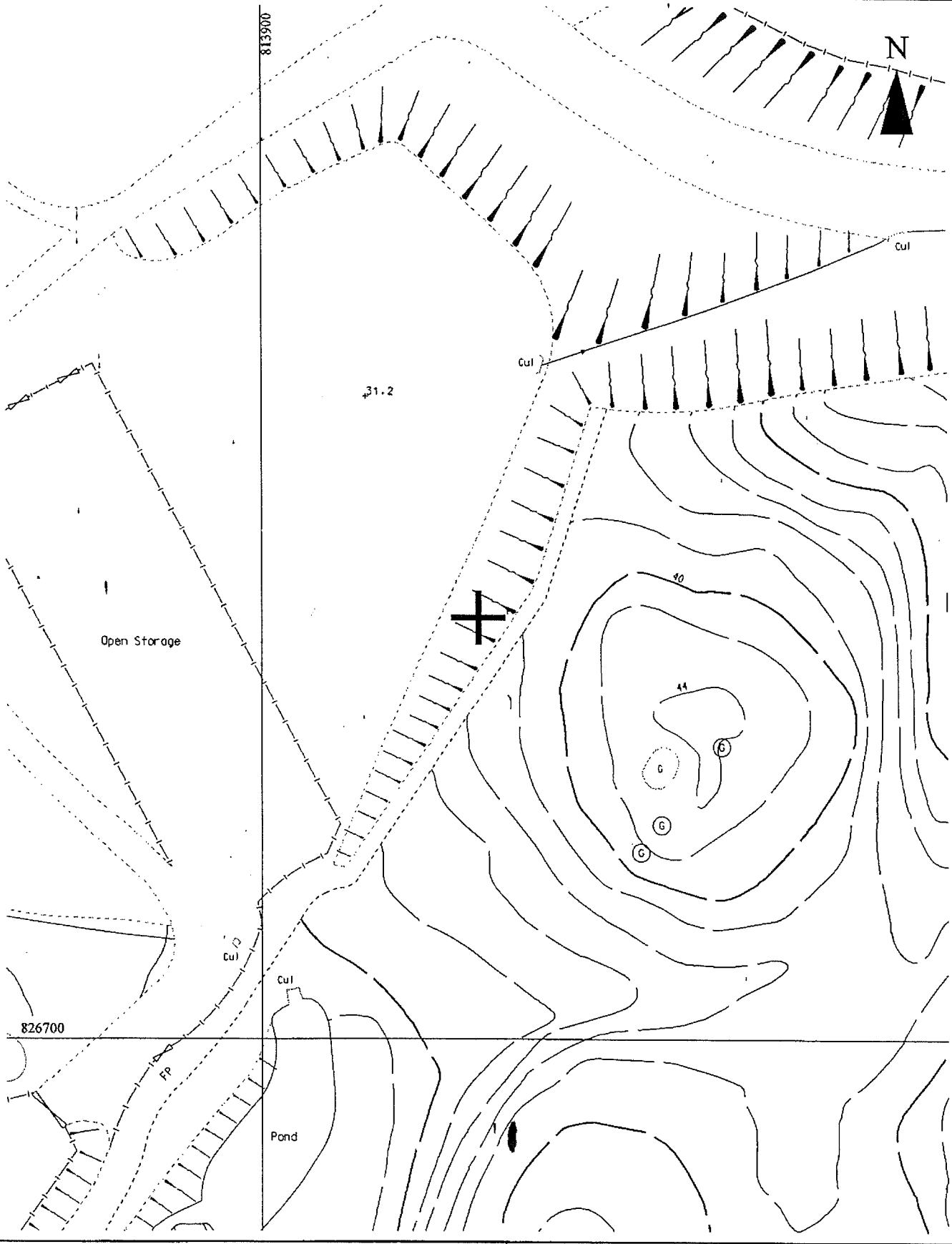



# Geotechnical Engineering Office | Slope Location Plan

Slope No.: 5SE-D/C 76 Easting : 813942.791 Northing : 826779.43

Sift Ref. No.: 5SE-15C/S 18 Easting : 813940 Northing : 826777

Scale 1:1000 Date Print : 27- 4-1998 Map Modification Date : 23- 4- 1998 Page 1 of 2




# Geotechnical Engineering Office

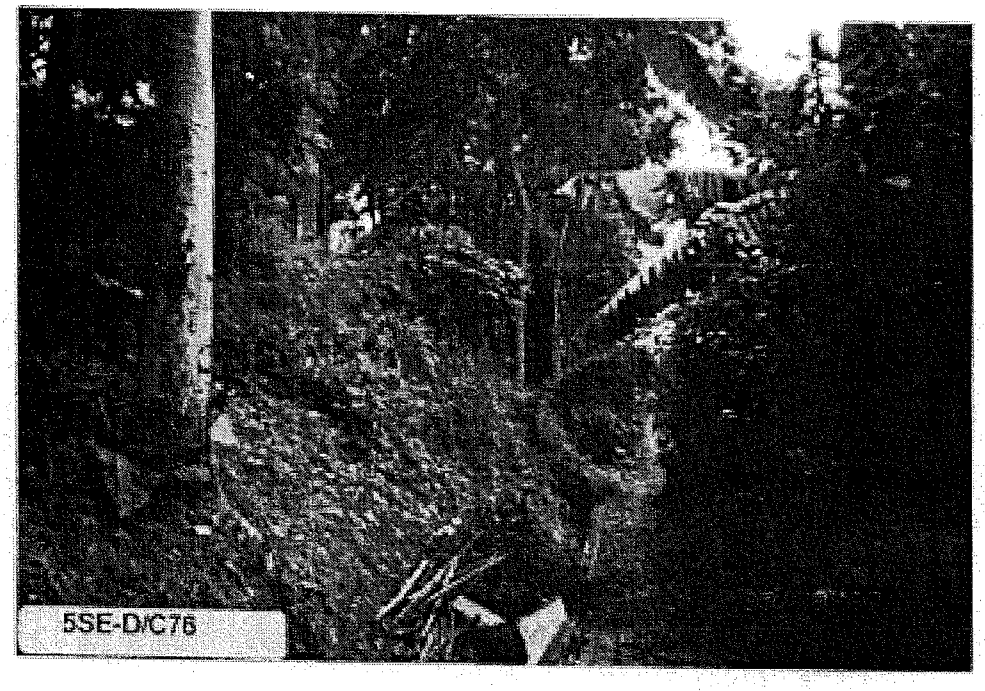
## Slope Location Plan (Old Plan)

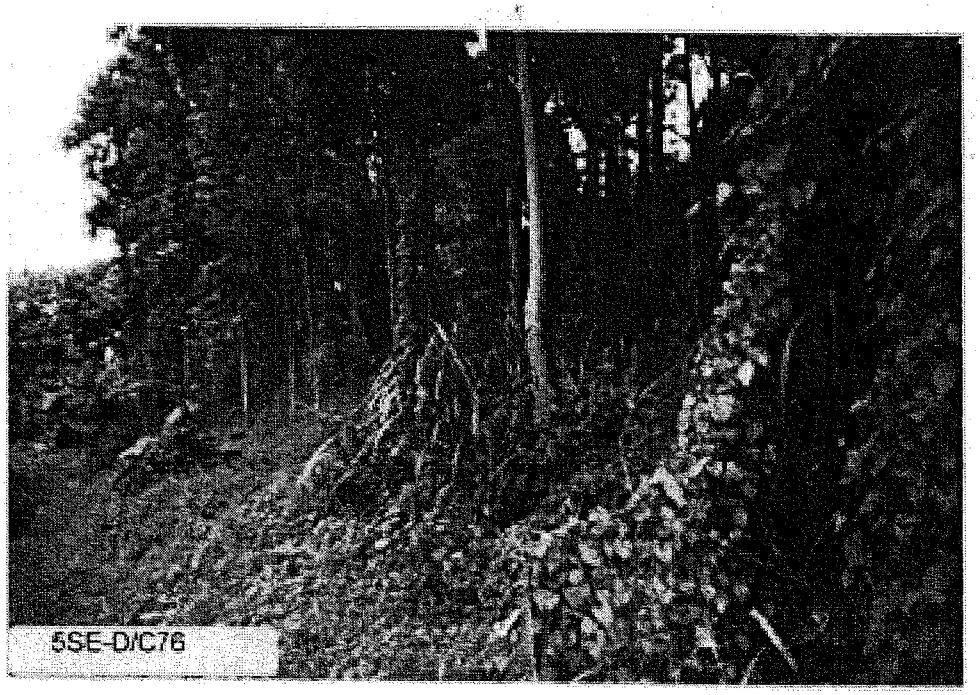
5SE-D/C 76 not exist on this survey plan.

Sift Ref. No.: 5SE-15C/S 18 Easting : 813940 Northing : 826777

Scale 1:1000 Date Print : 27- 4-1998 Map Modification Date : 11- 3- 1998 Page 2 of 2

Negative No. 5997/C79/28 Taken on 25 - 9 - 97 Slope/Wall Ref. No. 5SE-D/C76




INVESTIGATION ON SLOPES AND RETAINING WALLS

GEOTECHNICAL ENGINEERING OFFICE
CIVIL ENGINEERING DEPARTMENT

© Eng D (GEO) 88

Negative No. 5/97/479/22 Taken on 25-9-97 Slope/Wall Ref. No. 5SE-D/C76

# Appendix C

# Existing Ground Investigation Records

JCRIC

LAM GEOTECHNICS LIMITED

GEOTECHNICAL INFORMATION UNIT
RECEIVED

CED Contract No. GE/95/12
Ground Investigation New Territories West
Term Contract

**W.O. No. GE/95/12:50**
**Agreement No. CE 44/95**
**Foothills Bypass, Tnen Mun Road/Wong Chn Road Interehange and Other Road Junction Improvement Works Additional GI - Phase I, Area 19**

# FIELDWORK REPORT

JCRIC

See also 27072

CIVIL ENGINEERING DEPARTMENT
GEOTECHNICAL INFORMATION UNIT
Report No. 21930
ARB. Ref.

CONTRACTOR

[redacted]

Date: 7th April 1997

CLIENT

GOVERNMENT OF HONG KONG
Civil Engineering Department
Geotechnical Engineering Office
Civil Engineering Building
101 Princess Margaret Road
Homantin
Kowloon

JCRIC



JCRIC

# DRILLHOLE RECORD

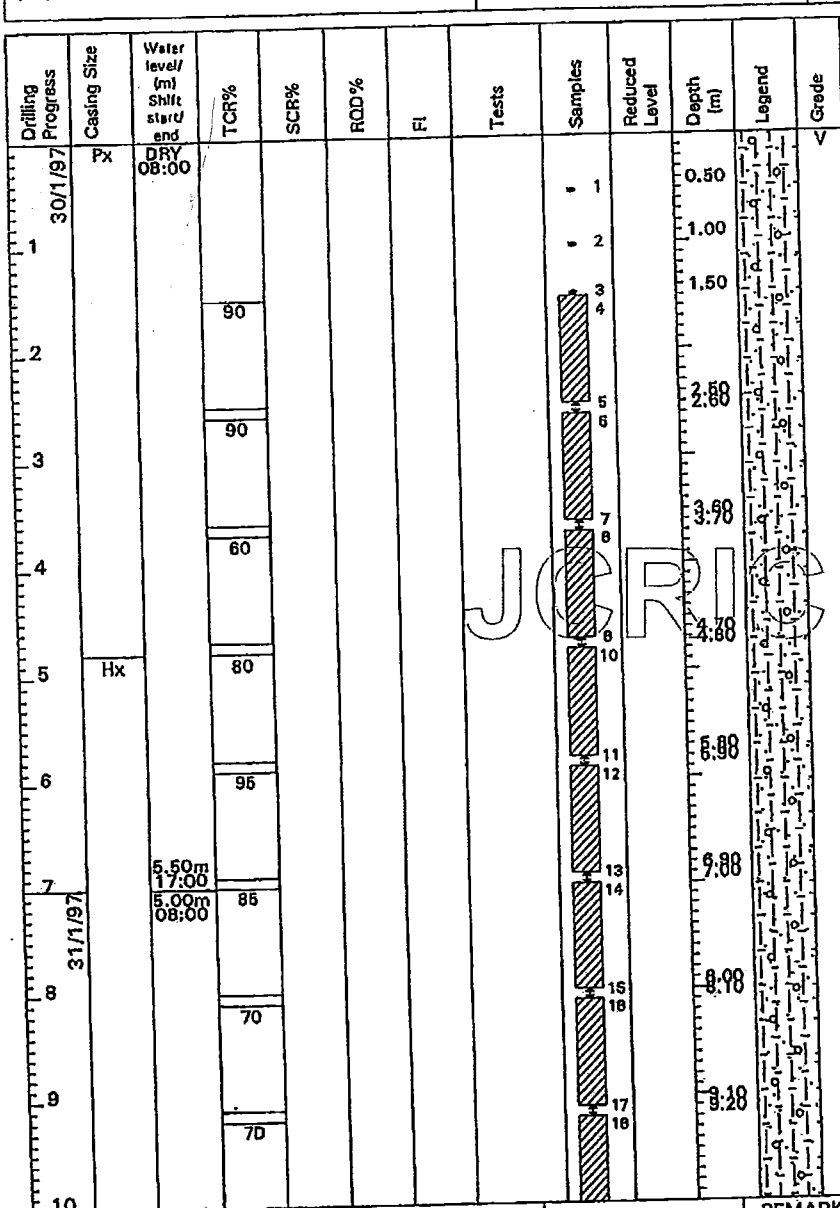
HOLE NO. D-3

SHEET 1 OF 2

CONTRACT NO. GE/95/12 LG21726/37

PROJECT Foothills Bypass, Tuen Mun Road/Wong Chu Road Interchange and Other Road Junction Improvement Works

| | | |
|---|---|---|
| METHOD Rotary | CO-ORDINATES E 513938.98 N 826829.97 | W.O. NO. GE/95/12.50 |
| MACHINE & NO. Longyear D65 | | DATE : 30/01/97 To 31/01/97 |
| FLUSHING MEDIUM Water | ORIENTATION Vertical | GROUND LEVEL 31.02 mPD |




Description

Extremely weak, light greenish brown, completely decomposed ANDESITE? (Stiff to very stiff, clayey sandy SILT with occasional light greenish grey subrounded medium to coarse gravel sized quartzitic clasts and occasional limonite stained relict joints)

Disturbed Sample
Piston Sample
U76 Undisturbed Sample
U100 Undisturbed Sample
Mazier Sample
SPT Liner Sample
Water Sample
Standard Penetration Test
In-situ Vane Shear Test
Permeability Test
Impression Packer Test
Packer Test
Piezometer Tip
Observation Well Tip

LOGGED S.P.Su

DATE 11/02/97

CHECKED M.D.

DATE 13/02/97

REMARKS

1. Piezometer installed at 16.47m depth.
2. Core loss in core run from 11.57m-11.97m assumed to be grade V andasite?


Lam Geotechnics Limited

Office: 23/F World Trade Centre, 280 Gloucester Rd., Causeway Bay, Hong Kong.
Laboratory: 26/F., Unit 3, Honour Ind. Centre, No. 6, Sun Yip St., Chaiwan, Hong Kong.
Tel: 2882 - 3939 Fax: 2882 - 3331


JCRIC

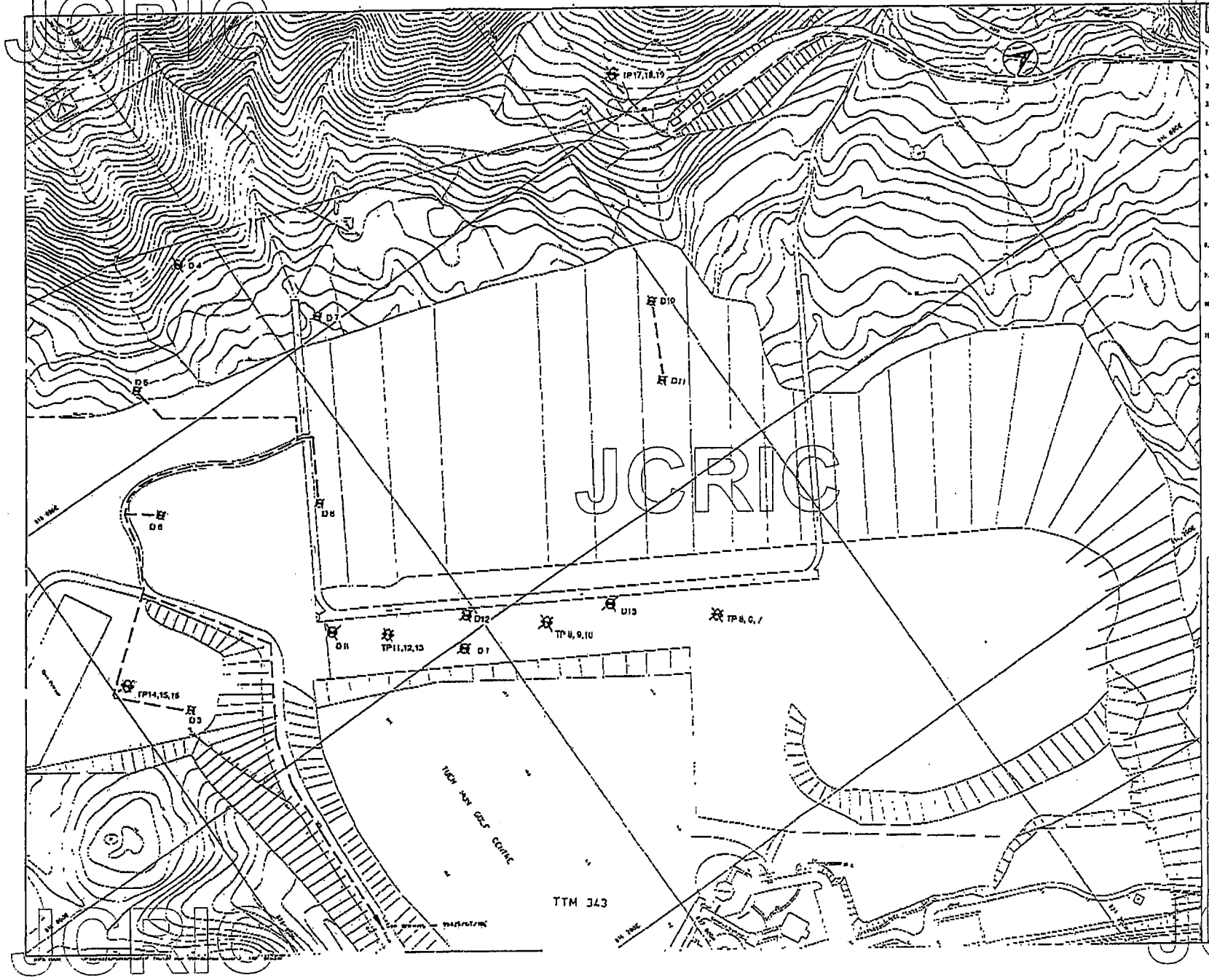
C2

Works Order No. GE/95/12.50
Foothills Bypass, Tuen Mun Road/Wong Chu Road Interchange and Other Road Junction Improvement Works

# Water Level Readings

| DRILLHOLE No. | Ground Level (m.P.D.) | Co-ordinates | | Date Installed | Installed Depth (m) | Date & Water Level (m) (depth measured below ground level) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Easting | Northing | | | | | | | | | |
| D 3 (P) | 31.02 | 813938.98 | 826829.97 | 31/01/97 | 16.47 | 12/02/97 8.05 | 13/02/97 7.93 | 14/02/97 8.12 | 15/02/97 7.73 | 17/02/97 7.80 | 18/02/97 7.83 | 19/02/97 7.78 |
| D 4 (P) | 79.32 | 813719.27 | 826975.81 | 07/03/97 | 20.00 | 10/03/97 14.56 | 11/03/97 14.58 | 12/03/97 14.63 | 13/03/97 14.75 | 14/03/97 14.83 | 15/03/97 14.98 | 17/03/97 15.32 |
| D 6 (P) | 38.61 | 813834.99 | 826883.01 | 03/02/97 | 10.00 | 14/02/97 3.69 | 15/02/97 3.76 | 17/02/97 3.85 | 18/02/97 3.97 | 19/02/97 4.13 | 20/02/97 4.32 | 21/02/97 4.46 |
| D 7 (P) | 62.43 | 813787.83 | 827021.85 | 27/02/97 | 21.00 | 06/03/97 7.52 | 07/03/97 7.84 | 08/03/97 7.96 | 10/03/97 8.03 | 11/03/97 8.05 | 12/03/97 8.08 | 13/03/97 8.10 |
| D 9 (P) | 22.30 | 813949.98 | 826924.99 | 29/01/97 | 13.12 | 12/02/97 4.73 | 13/02/97 4.65 | 14/02/97 4.78 | 15/02/97 4.61 | 17/02/97 4.66 | 18/02/97 4.63 | 19/02/97 4.62 |
| D10 (P) | 61.67 | 813898.21 | 827191.46 | 20/02/97 | 4.00 | 24/02/97 2.44 | 25/02/97 2.53 | 26/02/97 2.45 | 27/02/97 2.80 | 28/02/97 2.58 | 01/03/97 2.59 | 03/03/97 2.61 |
| D10 (P) | 61.67 | 813898.21 | 827191.45 | 20/02/97 | 29.00 | 24/02/97 7.99 | 25/02/97 8.03 | 26/02/97 8.05 | 27/02/97 8.20 | 28/02/97 8.23 | 01/03/97 8.27 | 03/03/97 8.30 |
| D13 (P) | 21.55 | 814031.59 | 827068.14 | 25/02/97 | 16.00 | 01/03/97 1.58 | 03/03/97 1.59 | 04/03/97 1.60 | 05/03/97 1.61 | 06/03/97 1.62 | 07/03/97 1.60 | 08/03/97 1.60 |

(S)-Standpipe (P)-Piezometer




Government of Hong Kong
Territory Development Department
New Territories West Development Office

Notes

1. Dimensions are in metres unless shown otherwise.
2. Coordinates are based on the Hong Kong Datum Grid (1963).
3. Levels are given in metres and refer to Principal Datum (PD) unless shown otherwise.
4. Borehole plan was compiled from survey sheet nos. 23E25C | 23E26A
   11E25D | 11E26B
5. Refer to Tender 95825/GT/102 for schedule of exploratory holes.
6. The exact locations of all exploratory holes are to be agreed on site by the Engineer's Representative.
7. Details of all geotechnical installations to be undertaken on site by the Engineers Representative. All excavations are to be reinstated with suitable backfill.
8. Details of all instrumentation installations to be undertaken on site by the Engineers Representative.
9. Invasive density tests shall be conducted at trial pits and monitors as instructed on site by the Engineers Representative.
10. Plate bearing tests shall be carried out at the base of test pits as instructed on site by the Engineers Representative.
11. For extract of legend refer to Drawing No 95825/GT/106.

| | | | | |
|---|---|---|---|---|
| F | Nov 96 | Proposed access route removed | KW | GAT |
| E | Oct 96 | Trial trenches removed | KW | GAT |
| D | Jul 96 | Proposed highway alignment updated | KW | GAT |
| C | Oct 95 | Scope of investigation revised | KW | GAT |
| B | Aug 95 | Proposed access routes added | KW | GAT |
| A | Sep 95 | Proposed highway alignment revised | KW | GAT |
| Suffix | Date | Amendment | Drawn | Checked |

AGREEMENT NO CE64/95
FOOTHILLS BYPASS, TUEN MUN ROAD/
YUEN CHU KOAD INTERCHANGE AND OTHER
ROAD JUNCTION IMPROVEMENT WORKS

ADDITIONAL GROUND INVESTIGATION
PHASE I - AREA 19

# EXPLORATORY HOLE LOCATION PLAN

Drawing No. 95825/GT/11F

Drawn KW | Checked GAT | Scale 1 : 1000 | Date Sept 1996

Scott Wilson Kirkpatrick
consulting engineers

Aspinwall Cloughton
ERM Hong Kong
Parsons Brinckerhoff (Asia)
SWK Atkins

TUEN MUN NEW TOWN

AREA 19

# FINAL REPORT ON GEOTECHNICAL STUDY WITH PARTICULAR REFERENCE TO SLOPE STABILITY

JULY 1979

VOLUME II

GEOTECHNICAL INFORMATION UNIT
Report No. 14611
AREA Ref. 5SE10C,D
5SE1F

1-SE10C,D
X SE1F

Gammon (Hong Kong) Limited
CIVIL ENGINEERS & CONTRACTORS
Gammon House, 2nd Floor 12 Harcourt Road HONG KONG.
Tel 5 265221 Cables: GAMMONCO Telex: HX73826

# REPORT ON DRILLHOLE/BOREHOLE No. 73206/HOOD Sheet 2 of 2

Client/Consultant UNIVERSAL DOCKYARD LTD
Job No./Tender No. 756
Location TUEN MUN NEW TOWN GROUND INVESTIGATION
Ex. Ground Level/Sea Bed Level +39.95 m.P.D
Coordinates N 26135.3 E 13957.2
Orientation VERTICAL
Method ROTARY
Machine D29
Core Barrel TNW
Date From 6-2-77 To 7-2-77

| Progress | Sample Depth (m) | Sample No. | Sample Blows/305 mm | Sample Type | Water Rec'y (%) | Core Rec'y (%) | Depth (m) | Description of Strata | Depth (Metre) Casing Size | Symbolic Log |
|---|---|---|---|---|---|---|---|---|---|---|
| 7-2-77 | | | | | 100 | 100 | 20.9 | DARK GREY FRACTURED PORPHYRY | | |
| | | | | | | 100 | 22 | | | |
| | | | | | | 100 | 22.23 | | | |
| | | | | | | 100 | 23.80 | | | |
| | | | | | | 100 | 24 | | | |
| | | | | | | | 24.38 | OPERATION STOPPED AT 24.38 m. AS INSTRUCTED | | |
| | | | | | | | 26 | | | |
| | | | | | | | 28 | | | |
| | | | | | | | 30 | | | |
| | | | | | | | 32 | | | |
| | | | | | | | 34 | | | |
| | | | | | | | 36 | | | |
| | | | | | | | 38 | | | |
| | | | | | | | 40 | | | |

S : S.P.T.
D : Disturbed Sample
U : Undisturbed Sample
W : Water Sample
▽ : G.W.L.
( ) : N Value/305 mm.
— : Hole Depth in metre
Ws : Washed Sample

Remarks : -

Gammon (Hong Kong) Limited
CIVIL ENGINEERS & CONTRACTORS
Gammon House, 2nd Floor, 12 Harcourt Road, HONG KONG.
Tel: 5-265221 Cables: GAMMONCO Telex: HX73826

# REPORT ON DRILLHOLE/BOREHOLE No. 73866/400 D Sheet 1 of 2

Client/Consultant: UNIVERSAL DOCKYARD LTD
Job No./Tender No.: 758
Location: TUEN MUN NEW TOWN GROUND INVESTIGATION
Ex. Ground Level/Sea Bed Level: + 39.95 m.P.D
Coordinates N: 26835.3 E: 13957.2

Orientation: VERTICAL
Method: ROTARY
Machine: D29
Core Barrel: TH N
Date From: 6-2-77 To: 7-2-77

| Progress | Sample: Depth (m) | No. | Blows/305 mm | Type | Water Rec'y (%) | Core Rec'y (%) | Depth (m) | Description of Strata | Depth (Metre) Casing Size | Symbolic Log |
|---|---|---|---|---|---|---|---|---|---|---|
| 6-2-77 | 2.00 | 091 | (11) | SD | 100 | | 2 | YELLOW & LIGHT GREY SANDY CLAY (ALLUVIUM) | NX | |
| | 4.00 | 092 | (12) | SD | 4.32 | | 4 | | | |
| | 6.00 | 093 | (14) | SD | | | 6 | | | |
| | 8.00 | 094 | (15) | SD | | | 6.15 8 | GREY & YELLOW SLIGHTLY CLAYEY SILT WITH A TRACE OF FINE SAND (DECOMPOSED PORPHYRY) | | |
| | 10.00 | 095 | (33) | SD | | | 10 | | | |
| | 12.00 | 096 | (69) | SD | | | 12 | | | |
| | 14.00 | 097 | (56) | SD | | | 13.26 14 | GREY & LIGHT GREEN SLIGHTLY CLAYEY SILT WITH A TRACE OF FINE SAND & GRAVELS. (DECOMPOSED PORPHYRY) | | |
| 7-2-77 | 16.00 | 098 | (40) | SD | | | 16 | | | |
| | 18.00 | 099 | (107) | SD | | 100 | 18 | | | |
| | | | | | | | 19.38 20 | DARK GREY FRACTURED PORPHYRY | 19.38 | |

S : S.P.T.
D : Disturbed Sample
U : Undisturbed Sample
W : Water Sample
▽ : G.W.L.
( ) : N Value/305 mm.
— : Hole Depth in metre
Ws : Washed Sample

Remarks : -
WATER IS REQUIRED TO BE TRANSPORTED TO SITE FOR DRILLING THIS HOLE
G.W.L. + 25.63 m.P.D. AT 6:30 p.m. ON 7-2-77

GOVERNMENT OF HONG KONG

# TUEN MUN NEW TOWN

## FINAL REPORT

ON

# GROUND INVESTIGATION AREA 19

PWD CONTRACT 615/80

MARCH 1981

VOLUME I

FIELDWORK ( AREA 19)

GEOTECHNICAL
INFORMATION UNI
Report No. 00629
AREA Ref. 6NW21D
6SW1C
6SW6A,C,D
5SE10A,B
5SG15
PUBLIC WORKS DEPARTMENT
HONG KONG

[redacted]

[redacted]

# GROUND INVESTIGATION LOG

PROJECT/CONTRACT NO. 615/80 | HOLE NO. 953D | Sheet 1 of 3

Type of drilling: ROTARY
rig: D2
bit: TNW

Coordinates: E 14000
N 36800
Angle from vertical 0°
Bearing: N ____ E ____

Location: TUEN MUN NEW TOWN AREA 19
Type of hole: ____
Ground/Seabed Level +32.40 M.P.D.

| Drilling progress | Casing depth/size | Water level | Notes e.g. Water return, sampling, instrumentation | Drill Depth & Size | Reduced level m.P.D. | Core recovery % | R.Q.D. | Fracture Index | Legend | Description | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 30-7-1980 | NX | NIL AT 8:00 | 90% | metres 0.00 | +32.40 | | | | | Reddish brown very stiff silty clay with boulder | |
| | | | | 0.68 | 31.72 | 95% | 0 | 8 | | | |
| | | | | 0.83 | 31.57 | | | | | | |
| | | | | 1.00 | | | | | | | |
| | | | L N=19 | 2.00 | | | | | | | |
| | | NIL AT 18:45 | | | | | | | | | |
| 31-7-1980 | | NIL AT 8:10 | | 3.00 | | | | | | | |
| | | | L 2 N=23 | 4.00 | 28.40 | | | | 4.00m | | |
| | | | | | | | | | | Brownish grey medium dense to dense clayey silt | |
| | | | | 5.00 | | | | | | | |
| | 6.0m | | L 3 N=31 | 6.00 | 26.40 | | | | 6.00m | | |

Legend:
- I Small disturbed sample
- Large disturbed sample
- L Undisturbed sample (LINER)
- N Standard penetration test
- Piezometer tip
- M Mazier sample
- Permeability test

Remarks:

Scale: 1:40

Contractor: GAMMON (HK) LTD
Date started 30-7-1980
Date finished 1-8-1980
Logged by
Checked by

Gammon (Hong Kong) Limited
CIVIL ENGINEERS & CONTRACTORS

# GROUND INVESTIGATION LOG

PROJECT/CONTRACT NO. 615/80 | HOLE NO. 953 D | Sheet 3 of 3

Type of drilling: ROTARY | Coordinates: E 14000 | Location: TUEN MUN NEW TOWN AREA 19
rig: 02 | N 26800 | Type of hole:
bit: TNW | Angle from vertical 0° | Ground/Seabed Level +32.40 M.P.D.
Bearing: N E

| Drilling progress | Casing depth/size | Water level | Notes e.g. Water return, sampling, instrumentation | Drill Depth & Size | Reduced level m.P.D. | Core recovery % | R.Q.D. | Fracture Index | Legend | Description | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-8-1980 | NX | NIL AT 8:05 | 95% | metres +20.60 | | | | | | | |
| | | | | 12.00 | 20.36 | | | | | | |
| | | | | 12.04 | | 99 | 43 | 10 | | Brownish grey & light green, very dense clayey SILT with cobbles & gravels | IV/III |
| | | | | 12.34 | 20.06 | | | | | | |
| | | | | | | 30 | 0 | 3.7 | | | |
| | | | | 13.00 | | | | | | | |
| | | | | 13.16 | 19.24 | | | | | | |
| | 13.41m | | | | | 0 | 0 | ∞ | 13.41m | | |
| | | | | 13.41 | 18.99 | | | | | Greenish grey fine grained, highly fractured VOLCANIC strong, moderately to highly weathered | III/II |
| | | | | 14.00 | | 95 | 48 | 6.5 | | | |
| | | | | 14.94 | 17.46 | | | | | | |
| | | 13.7m AT 18:45 | | 15.00 | | 100 | 89 | 4.9 | | Grey & light green fine grained, fractured VOLCANIC, strong moderately to slightly weathered | |
| | | | | 15.55 | 16.85 | | | | 15.55m | operation stopped at 15.55 m | |

Legend:
- I Small disturbed sample
- Large disturbed sample
- Undisturbed sample
- N Standard penetration test
- Piezometer tip
- M Mazier sample
- Permeability test

Remarks: Reamed the hole from NW to NX from 12.04m to 13.41m

Scale: 1:40

Contractor: GAMMON (H.K.) LTD
Date started: 30-7-1980
Date finished: 1-8-1980
Logged by
Checked by

Gammon (Hong Kong) Limited
CIVIL ENGINEERS & CONTRACTORS
SOIL MECHANICS & FOUNDATIONS CONSULTANT ENGINEERS

C

# GROUND WATER LEVEL RECORD

PROJECT / CONTRACT NO. 615/80 | HOLE NO. 953D | Sheet 1 of 2

Gammon (Hong Kong) Limited
CIVIL ENGINEERS & CONTRACTORS

Coordinates: E 14000 N 26800 | Location: TUEN MUN NEW TOWN AREA 19

PIEZOMETER TIP LEVEL: +22.35 (M.P.D.) 10.05 M (BELOW G.L.) | Ground Level +32.40 m.P.D.

| DATE | BELOW G.L. (METER) | M.P.D. | DATE | BELOW G.L. (METER) | M.P.D. | REMARK |
|---|---|---|---|---|---|---|
| 5-8-80 | NIL | | 4-9-80 | NIL | | (—): SUNDAY |
| 6-8-80 | NIL | | 5-9-80 | NIL | | |
| 7-8-80 | NIL | | 6-9-80 | NIL | | (☆): PUBLIC |
| 8-8-80 | NIL | | 7-9-80 | — | | HOLIDAY |
| 9-8-80 | NIL | | 8-9-80 | NIL | | |
| 10-8-80 | — | | 9-9-80 | NIL | | |
| 11-8-80 | NIL | | 10-9-80 | NIL | | |
| 12-8-80 | NIL | | 11-9-80 | NIL | | |
| 13-8-80 | NIL | | 12-9-80 | NIL | | |
| 14-8-80 | NIL | | 13-9-80 | NIL | | |
| 15-8-80 | NIL | | 14-9-80 | — | | |
| 16-8-80 | NIL | | 15-9-80 | NIL | | |
| 17-8-80 | — | | 16-9-80 | NIL | | |
| 18-8-80 | NIL | | 17-9-80 | NIL | | |
| 19-8-80 | NIL | | 18-9-80 | NIL | | |
| 20-8-80 | NIL | | 19-9-80 | NIL | | |
| 21-8-80 | NIL | | 20-9-80 | NIL | | |
| 22-8-80 | NIL | | 21-9-80 | — | | |
| 23-8-80 | NIL | | 22-9-80 | NIL | | |
| 24-8-80 | — | | 23-9-80 | NIL | | |
| 25-8-80 | ☆ | | 24-9-80 | ☆ | | |
| 26-8-80 | NIL | | 25-9-80 | NIL | | |
| 27-8-80 | NIL | | 26-9-80 | NIL | | |
| 28-8-80 | NIL | | 27-9-80 | NIL | | |
| 29-8-80 | NIL | | 28-9-80 | — | | |
| 30-8-80 | NIL | | 29-9-80 | NIL | | |
| 31-8-80 | — | | 30-9-80 | NIL | | |
| 1-9-80 | NIL | | 1-10-80 | NIL | | |
| 2-9-80 | NIL | | 2-10-80 | NIL | | |
| 3-9-80 | NIL | | 3-10-80 | NIL | | |

JCRIC

LAM GEOTECHNICS LIMITED

GEOTECHNICAL INFORMATION UNIT
RECEIVED

CED Contract No. GE/95/12
Ground Investigation New Territories West
Term Contract

**W.O. No. GE/95/12:50**
**Agreement No. CE 44/95**
**Foothills Bypass, Tuen Mun Road/Wong Chu Road Interchauge and Other Road Junction Improvement Works Additional GI - Phase I, Area 19**

# FIELDWORK REPORT

JCRIC

See also 27072

CIVIL ENGINEERING DEPARTMENT
GEOTECHNICAL INFORMATION UNIT
Report No. 28930
ARE. Ref.

CONTRACTOR

[redacted]

Date: 7th April 1997

CLIENT

GOVERNMENT OF HONG KONG
Civil Engineering Department
Geotechnical Engineering Office
Civil Engineering Building
101 Princess Margaret Road
Homantin
Kowloon

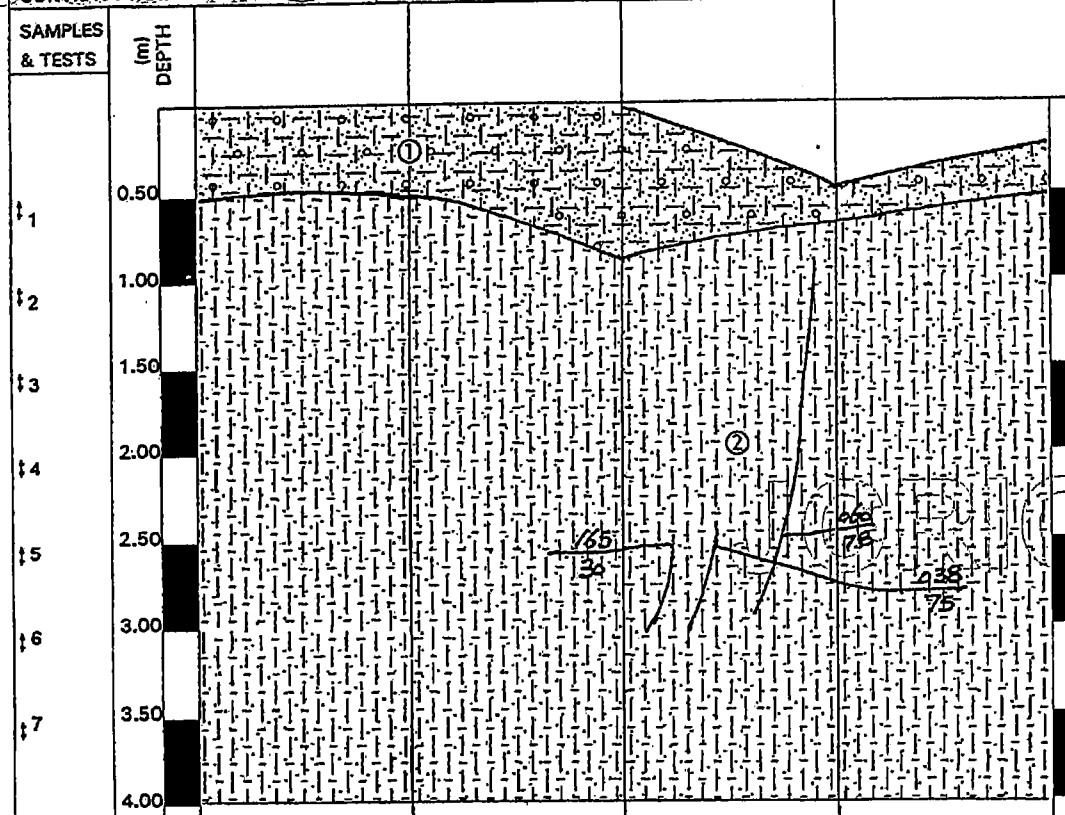
JCRIC

CONTRACTOR: Lam Geotechnics Ltd. | LOGGED RY: S.P.Su | DATE: 11/03/97 | CO-ORDINATES: E 813905.63 N 826808.29

CONTRACT NO.: GE/95/12 | CHECKED BY: M.D. | DATE: 14/03/97 | GROUND LEVEL: 31.16 m.P.D.

PROJECT: Foothills Bypass, Tuen Mun Road/Wong Chu Road Interchange and Other Road Junction Improvement Works

WORKS ORDER NO.: GE/95/12.50




LEGEND (FACE C) | GRADE | DESCRIPTION

0.50

① Light brown, clayey/silty fine to medium, occasionally coarse SAND with some angular and subangular fine to coarse gravel, cobble and boulder sized moderately strong to strong rock , brick and concrete fragments and some roots and waste (FILL)

② Extremely weak, dark greenish grey spotted white discoloured and stained light brown, completely decomposed fine grained ANDESITE (Soft to firm, slightly sandy clayey SILT with many limonite and manganese oxide stained smooth and slickensided, undulating and planar, relict joints dipping at 60°-70° and 70°-80° and occasional light green dyke rock (<50mm) and occasional thin quartz veins (<50mm)

3 main joints sets identified dipping NE, SW to NW and SE. Joints normally <1.0m and upto 2.5m in length

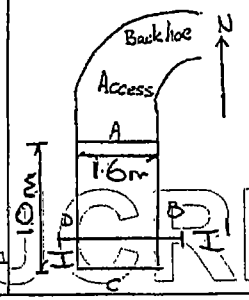
Remarks:
1. Depth of the trial trench 6.7m.
2. Water level 4.7m b.g.l.
3. Shoring from 3.0m depth to bottom of the trench.

continued on page 2

SYMBOL

- Disturbed sample
- Undist.sample, Hori. ( )
- Undist.sample, Vert. ( )
- Block sample
- Insitu density test
- Water sample
- Seepage

PLAN (not to scale)




FACE A: N | FACE B: E | FACE C: S | FACE D: W

EXCAVATION DATES: 03/03/97 to17/03/97

SHEET 1 OF 2

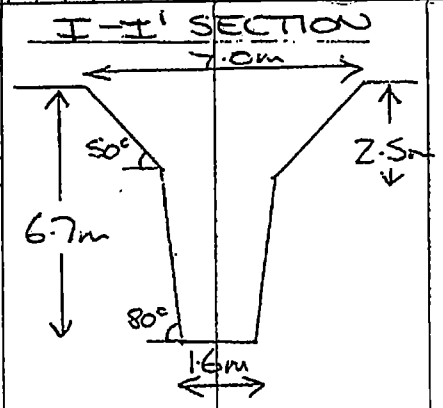
TRIAL PIT NO. 14,15,16

JCRIC

CONTRACTOR: Lam Geotechnics Ltd. | LOGGED BY: S.P.Su | DATE: 11/03/97 | CO-ORDINATES: E 813905.68 N 826808.29 | PROJECT: Foothills Bypass, Tuen Mun Road/Wong Chu Road Interchenge and Other Road Junction Improvement Works

CONTRACT NO.: GE/95/12 | CHECKED BY: M.D. | DATE: 14/03/97 | GRDUND LEVEL: 31.16 m.P.D. | WORKS ORDER NO.: GE/95/T2.50

| SAMPLES & TESTS | (m) DEPTH | LEGEND (FACE C) | GRADE | DESCRIPTION |
|---|---|---|---|---|
| 8 | | | | |
| 9 | 4.60 | | | |
| 10 | 5.00 | | | |
| 11 | 5.60 | | | |
| 12 | 6.00 | | | |
| 13 | 6.60 | | 6.70 | |
| | 7.00 | | | |
| | 7.50 | | | |
| | 8.00 | | | |




SYMROL

- Disturbed sample
- Undist.sample, Hori. ( )
- Undist.sample, Vert. ( )
- Block sample
- Insitu density test
- Water sample
- Seepage

PLAN (not to scale)

FACE A: N | FACE B: E | FACE C: S | FACE D: W

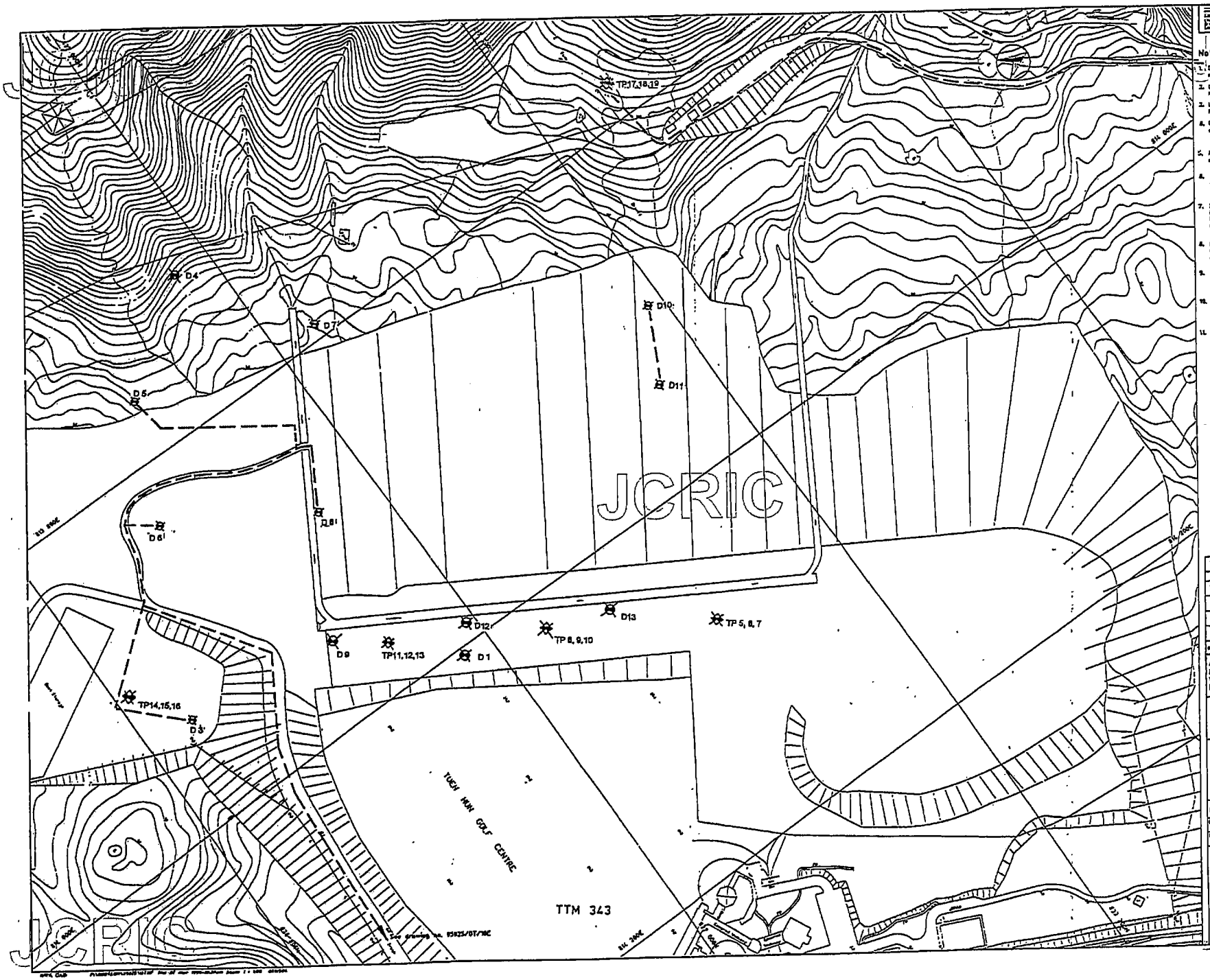
EXCAVATION DATES: 03/03/97 to17/03/97

SHEET 2 OF 2

TRIAL PIT NO. 14,15,16

JCRIC

C17




Government of Hong Kong
Territory Development Department
New Territories West Development Office

Notes:

1. Dimensions are in metres unless shown otherwise.
2. Coordinates are based on the Hong Kong Metric Grid (1980).
3. Levels are given in metres and refer to Principal Datum (P.D.) unless shown otherwise.
4. Base plan was compiled from survey sheet nos.

| | |
|---|---|
| 35SE6C | 35SE5A |
| 35SD9D | 35SD5D |

5. Refer to Table 95825/GT/02 for schedule of exploratory holes.
6. The exact locations of all exploratory holes are to be agreed on site by the Engineers Representative.
7. Details of all piezometer installations to be instructed on site by the Engineers Representative. All piezometers are to be equipped with Heiterau Buckets.
8. Details of all inclinometer installations to be instructed on site by the Engineers Representative.
9. In-situ density tests shall be connected in trial pits and trenches as instructed on site by the Engineers Representative.
10. Plate bearing tests shall be carried out at the base of trial pits as instructed on site by the Engineers Representative.
11. For details of legend refer to Drawing No. 95825/GT/100.

| | | | | |
|---|---|---|---|---|
| F | Nov.96 | Proposed Access Route revised. | KW | GR1 |
| E | Oct.96 | Trial trenches renumbered. | KW | GR1 |
| D | Oct.96 | Proposed Highway Alignment deleted. | KW | GR1 |
| C | Oct.96 | Scope of investigation revised. | KW | GR1 |
| B | Sep.96 | Proposed Access Routes added. | KW | GR1 |
| A | Aug.96 | Proposed Highway Alignment revised. | KW | GR1 |
| Issue | Date | Revision | Drawn | Checked |

AGREEMENT NO. CE11/95
FOOTHILLS BYPASS, TUEN MUN ROAD/ WONG CHU ROAD INTERCHANGE AND OTHER ROAD JUNCTION IMPROVEMENT WORKS

ADDITIONAL GROUND INVESTIGATION
PHASE I - AREA 19

# EXPLORATORY HOLE LOCATION PLAN

| | | | |
|---|---|---|---|
| Drawing No. | 95825/GT/11F | | |
| Drawn KW | Detailed | Approved | Scale 1 : 1000 |
| Designed GR1 | Checked | Date SEPT. 96 | Status PRELIMINARY |

Scott Wilson Kirkpatrick
CONSULTING ENGINEERS

Aspinwall Clouston
ERM (Hong Kong)
Parsons Brinckerhoff (Asia)
SWK Atria

# Appendix D

# Boulder Field Inventory Data

## Table 2 - Boulder Inventory Data

| Polygon Number | Attribute 1 | Attribute 2 | Attribute 3 | | | | Attribute 4 |
|---|---|---|---|---|---|---|---|
| | | | % Size 1 | % Size 2 | % Size 3 | % Size 4 | |
| S5_U | - | - | - | - | - | - | - |
| S5_618 | 3 | 1 | 70 | 10 | 10 | 10 | 2 |
| S5_613 | 5 | 3 | 10 | 0 | 0 | 90 | 2 |
| S5_707 | 5 | 3 | 10 | 10 | 10 | 70 | 2 |
| S5_D | - | - | - | - | - | - | - |
| S5_621 | N | - | - | - | - | - | - |
| S5_615 | 3 | 2 | 60 | 20 | 10 | 10 | 2 |
| S5_703 | 1 | 1 | 90 | 10 | 0 | 0 | 2 |
| S5_713 | 5 | 2 | 40 | 30 | 20 | 10 | 2 |
| S5_716 | 5 | 1 | 20 | 20 | 10 | 50 | 2 |
| S5_695 | 5 | 2 | 40 | 30 | 10 | 20 | 2 |
| S5_714 | N | - | - | - | - | - | - |
| S5_708 | 4 | 3 | 10 | 20 | 20 | 50 | 2 |
| S5_696 | 5 | 2 | 10 | 20 | 20 | 50 | 2 |
| S5_709 | 3 | 1 | 70 | 10 | 10 | 10 | 2 |
| S5_717 | 4 | 2 | 20 | 30 | 20 | 30 | 2 |
| S5_C | - | - | - | - | - | - | - |
| S5_730 | 1 | 1 | 50 | 10 | 20 | 20 | 2 |
| S5_715 | N | - | - | - | - | - | - |
| S5_729 | 3 | 1 | 10 | 20 | 40 | 30 | 2 |
| S5_719 | 3 | 2 | 60 | 20 | 10 | 10 | 2 |
| S5_702 | 1 | 1 | 20 | 20 | 20 | 40 | 2 |
| S5_701 | 3 | 1 | 10 | 20 | 20 | 50 | 2 |
| S5_731 | 1 | 1 | 90 | 10 | 0 | 0 | 2 |
| S5_711 | 2 | 1 | 90 | 10 | 0 | 0 | 2 |
| S5_720 | V | - | - | - | - | - | - |
| S5_718 | 5 | 2 | 30 | 20 | 20 | 30 | 2 |
| S5_721 | 1 | 2 | 90 | 10 | 0 | 0 | 2 |
| S5_742 | 4 | 1 | 30 | 10 | 10 | 50 | 2 |
| S5_710 | 1 | 1 | 90 | 10 | 0 | 0 | 2 |
| S5_712 | 5 | 3 | 10 | 0 | 0 | 90 | 1 |
| S5_732 | 3 | 2 | 50 | 10 | 10 | 30 | 2 |
| S5_734 | 5 | 3 | 10 | 10 | 10 | 70 | 2 |
| S5_740 | 2 | 1 | 90 | 10 | 0 | 0 | 2 |
| S5_739 | 1 | 1 | 90 | 10 | 0 | 0 | 2 |
| S5_737 | 5 | 1 | 30 | 20 | 20 | 30 | 2 |
| S5_738 | 5 | 1 | 10 | 20 | 20 | 50 | 2 |

Key:

D : Drain, river or nullah
U : Urban Development

Attribute 1: Percentage Area Covered

- Class 1: less than 10% of the surfaee area of the map unit covered by boulders
- Class 2: 10-20% of the surface area of the map unit eovered by boulders
- Class 3: 20-50% of the surface area of the map unit covered by boulders
- Class 4: 50-75% of the surface area of the map unit covered by boulders
- Class 5: more than 75% of the surface area of the map unit covered by boulders
- N: no boulders observed on the ground surface
- V: land surface obscured by vegetation

Attribute 2: Boulder Type

- Class 1: corestone or tor
- Class 2: colluvial boulder field
- Class 3: cliff or rock outcrop
- Class 4: scree or talus deposit

Attribute 3: Boulder Size, giving the percentage occurrence of each class size, to total 100%

- Class 1: boulders less than 1m in size
- Class 2: boulders 1-2m in size
- Class 3: boulders 2-5m in size
- Class 4: boulders greater than 5m in size

Attribute 4: Boulder Shape

- Class 1: rounded in shape
- Class 2: angular in shape

# Appendix E

# Extent of Historical Landslide Catchments

## Table 1 – Summary of ENTLI Features

| ENTLI Feature No. | Easting | Northing | Recent / Relict Landslide | Slide Type | Class | Year 1 | Year 2 | M_Width | S_length | Slope | Cover | Head Elevation (mPD) | Tail Elevation (mPD) | Gully | Run Out | Area | Travelling Angle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 05SEB1020E | 812971 | 827113 | Recent | O | - | 1982 | 1981 | 9 | 10 | 41 | A | 335 | 311 | N | 43 | 90 | 29 |
| 05SEB1131Ea | 813296 | 827230 | Recent | C | - | 2000 | 1999 | 11 | 19 | 55 | A | 368 | 76 | N | 545 | 209 | 28 |
| 05SEB1131Eb | 813296 | 827230 | Recent | C | - | 2000 | 1999 | 11 | 19 | 55 | A | 368 | 77 | N | 470 | 209 | 32 |
| 05SEB1042E | 813364 | 827546 | Recent | C | - | 1990 | 1989 | 15 | 24 | 45 | A | 407 | 9999 | N | 688 | 360 | 0 |
| 05SEB1129E | 813204 | 827035 | Recent | C | - | 2000 | 1999 | 22 | 20 | 49 | A | 314 | 119 | N | 310 | 440 | 32 |
| 05SEB0059E | 812971 | 827204 | Relict | R | C1 | 1963 | - | 9 | 7 | 30 | C | 372 | 366 | N | 7 | 63 | 40 |
| 05SEB0058E | 813000 | 827211 | Relict | R | C1 | 1963 | - | 9 | 8 | 33 | C | 392 | 385 | N | 8 | 68 | 42 |
| 05SEB0055E | 813628 | 827010 | Relict | R | B1 | 1963 | - | 11 | 10 | 30 | C | 124 | 118 | N | 10 | 105 | 31 |
| 05SEB0054E | 813569 | 827029 | Relict | R | C1 | 1963 | - | 13 | 11 | 29 | C | 148 | 141 | N | 11 | 138 | 32 |
| 05SEB1023E | 812949 | 827286 | Recent | C | - | 1982 | 1981 | 11 | 9 | 31 | A | 361 | 323 | N | 73 | 99 | 28 |
| 05SEB1028E | 812973 | 827221 | Recent | C | - | 1982 | 1981 | 14 | 14 | 43 | A | 374 | 309 | N | 124 | 189 | 28 |
| 05SEB1029E | 812935 | 827227 | Recent | O | - | 1982 | 1981 | 9 | 8 | 47 | A | 345 | 334 | N | 18 | 72 | 32 |
| 05SEB0233E | 812929 | 827146 | Relict | R | A1 | 1963 | - | 8 | 6 | 44 | C | 335 | 327 | N | 14 | 44 | 29 |
| 05SEB0236E | 812980 | 827121 | Relict | R | C1 | 1963 | - | 11 | 10 | 30 | C | 343 | 338 | N | 10 | 105 | 27 |
| 05SEB0237E | 813011 | 827200 | Relict | R | C1 | 1963 | - | 13 | 12 | 29 | C | 391 | 383 | N | 12 | 150 | 34 |
| 05SEB0238E | 813083 | 827227 | Relict | R | B2 | 1963 | - | 10 | 9 | 36 | C | 429 | 422 | N | 9 | 90 | 37 |
| 05SEB0239E | 813101 | 827220 | Relict | R | B2 | 1963 | - | 8 | 7 | 35 | C | 433 | 428 | N | 7 | 56 | 35 |
| 05SEB0240E | 813133 | 827221 | Relict | R | B2 | 1963 | - | 8 | 8 | 36 | C | 444 | 438 | N | 8 | 60 | 38 |
| 05SEB0241E | 813091 | 827302 | Relict | R | C1 | 1963 | - | 9 | 8 | 42 | C | 458 | 453 | N | 8 | 68 | 34 |
| 05SEB0242E | 813104 | 827319 | Relict | R | B2 | 1963 | - | 9 | 8 | 36 | C | 476 | 470 | N | 8 | 68 | 36 |
| 05SEB0243E | 812988 | 827278 | Relict | R | B2 | 1963 | - | 9 | 10 | 38 | C | 389 | 380 | N | 10 | 90 | 43 |
| 05SEB0244E | 812986 | 827265 | Relict | R | B2 | 1963 | - | 9 | 8 | 54 | C | 387 | 379 | N | 8 | 68 | 46 |
| 05SEB0256E | 812974 | 827324 | Relict | R | B2 | 1963 | - | 8 | 4 | 57 | C | 383 | 378 | N | 4 | 30 | 51 |
| 05SEB0257E | 812982 | 827316 | Relict | R | B2 | 1963 | - | 8 | 4 | 51 | C | 388 | 384 | N | 4 | 30 | 44 |
| 05SEB0258E | 812999 | 827327 | Relict | R | B2 | 1963 | - | 11 | 8 | 42 | C | 407 | 400 | N | 7 | 79 | 44 |
| 05SEB0301E | 813083 | 827069 | Relict | R | C1 | 1963 | - | 10 | 11 | 38 | C | 355 | 346 | N | 10 | 100 | 41 |
| 05SEB0302E | 813125 | 827028 | Relict | R | B2 | 1963 | - | 12 | 11 | 39 | C | 324 | 317 | N | 11 | 121 | 34 |
| 05SEB0303E | 813161 | 827111 | Relict | R | B2 | 1963 | - | 11 | 10 | 40 | C | 375 | 365 | N | 10 | 110 | 45 |
| 05SEB0304E | 813171 | 827095 | Relict | R | C2 | 1963 | - | 11 | 10 | 47 | C | 361 | 353 | N | 10 | 100 | 40 |
| 05SEB0305E | 813145 | 827098 | Relict | R | C2 | 1963 | - | 11 | 9 | 43 | C | 365 | 357 | N | 9 | 95 | 41 |
| 05SEB0306E | 813243 | 827077 | Relict | R | B2 | 1963 | - | 9 | 9 | 40 | C | 332 | 322 | N | 9 | 77 | 49 |
| 05SEB0307E | 813236 | 827065 | Relict | R | B2 | 1963 | - | 7 | 10 | 51 | C | 323 | 313 | N | 9 | 67 | 47 |
| 05SEB0308E | 813229 | 827078 | Relict | R | B2 | 1963 | - | 8 | 7 | 45 | C | 337 | 330 | N | 7 | 56 | 46 |
| 05SEB0309E | 813247 | 827062 | Relict | R | B2 | 1963 | - | 7 | 8 | 46 | C | 319 | 311 | N | 8 | 52 | 45 |
| 05SEB0310E | 813242 | 827033 | Relict | R | B2 | 1963 | - | 11 | 12 | 52 | C | 295 | 285 | N | 12 | 132 | 40 |
| 05SEB0311E | 813369 | 827030 | Relict | R | B2 | 1963 | - | 10 | 10 | 44 | D | 220 | 211 | N | 9 | 95 | 44 |
| 05SEB0312E | 813420 | 827021 | Relict | R | B2 | 1963 | - | 9 | 8 | 33 | D | 180 | 174 | N | 7 | 64 | 39 |
| 05SEB0313E | 813362 | 827072 | Relict | R | B2 | 1963 | - | 9 | 7 | 49 | C | 229 | 221 | N | 7 | 63 | 48 |
| 05SEB0314E | 813369 | 827065 | Relict | R | B2 | 1963 | - | 10 | 7 | 48 | C | 232 | 222 | N | 7 | 67 | 54 |
| 05SEB0315E | 813335 | 827069 | Relict | R | B2 | 1963 | - | 9 | 7 | 47 | C | 256 | 249 | N | 6 | 59 | 47 |
| 05SEB0316E | 813314 | 827064 | Relict | R | B2 | 1963 | - | 10 | 7 | 45 | C | 269 | 262 | N | 7 | 62 | 46 |
| 05SEB0317E | 813297 | 827099 | Relict | R | B2 | 1963 | - | 10 | 7 | 47 | C | 303 | 293 | N | 7 | 70 | 54 |

## Table 1 – Summary of ENTLI Features

| ENTLI Feature No. | Easting | Northing | Recent / Relict Landslide | Slide Type | Class | Year 1 | Year 2 | M_Width | S_length | Slope | Cover | Head Elevation (mPD) | Tail Elevation (mPD) | Gully | Run Out | Area | Travelling Angle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 05SEB0318E | 813271 | 827099 | Relict | R | B2 | 1963 | - | 9 | 9 | 43 | C | 322 | 315 | N | 9 | 72 | 39 |
| 05SEB0319E | 813264 | 827086 | Relict | R | B2 | 1963 | - | 9 | 7 | 58 | C | 323 | 312 | N | 7 | 59 | 59 |
| 05SEB0320E | 813485 | 827044 | Relict | R | B1 | 1963 | - | 11 | 10 | 48 | C | 155 | 148 | N | 9 | 100 | 37 |
| 05SEB0321E | 813437 | 627084 | Relict | R | B2 | 1963 | - | 13 | 9 | 52 | C | 199 | 189 | N | 8 | 111 | 50 |
| 05SEB0322E | 813388 | 827125 | Relict | R | B2 | 1963 | - | 9 | 9 | 45 | C | 244 | 237 | N | 9 | 81 | 38 |
| 05SEB0323E | 813413 | 827116 | Relict | R | B2 | 1963 | - | 8 | 11 | 36 | D | 222 | 214 | N | 10 | 79 | 38 |
| 05SEB0324E | 813433 | 827142 | Relict | R | B2 | 1963 | - | 7 | 6 | 49 | C | 226 | 221 | N | 6 | 42 | 40 |
| 05SEB0325E | 813424 | 827137 | Relict | R | B2 | 1963 | - | 7 | 6 | 49 | C | 228 | 222 | N | 6 | 42 | 45 |
| 05SEB0326E | 813413 | 827165 | Relict | R | B2 | 1963 | - | 10 | 10 | 57 | C | 250 | 240 | N | 10 | 95 | 45 |
| 05SEB0327E | 813273 | 827190 | Relict | R | B2 | 1963 | - | 8 | 7 | 47 | C | 384 | 373 | N | 6 | 52 | 60 |
| 05SEB0328E | 813256 | 827168 | Relict | R | B2 | 1963 | - | 9 | 9 | 57 | D | 373 | 362 | N | 8 | 72 | 53 |
| 05SEB0329E | 813244 | 827152 | Relict | R | B2 | 1963 | - | 8 | 7 | 53 | C | 369 | 362 | N | 6 | 49 | 48 |
| 05SEB0330E | 813244 | 827163 | Relict | R | B2 | 1963 | - | 8 | 7 | 51 | C | 378 | 372 | N | 6 | 52 | 43 |
| 05SEB0331E | 813265 | 827150 | Relict | R | B2 | 1963 | - | 8 | 7 | 36 | D | 353 | 346 | N | 7 | 56 | 44 |
| 05SEB0332E | 813164 | 827193 | Relict | R | B2 | 1963 | - | 7 | 11 | 45 | C | 432 | 419 | N | 11 | 77 | 50 |
| 05SEB0333E | 813174 | 827186 | Relict | R | C1 | 1963 | - | 9 | 9 | 52 | C | 418 | 411 | N | 9 | 77 | 39 |
| 05SEB0334E | 813415 | 827184 | Relict | R | B2 | 1963 | - | 9 | 9 | 49 | C | 255 | 246 | N | 9 | 77 | 46 |
| 05SEB0335E | 813422 | 827195 | Relict | R | B2 | 1963 | - | 8 | 8 | 49 | C | 257 | 247 | N | 8 | 64 | 52 |
| 05SEB0336E | 813427 | 827205 | Relict | R | B2 | 1963 | - | 9 | 8 | 44 | C | 256 | 249 | N | 8 | 64 | 42 |
| 05SEB0337E | 813367 | 827201 | Relict | R | B2 | 1963 | - | 9 | 10 | 46 | D | 305 | 295 | N | 9 | 86 | 47 |
| 05SEB0338E | 813381 | 827199 | Relict | R | B2 | 1963 | - | 7 | 8 | 46 | C | 287 | 281 | N | 8 | 52 | 36 |
| 05SEB0339E | 813264 | 827241 | Relict | R | B2 | 1963 | - | 7 | 6 | 60 | C | 413 | 404 | N | 6 | 39 | 57 |
| 05SEB0340E | 813277 | 827250 | Relict | R | B2 | 1963 | - | 7 | 6 | 50 | C | 408 | 399 | N | 6 | 36 | 58 |
| 05SEB0341E | 813263 | 827259 | Relict | R | B2 | 1963 | - | 6 | 6 | 59 | C | 428 | 418 | N | 6 | 36 | 58 |
| 05SEB0342E | 813269 | 827270 | Relict | R | B2 | 1963 | - | 6 | 6 | 46 | C | 428 | 420 | N | 6 | 36 | 53 |
| 05SEB0343E | 813262 | 827266 | Relict | R | B2 | 1963 | - | 6 | 6 | 59 | C | 435 | 424 | N | 6 | 36 | 62 |
| 05SEB0344E | 813276 | 827275 | Relict | R | B2 | 1963 | - | 6 | 7 | 56 | C | 420 | 412 | N | 6 | 39 | 52 |
| 05SEB0345E | 813282 | 827284 | Relict | R | B2 | 1963 | - | 7 | 6 | 58 | C | 421 | 411 | N | 6 | 42 | 59 |
| 05SEB0346E | 813253 | 827275 | Relict | R | B2 | 1963 | - | 8 | 7 | 54 | C | 448 | 438 | N | 7 | 52 | 56 |
| 05SEB0347E | 813254 | 827292 | Relict | R | B2 | 1963 | - | 20 | 11 | 54 | C | 448 | 437 | N | 11 | 210 | 46 |
| 05SEB0348E | 813293 | 827247 | Relict | R | B2 | 1963 | - | 8 | 7 | 52 | C | 384 | 375 | N | 7 | 49 | 53 |
| 05SEB0349E | 813303 | 827256 | Relict | R | B2 | 1963 | - | 7 | 7 | 57 | C | 383 | 373 | N | 7 | 46 | 56 |
| 05SEB0350E | 813330 | 827258 | Relict | R | B2 | 1963 | - | 8 | 6 | 45 | C | 359 | 352 | N | 6 | 41 | 51 |
| 05SEB0351E | 813331 | 827306 | Relict | R | B2 | 1963 | - | 9 | 8 | 42 | C | 378 | 368 | N | 8 | 68 | 52 |
| 05SEB0352E | 813345 | 827275 | Relict | R | B2 | 1963 | - | 11 | 11 | 47 | C | 355 | 343 | N | 11 | 116 | 48 |
| 05SEB0353E | 813370 | 827285 | Relict | R | B2 | 1963 | - | 9 | 10 | 50 | C | 330 | 316 | N | 10 | 90 | 55 |
| 05SEB0354E | 813361 | 827246 | Relict | R | B2 | 1963 | - | 9 | 7 | 61 | C | 321 | 310 | N | 7 | 55 | 59 |
| 05SEB0355E | 813397 | 827290 | Relict | R | B2 | 1963 | - | 8 | 7 | 41 | C | 303 | 297 | N | 6 | 52 | 43 |
| 05SEB0356E | 813403 | 827236 | Relict | R | B2 | 1963 | - | 10 | 8 | 59 | C | 284 | 273 | N | 8 | 80 | 53 |
| 05SEB0357E | 813438 | 827261 | Relict | R | B2 | 1963 | - | 10 | 13 | 31 | D | 257 | 249 | N | 13 | 130 | 32 |
| 05SEB0358E | 813445 | 827280 | Relict | R | B2 | 1963 | - | 7 | 7 | 59 | D | 260 | 250 | N | 7 | 49 | 54 |
| 05SEB0359E | 813450 | 827274 | Relict | R | B2 | 1963 | - | 7 | 5 | 39 | D | 253 | 249 | N | 5 | 35 | 40 |

## Table 1 – Summary of ENTLI Features

| ENTLI Feature No. | Easting | Northing | Recent / Relict Landslide | Slide Type | Class | Year 1 | Year 2 | M_Width | S_length | Slope | Cover | Head Elevation (mPD) | Tail Elevation (mPD) | Gully | Run Out | Area | Travelling Angle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 05SEB0360E | 813368 | 827314 | Relict | R | B2 | 1963 | - | 10 | 10 | 55 | C | 342 | 327 | N | 10 | 100 | 56 |
| 05SEB1128E | 813088 | 827209 | Recent | O | - | 2000 | 1999 | 9 | 8 | 36 | A | 420 | 377 | N | 78 | 68 | 29 |
| 05SED0017E | 812911 | 826758 | Relict | R | B1 | 1963 | - | 10 | 11 | 41 | C | 292 | 283 | N | 11 | 110 | 39 |
| 05SED0159E | 813225 | 826307 | Recent | O | - | 1973 | 1964 | 12 | 11 | 33 | A | 112 | 95 | Y | 26 | 132 | 33 |
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| 05SED0064E | 813156 | 826283 | Relict | R | B2 | 1963 | - | 13 | 9 | 56 | C | 117 | 106 | N | 9 | 113 | 50 |
| 05SED0065E | 813324 | 826176 | Relict | R | B1 | 1963 | - | 12 | 6 | 44 | D | 23 | 20 | N | 6 | 63 | 28 |
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## Table 1 – Summary of ENTLI Features

| ENTLI Feature No. | Easting | Northing | Reeent / Relict Landslidc | Slide Type | Class | Year 1 | Year 2 | M_Width | S_leugth | Slope | Cover | Head Elevation (mPD) | Tail Elevation (mPD) | Gully | Ruu Out | Area | Travelling Angle |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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| 05SED0092E | 813633 | 826947 | Relict | R | B1 | 1963 | - | 14 | 12 | 36 | C | 118 | 111 | N | 12 | 161 | 31 |
| 05SED0093E | 813646 | 826930 | Relict | R | C2 | 1963 | - | 14 | 12 | 27 | C | 105 | 97 | N | 12 | 162 | 34 |
| 05SED0094E | 813674 | 826938 | Relict | R | C1 | 1963 | - | 14 | 12 | 41 | C | 100 | 92 | N | 12 | 161 | 34 |
| 05SED0095E | 814113 | 826795 | Relict | R | C2 | 1963 | - | 18 | 15 | 45 | D | 28 | 21 | N | 15 | 270 | 25 |
| 05SED0129E | 812898 | 826889 | Relict | R | C1 | 1963 | - | 10 | 9 | 34 | C | 291 | 285 | N | 8 | 85 | 36 |
| 05SED0130E | 812903 | 826829 | Relict | R | A2 | 1963 | - | 11 | 12 | 49 | C | 297 | 289 | N | 11 | 127 | 35 |
| 05SED0139E | 813205 | 826967 | Relict | R | B2 | 1963 | - | 12 | 13 | 43 | C | 263 | 251 | N | 13 | 150 | 44 |
| 05SED0140E | 813218 | 826967 | Relict | R | B2 | 1963 | - | 9 | 10 | 33 | C | 258 | 251 | N | 10 | 86 | 36 |
| 05SED0141E | 813222 | 826942 | Relict | R | B2 | 1963 | - | 13 | 12 | 46 | C | 236 | 229 | N | 11 | 150 | 32 |
| 05SED0142E | 813352 | 826958 | Relict | R | B1 | 1963 | - | 11 | 8 | 41 | C | 202 | 193 | N | 8 | 88 | 49 |
| 05SED0143E | 813408 | 826878 | Relict | R | C1 | 1963 | - | 10 | 9 | 40 | C | 141 | 134 | N | 9 | 86 | 37 |
| 05SED0144E | 813453 | 826862 | Relict | R | C1 | 1963 | - | 9 | 9 | 45 | C | 122 | 116 | N | 9 | 72 | 35 |
| 05SED0145E | 813453 | 826933 | Relict | R | C1 | 1963 | - | 11 | 10 | 40 | C | 145 | 138 | N | 10 | 100 | 36 |
| 05SED0146E | 813432 | 826988 | Relict | R | C1 | 1983 | - | 12 | 13 | 46 | C | 161 | 152 | N | 13 | 144 | 35 |
| 05SED0147E | 813547 | 826975 | Relict | R | C1 | 1963 | - | 15 | 11 | 36 | C | 136 | 129 | N | 11 | 165 | 32 |
| 05SED0152E | 813510 | 828765 | Relict | R | C2 | 1963 | - | 28 | 11 | 36 | C | 84 | 77 | N | 11 | 308 | 33 |
| 05SED0153E | 813478 | 826782 | Relict | R | C2 | 1963 | - | 14 | 9 | 52 | C | 95 | 85 | N | 9 | 122 | 47 |

# Appendix F

# Stability Assessment of Existing Feature No. 5SE-D/C76

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Date: 01/06/2012
Time: 14:50:08
Method: Morgenstern-Price

Section C-C

Scale 1:300

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Unit Weight: 19
Cohesion: 5
Phi: 35
Phi-B: 0
Piezometric Line: 1

| Slip No. | F.O.S. |
|---|---|
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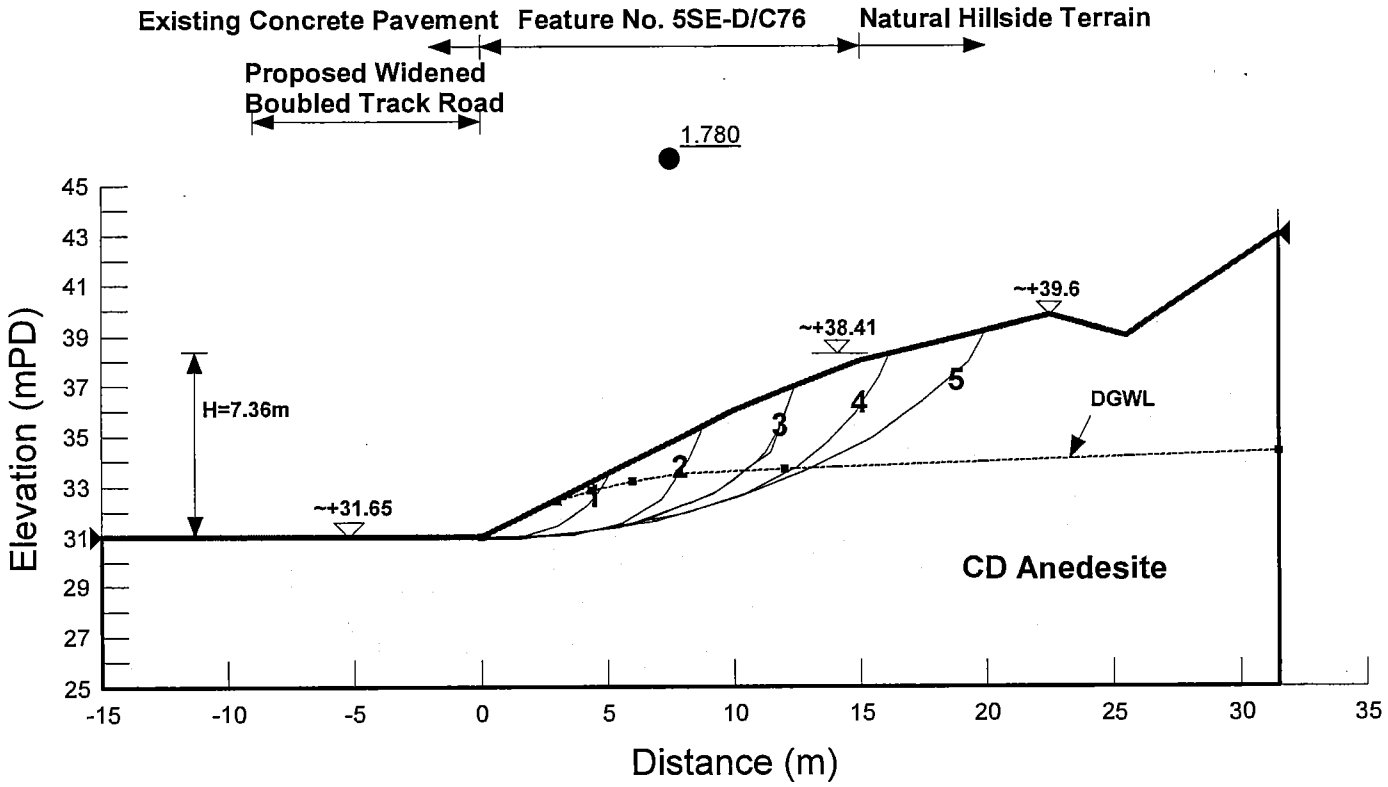
| 2 | 1.767 |
| 3 | 1.780 (min) |
| 4 | 1.794 |
| 5 | 1.908 |



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# Appendix 5

Drainage Impact Assessment

# S16 Planning Application for

# Development of 1 House at TMTL 550, Tuen Mun,

# New Territories

(HT25045)

## Drainage Impact Assessment (DIA) Report

**July 2025**

| | |
|---|---|
| Prepared & Approved by: | K. C. LEE<br>*MICE, MHKIE* |

何田顧問工程師有限公司
HO TIN & ASSOCIATES
CONSULTING ENGINEERS LIMITED

# CONTENT

1. Introduction
2. General Site Description and the Proposed Development
3. Existing Drainage System of the Area
4. Potential Drainage Impact
5. Proposed Drainage Works
6. Hydraulic Calculation
7. Conclusion

**FIGURE**

**Figure 1** **Site Location Plan**
**Figure 2** **Conditions of the Application Site on 15 May 2025**
**Figure 3** **Proposed Master Layout Plan**
**Figure 4** **Existing Drainage Flow Paths and Catchment Areas**
**Figure 5** **Proposed Stormwater Drainage Layout**
**Figure 6** **Outfall Details**

**APPENDIX** **Assessment of Hydraulic Capacities of the Proposed Drainage System**

# 1. Introduction

1.1 Ho Tin & Associates Consulting Engineers Limited (HTA) was appointed by the client to prepare a Drainage Impact Assessment (DIA) in support of a S16 Planning Application for changing the land use from recreation into residential use with plot ratio of 0.2 for development of a two storey house at TMTL 550, Tuen Mun, New Territories (the 'subject site').

1.2 This report presents the DIA for the proposed house development at the subject site.

1.3 The objectives of this DIA are to:

- indicate any changes/increase in drainage characteristics due to the proposed development;
- assess any potential drainage impacts of the existing/planned drainage facilities nearby due to the proposed development; and
- propose mitigation measures and drainage improvement work, if necessary, to minimize any adverse drainage impact.

1.4 The scope of this DIA includes:-

- site description and existing land use;
- identification of stormwater flow pattern before and after proposed development of the subject site;
- assessment of impact on the existing drainage facilities due to the proposed development; and
- proposal of new drainage facilities for the proposed development if found necessary.

# 2. General Site Description and the Proposed Development

2.1 A Site Location Plan is shown in **Figure 1**. The subject site is currently zoned "Recreation" on the Approved Tuen Mun Outline Zoning Plan No. S/TM/41. Its area is about 1,852m$^2$. It is located within a parcel of land bounded by Lung Mun Road on the east, Hung Lau on the south, Lung Fu Road on the west and San Shek Wan Road on the north. It is currently a piece of vacant land (please refer to **Figure 2**).

2.2 The subject site was previously approved for a holiday camp development and is now proposed to construct a 2-storey house with plot ratio of about 0.2. A Proposed Master Layout Plan is shown in **Figure 3**.

## 3. Existing Drainage System of the Area

3.1 Catchment areas and flow paths of the concerned area is shown in **Figure 4**. The subject site is located at the toe of embankment of Lung Fu Road near the toe of Castle Peak. The subject site would receive surface runoff from the adjacent Catchment A1 and A2 in addition to the rain falling directly onto its area. With respect to the existing topography, total surface runoff of the subject site would flow westward into an existing streamcourse which conveys the surface runoff of the Catchment A3.

3.2 A small Catchment A4 is demarcated to identify the stormwater catchment of the proposed access linking between the subject site and San Shek Wan Road.

## 4. Potential Drainage Impact

4.1 Since the subject site would be converted from a campsite into a residential area, the runoff coefficient of the subject site area will then be changed from 0.25 (conservatively a flat grassland (heavy soil) condition is presumed, and for other areas 0.35 is adopted) to 0.95 (for concrete). The subject site discharges and will continue to discharge stormwater into the same location of the existing watercourse in the vicinity at its west side. The flow patterns and the catchment boundaries of the subject area would remain unchanged. Therefore, the increase in surface runoff at the existing watercourse in the vicinity at the west side of the subject site would be solely due to the change in the runoff coefficient of the subject site area after the proposed development.

4.2 Referring to the attached **Figure 4**, total catchment area (excluding the subject site) of the existing watercourse at the point of discharge of the subject site
= (150,515 + 722 + 6,203) $m^2$ = 157,440 $m^2$
The subject site area = 1,852 $m^2$
Increase in runoff coefficient of the subject site, C = 0.95 – 0.25 = 0.70

Since Q = 0.278 x C x i x A, increase in quantity of surface runoff solely due to change in C in all design periods = [0.70 x 1,852 /(0.25 x 1,852 + 0.35 x 157,440)] x 100% = 2.33% which is insignificant.

4.3 Detailed calculation for assessment of drainage impact on the existing drainage facilities and streamcourse due to additional runoff generated from the development is shown in the lower part of the **Appendix**. The calculation illustrates that the existing drainage facilities and streamcourse at the downstream of the subject site are capable to collect additional runoff generated from the development without causing any unacceptable drainage impact.

4.4 Therefore, it is considered that the proposed development would not cause any unacceptable adverse drainage effects upon the subject area and its surroundings.

## 5. Proposed Drainage Works

5.1 The proposed finished ground levels of the subject development are close to the existing site levels such that no substantial ground levelling nor site formation works would be required. Ground surfaces of the subject site would be generally paved.

5.2 Existing flow paths of the catchments in the concerned area would be maintained in general. Surface runoff from the Catchment A1 and A2 flowing onto the subject site would be intercepted by peripheral channels at the subject site boundary. Total surface runoff received from the subject site would be conveyed to a discharge point at the existing streamcourse to the west.

5.3 In order to properly manage surface runoff of the subject site, peripheral U-channels with catchpit at corner will be constructed along the subject site boundary. The flows inside the channels will be discharged into a proposed terminal manhole TM with desilting trap located near the western corner of the subject site near the existing streamcourse. A Stormwater Drainage Layout Plan is shown in **Figure 5**. Proposed Outfall Details at the existing watercourse is shown in **Figure 6**.

5.4 All surface runoff collected within the subject site would be conveyed to the proposed terminal manhole and from which the collected flow would be discharged into the adjacent existing streamcourse. It should not have implementation problems on construction works and the operation of the drainage.

5.5 300mm U-channel is proposed along the western side of the proposed external access to receive surface runoff from the access itself as well as the adjacent area. The channel would discharge into an existing 375mm U-channel abutting on the edge of San Shek Wan Road. It has to notice that because of the existing topography, flows from the same area of the external access road would inevitably flow into the existing 375mm U-channel at

present, hence there would be no change in drainage pattern of the concerned area after the completion of the proposed access road (please refer to the photo below).

5.6 There is no change in the drainage paths of the area of the external access, i.e. the concerned existing 375mm U-channel has been conveying surface runoff from the same area of the access road, except an U-channel will be provided along the access road to properly manage the surface runoff after the subject development. Hence, it also should not have implementation problems on construction works and the operation of the drainage. Besides, the subject proposed development including the external access road would be subject to Buildings Ordinance. Drainage and road drainage plan of the subject proposed development shall be submitted to all relevant government departments via the Buildings Department's central processing mechanism for approval at the later detail design stage.

5.7 Details of proposed drainage provisions shall follow relevant details shown in Government departments' Standard Drawings as follows:

| Proposed Drainage Provisions | Standard Drawings | Drawing No. & Title |
|---|---|---|
| Terminal manhole with trap | DSD Standard Drawings | DS 1091A - Terminal Manhole Type T2_1 |
| Catchpit | CEDD Standard Drawings | C 2405/1 to /5 – Standard Catchpit Details |
| U-channel | | C2409J – Details of Half-round and U-channels |
| Channel cover / grating | | C2412E – Cover Slab and Cast Iron Grating for Channels |

## 6. Hydraulic Calculation

6.1 Assessment criteria is based on the recommendation set out in the Stormwater Drainage Manual (Fifth edition, Jan 2018) (SDM) and its Corrigendum No. 1/2022, 1/2024 and 2/2024 issued by DSD. Design Return Period of 50 years (recommended for 'Main Rural Catchment Drainage Channel' in SDM) is adopted.

6.2 The corresponding runoffs under rainfall intensity for various return period are worked out with reference to Rational Method. Brandy-Williams method is used in calculation of the time of concentration. A uniformly distributed rainfall with an intensity is determined by the Intensity-Duration-Frequency. With referenced to Table 3a - Storm Constants for different return periods of HKO Headquarters from SDM, the rainfall profiles are derived based on the following equation:

$$i = \frac{a}{(t+b)^c}$$

where i = mean rainfall intensity (mm/hr)
t = duration time of concentration (min)
a, b and c = storm constants given in Table below

**Table : Storm Constants**

| Return Period (years) | 50 |
|---|---|
| a | 505.5 |
| b | 3.29 |
| c | 0.355 |

A 16.0% rainfall increase is adopted in the hydraulic calculation to cater for effects due to climate change in accordance with the table 28 with projection to End of 21st Century as stipulated in the item (e) and (k) of the SDM - Corrigendum No. 1/2022. Besides, taking into consideration of design allowance in End of 21st Century, a further 12.1% rainfall increase is incorporated into the hydraulic assessment.

6.3 Hydraulic assessment is enclosed in the **Appendix**. 10% reduction in flow area has been incorporated to cater for potential deposition of sediment in stormwater channels and pipes as recommended in the SDM. The proposed channels and underground drainage are designed to cater for the estimated runoff under the designed rainstorms. With respect to the calculation, the proposed stormwater drainage system is capable to cater for the surface runoff without causing any adverse drainage impacts on the subject site and its surroundings.

6.4 Since all drainage would have sufficient spare capacity, no water backup will occur at the upstream under rainstorms of 50-year (or lower) return periods.

## 7. Conclusion

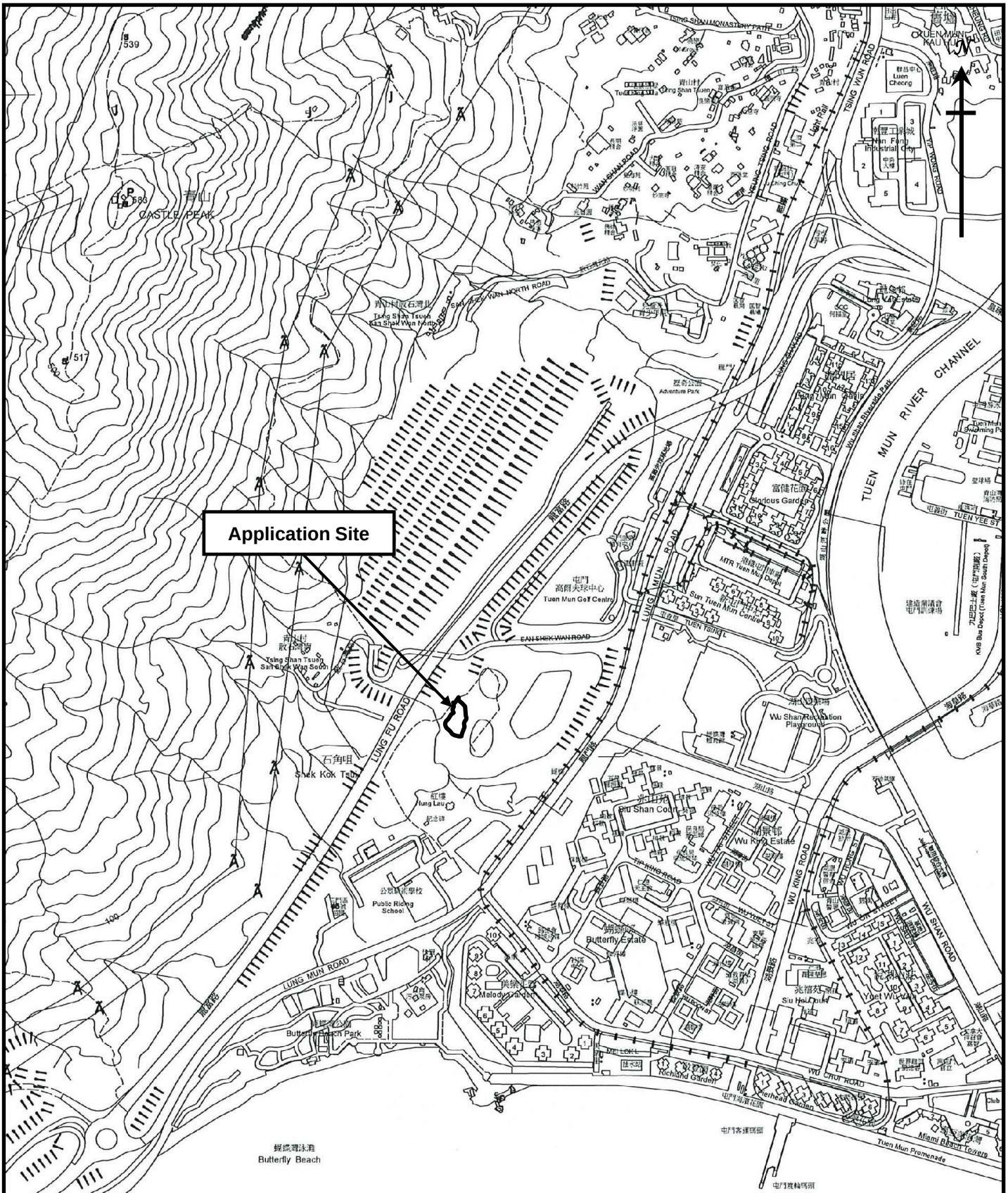
7.1 The subject site was previously approved for a holiday camp development and is now proposed to erect a 2-storey house with plot ratio of about 0.2. Only minor land levelling works would be required at the subject site.

7.2 Existing flow paths of the adjacent upstream areas of the subject site, i.e. Catchment A1, A2, A3 and A4, would be maintained in general. The subject site therefore would not cause any blockage to the flows of its adjacent areas.

7.3 Peripheral U-channels will be constructed along the subject site boundary to receive surface runoff from the adjacent areas in addition to avoid surface runoff running outside onto the surroundings. The flow inside the channels will be discharged via a purposedly constructed terminal manhole into the existing streamcourse. The existing streamcourse is checked to have sufficient capacity to convey the total flow of the concerned areas.

7.4 In addition, proposed U-channels will also be constructed to receive surface runoff on the proposed access road and the collected surface runoff will be properly conveyed to the existing 375mm U-channel abutting on the edge of San Shek Wan Road instead of uncontrolled overland flow toward the same existing 375mm U-channel as present.

7.5 In conclusion, the subject proposed development would not cause any adverse drainage impact onto the area.


Application Site
TUEN MUN RIVER CHANNEL
LUNG MUN ROAD
LUNG FU ROAD
CASTLE PEAK
青山
Tsing Shan Tsuen
Shek Kok Tsui
石角咀
Tuen Mun Golf Centre
Wu Shan Recreation Playground
Wu King Estate
Butterfly Estate
Public Riding School
Butterfly Beach Park
Butterfly Beach
Tuen Mun Promenade
Miami Beach Towers
Richland Garden
Sun Tuen Mun Centre
MTR Tuen Mun Depot
Glorious Garden
Adventure Park
Wu Shan Court
Siu Hei Court
Yiet Wu Yuen
Melody Garden
Tung Leu
Tsing Shan Tsuen San Shek Wan North
Tsing Shan Tsuen San Shek Wan South
SAN SHEK WAN ROAD
SHI HEI WAN NORTH ROAD
TSING WUN ROAD
WU SHAN ROAD
WU KING ROAD
TIP WING ROAD
TUEN YEE ST
KWAI CHUNG ROAD
TSING SHAN MONASTERY PATH
Tuen Mun Swimming Pool
KMB Bus Depot (Tuen Mun South Depot)
Tuen Mun Government Offices
Tuen Mun Ferry Pier
Tuen Mun Ferry Terminal
Tuen Mun Bus Terminus
Tuen Mun Hospital
Tuen Mun Centre
Tuen Mun Town Plaza
Tuen Mun Heung Sze Wui Road Government Offices
Tuen Mun Law Courts Building
Tuen Mun Government Offices
Tuen Mun Fire Station
Tuen Mun Police Station
Tuen Mun Magistracy
Tuen Mun Post Office
Tuen Mun Government Secondary School
Tuen Mun Government Primary School
Tuen Mun Government Offices
Tuen Mun Government Offices
Tuen Mun Government Offices

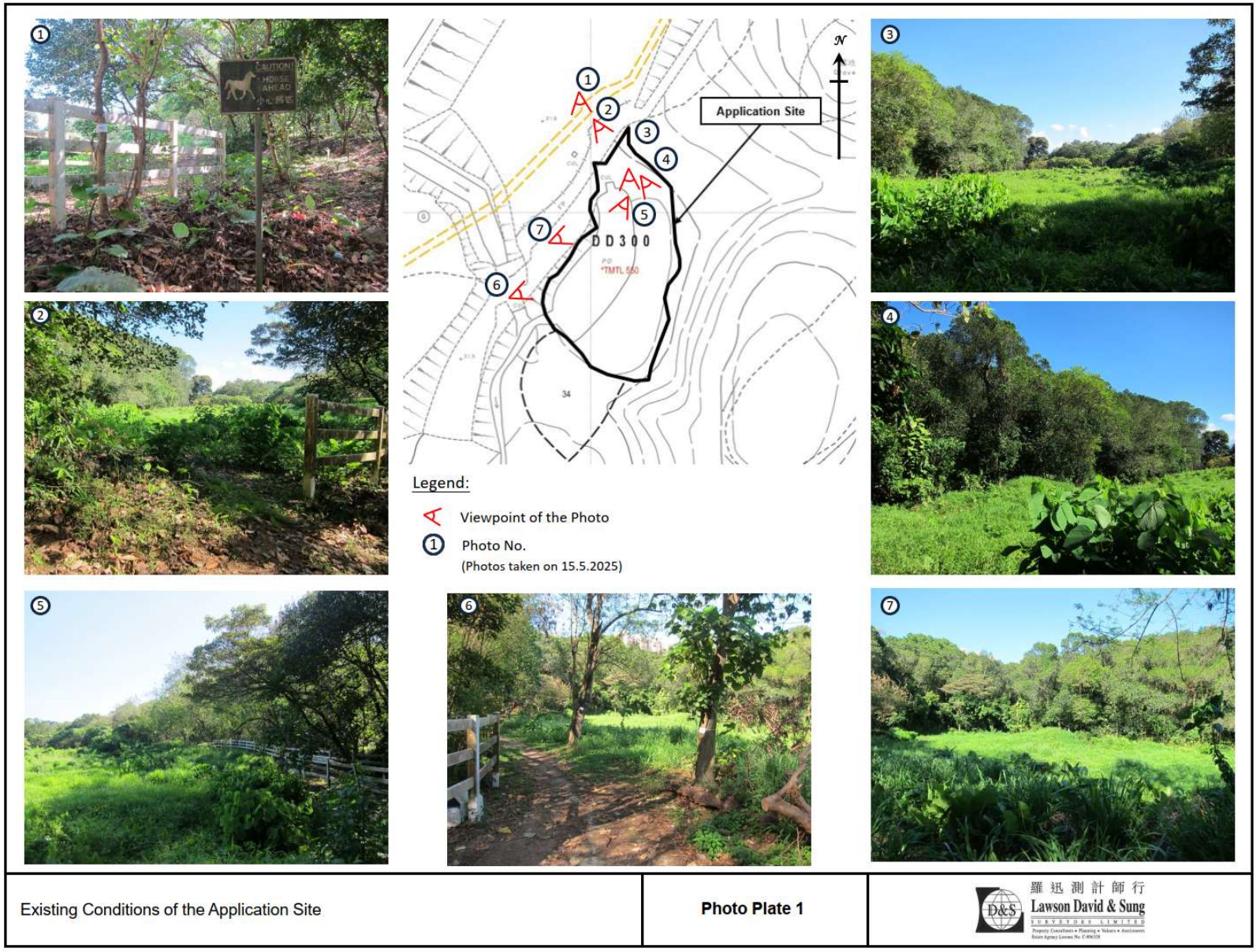
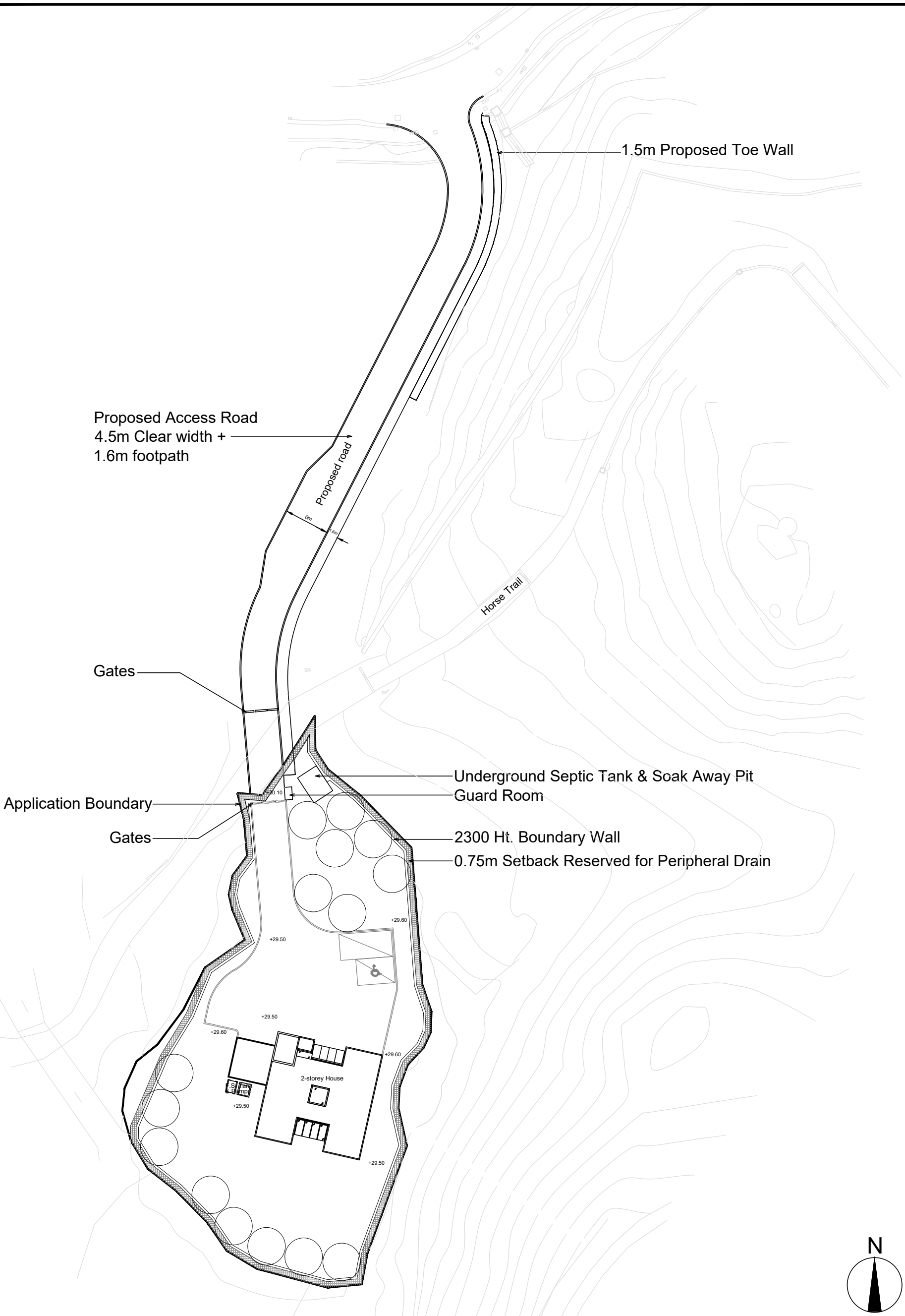



**Figure 2 – Conditions of the Application Site on 15 May 2025**




H:\25045_SanShekWanRoad\DRAWING\25045_FIG_3_00.dwg, 24/6/2025 16:38:59

PROJECT
S16 PLANNING APPLICATION FOR
TMTL 550, TUEN MUN, N.T.

何田顧問工程師有限公司
HO TIN & ASSOCIATES
CONSULTING ENGINEERS LIMITED

TITLE
PROPOSED MASTER LAYOUT PLAN

SCALE
1 : 500 – A3

DRAWING No.
FIGURE 3

827 500 N

827 000 N

813 000 E

813 500 E

814 000 E

N

A3=150,515m²

A4=3,908m²

A1=722m²

A2=6,203m²

THE SITE
4,852m²

FALL

SECTION X X

LEGEND:

SUBJECT SITE BOUNDARY

CATCHMENT BOUNDARY

PROJECT
S16 PLANNING APPLICATION FOR
TMTL 550, TUEN MUN, N.T.

何田顧問工程師有限公司
HO TIN & ASSOCIATES
CONSULTING ENGINEERS LIMITED

TITLE
EXISTING DRAINAGE FLOW PATHS
AND CATCHMENT AREAS

SCALE
1 : 4000 – A3

DRAWING No.
FIGURE 4

H:\25045_SanShekWanRoad\DRAWING\25045_FIG_4_00 & 5_00.dwg, 24/6/2025 16:40:39

N

813 900 E

826 800 N

826 700 N

隧道 Tunnel

EXISTING CATCH PIT TO BE MODIFIED INTO COVERED CATCH PIT WITH THE TOP LEVEL FLUSHING WITH THE FINISHED ROAD SURFACE

EXISTING 375UC TO BE MODIFIED INTO COVERED U-CHANNEL WITH THE TOP LEVEL FLUSHING WITH THE FINISHED ROAD LEVEL

EXISTING 300UC

EXISTING 300UC TO BE REPLACED

300 UC 1 IN 50

Proposed road

6m

6m

FALL

START POINT
C.L.=+30.00
I.L.=+29.53

1 IN 50
300UC

START POINT
C.L.=+30.45
I.L.=+30.00

1 IN 80
450UC

CP1
C.L.=+30.20
I.L.=+29.75

CP10
C.L.=+30.10
I.L.=+29.47

CP11
C.L.=+30.20
I.L.=+29.45

1 IN 220
375UC

1 IN 100
450UC

CP12
C.L.=+29.83
I.L.=+29.41

CP2
C.L.=+30.15
I.L.=+29.57

CP13
C.L.=+29.75
I.L.=+29.38

1 IN 220
375UC

CP3
C.L.=+29.60
I.L.=+29.15

CP14
C.L.=+29.60
I.L.=29.23

CP15
C.L.=+29.60
I.L.=+29.19

1 IN 80
450UC

1 IN 100
450UC

CP4
C.L.=+29.60
I.L.=+29.08

CP16
C.L.=+29.50
I.L.=+29.11

EXISTING 3500x2000 BOX CULVERT

OUTFALL

CP5
C.L.=+29.50
I.L.=+28.99

CP6
C.L.=+29.50
I.L.=+28.91

TM
C.L.=+29.50
A1=+29.08 – 375UC
A2=+28.50 – 450UC
X1=+28.50 – 450ø
D.T.L.=28.35 – 450ø

PROPOSED OUTFALL
I.L.=+28.33

450ø PIPE
1 IN 60

EXISTING STREAM BED LEVEL=+28.41

SECTION X–X FOR ASSESSMENT

CP9
C.L.=+29.50
I.L.=+28.52

CP8
C.L.=+29.50
I.L.=+28.62

CP7
C.L.=+29.30
I.L.=+28.69

PO +29.50

CUL

FP

C

31.9

36.3

31.5

LEGEND:

- SUBJECT SITE BOUNDARY
- +29.50 PROPOSED GROUND LEVEL
- PROPOSED STORMWATER TERMINAL MANHOLE
- PROPOSED STORMWATER DRAIN
- PROPOSED U-CHANNEL & CATCH PIT

K:\Civildw2\25045_SanShekWanRoad\DRAWING\25045_FIG_4_00 & 5_00.dwg, 4/7/2025 12:19:22

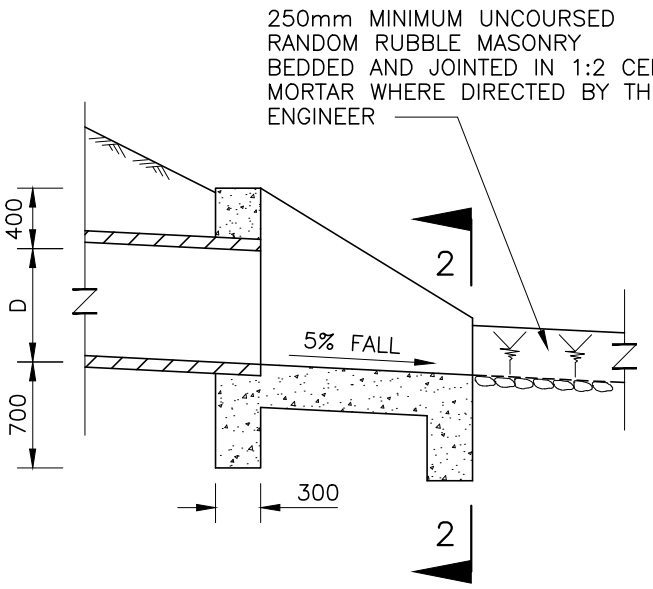
PROJECT
S16 PLANNING APPLICATION FOR
TMTL 550, TUEN MUN, N.T.

何田顧問工程師有限公司
HO TIN & ASSOCIATES
CONSULTING ENGINEERS LIMITED

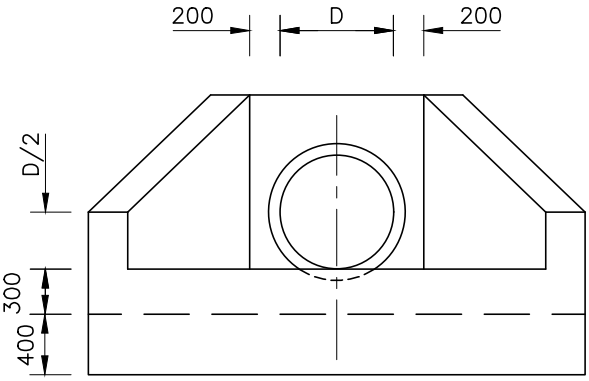
TITLE
PROPOSED STORMWATER DRAINAGE LAYOUT

SCALE
1 : 500 – A3

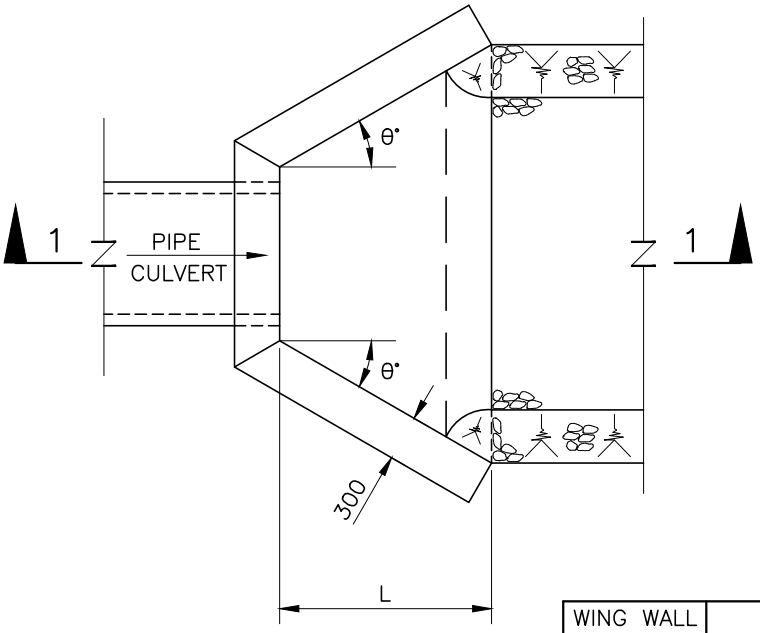
DRAWING No.
FIGURE 5




1–1




2–2




PLAN

NOTES :

1. CONCRETE : GRADE 30D/20

| WING WALL FLARE θ° | DIAMETER OF PIPE CULVERT D | | | |
|---|---|---|---|---|
| | 450–750 | 900–1200 | 1350–1650 | 1800–1950 |
| | L | | | |
| 0° | 1800 | 2400 | 3000 | 3600 |
| 30° | 1400 | 1800 | 2300 | 2700 |
| 45° | 1200 | 1500 | 1900 | 2300 |

PROJECT
S16 PLANNING APPLICATION FOR
TMTL 550, TUEN MUN, N.T.

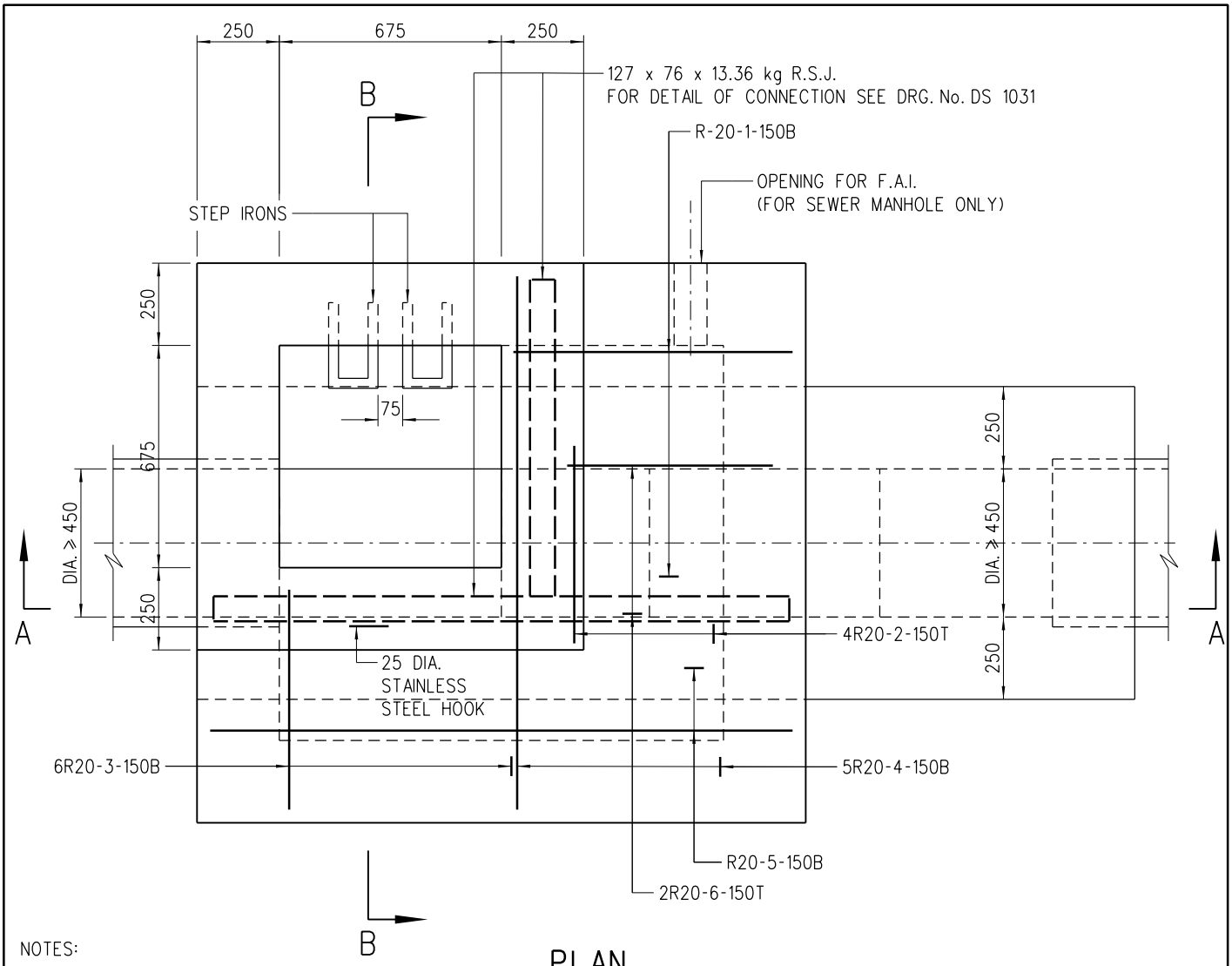
何田顧問工程師有限公司
HO TIN & ASSOCIATES
CONSULTING ENGINEERS LIMITED

TITLE
OUTFALL DETAILS

SCALE
N. T. S.

DRAWING No.
FIGURE 6

H:\25045_SanShekWanRoad\DRAWING\25045_FIG_6_00.dwg, 19/6/2025 10:38:48




PLAN

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. NOTATION OF REINFORCEMENT : THE SEQUENCE OF DESCRIPTION OF IDENTIFICATION MARKS ON DRAWINGS FOR STEEL REINFORCING BARS FOR CONCRETE WORK IS AS FOLLOWS (NUMBER, TYPE, SIZE, MARK, SPACING, LOCATION OR COMMENT)
3. B DENOTES GRADE 500B RIBBED REINFORCEMENT.
4. R DENOTES GRADE 250 PLAIN REINFORCEMENT.
5. PIPE DIAMETER : EQUAL OR GREATER THAN 450 mm
6. NORMAL RANGE OF DEPTH : 1 750 TO 4 250 mm (MEASURED FROM ROAD LEVEL TO LOWEST INVERT)
7. USED IN : STORMWATER DRAIN AND SEWER
8. JUNCTION : POSITION OF JUNCTION TO BE DETERMINED IN EACH INDIVIDUAL CASE. CHANNELS IMMEDIATELY UNDER ACCESS TO MANHOLE SHOULD BE AVOIDED.
9. TOP TREATMENT : SEE DRAWING No. DS 1032
10. STEP IRON : SEE DRAWING No. DS 1043
11. FOUNDATION : FOUNDATION OF MANHOLE VARIES WITH SITE CONDITION. THEREFORE, IT SHOULD BE DETERMINED ON SITE BY THE ENGINEER.
12. CONCRETE MIX : GRADE 30/20
13. DIAMETER OF F.A.I. NORMALLY 100 mm
14. MINIMUM COVER AT END OF BARS 40 mm
15. COVER AND FRAME NOT SHOWN ON PLAN FOR CLARITY.
16. RECESS WITH SQUARE STEEL ROD SHALL BE PROVIDED AT TOP OF MANHOLE CHAMBER FOR INSTALLING MONITORING DEVICE(S). DETAILS REFER TO DSD STANDARD DRAWING NO. DS 1099.

| REV. | DESCRIPTION | SIGNATURE | DATE |
|---|---|---|---|
| A | NOTE 16 ADDED | ORIGINAL SIGNED | 2.8.2022 |
| | NEW ISSUE | ORIGINAL SIGNED | 13.1.2016 |

# TERMINAL MANHOLE TYPE T2_1

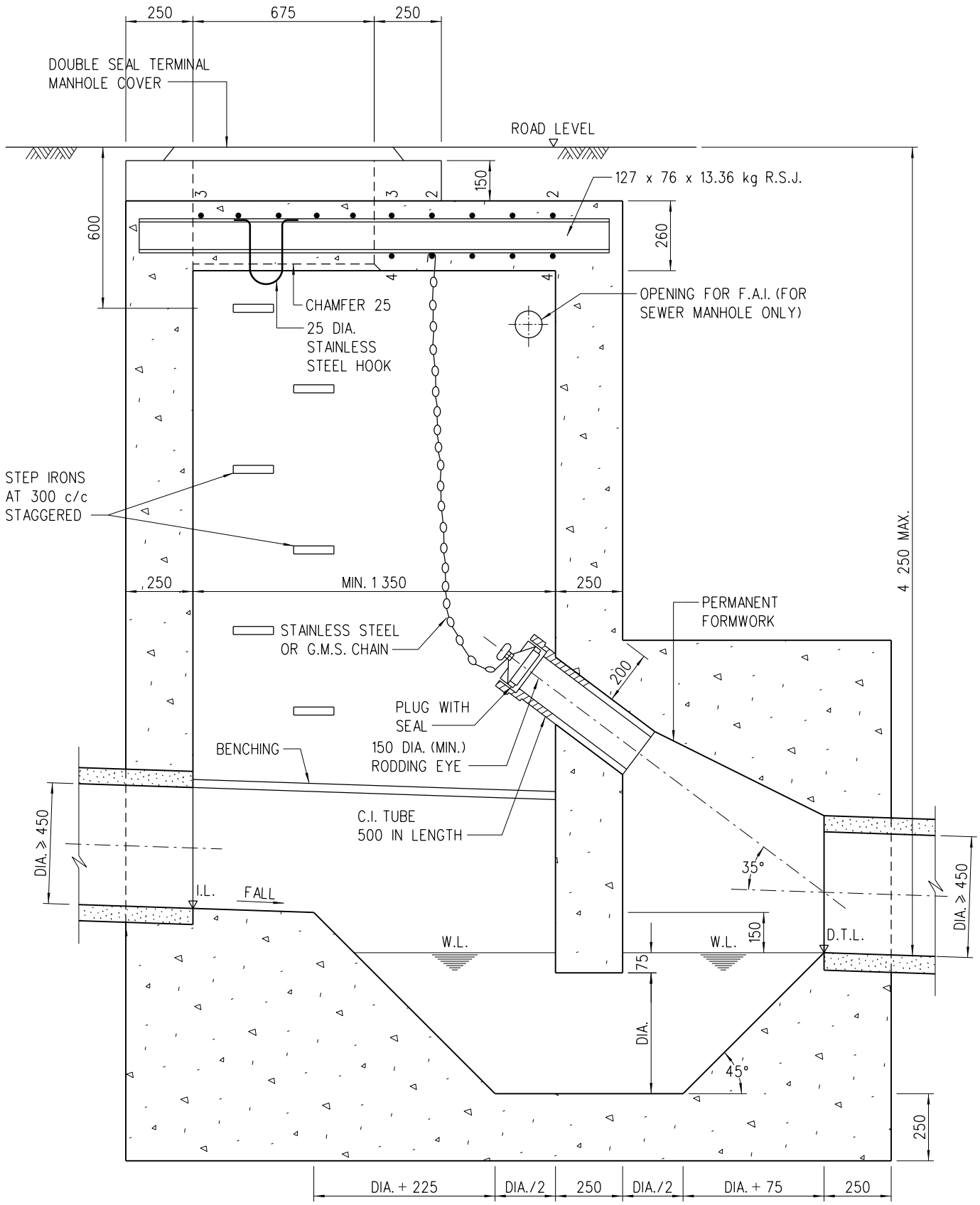
DRAINAGE SERVICES DEPARTMENT

REFERENCE

SCALE 1 : 20

DRAWING No. DS 1091A

( SHEET 1 OF 3 )




SECTION A-A

| REV. | DESCRIPTION | SIGNATURE | DATE |
|---|---|---|---|
| A | NOTE 16 ADDED | ORIGINAL SIGNED | 2.8.2022 |
| | NEW ISSUE | ORIGINAL SIGNED | 13.1.2016 |

# TERMINAL MANHOLE TYPE T2_1

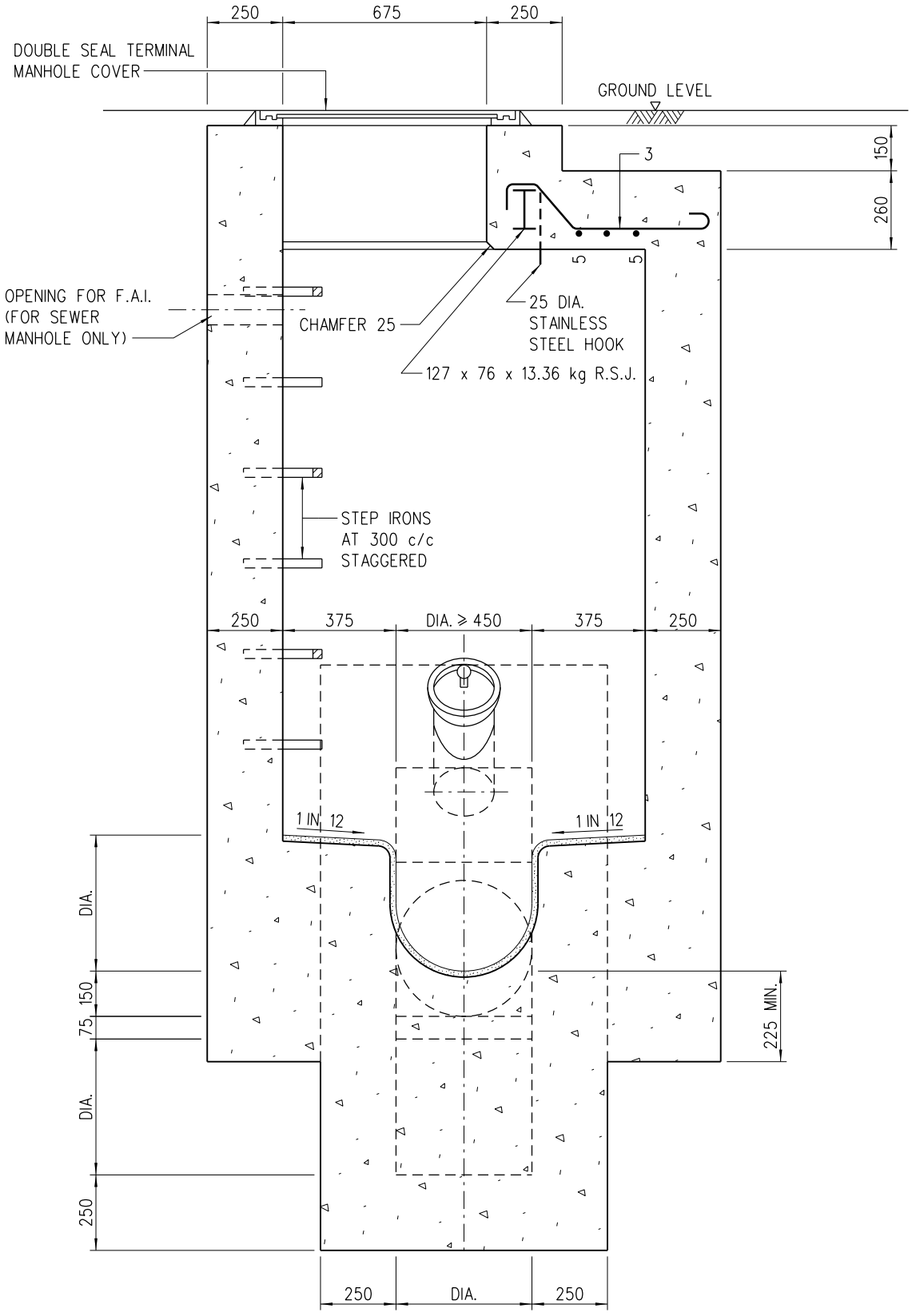
DRAINAGE SERVICES DEPARTMENT

REFERENCE

SCALE 1 : 20

DRAWING No. DS 1091A

( SHEET 2 OF 3 )




SECTION B-B

| REV. | DESCRIPTION | SIGNATURE | DATE |
|---|---|---|---|
| A | NOTE 16 ADDED | ORIGINAL SIGNED | 2.8.2022 |
| | NEW ISSUE | ORIGINAL SIGNED | 13.1.2016 |

# TERMINAL MANHOLE TYPE T2_1

DRAINAGE SERVICES DEPARTMENT

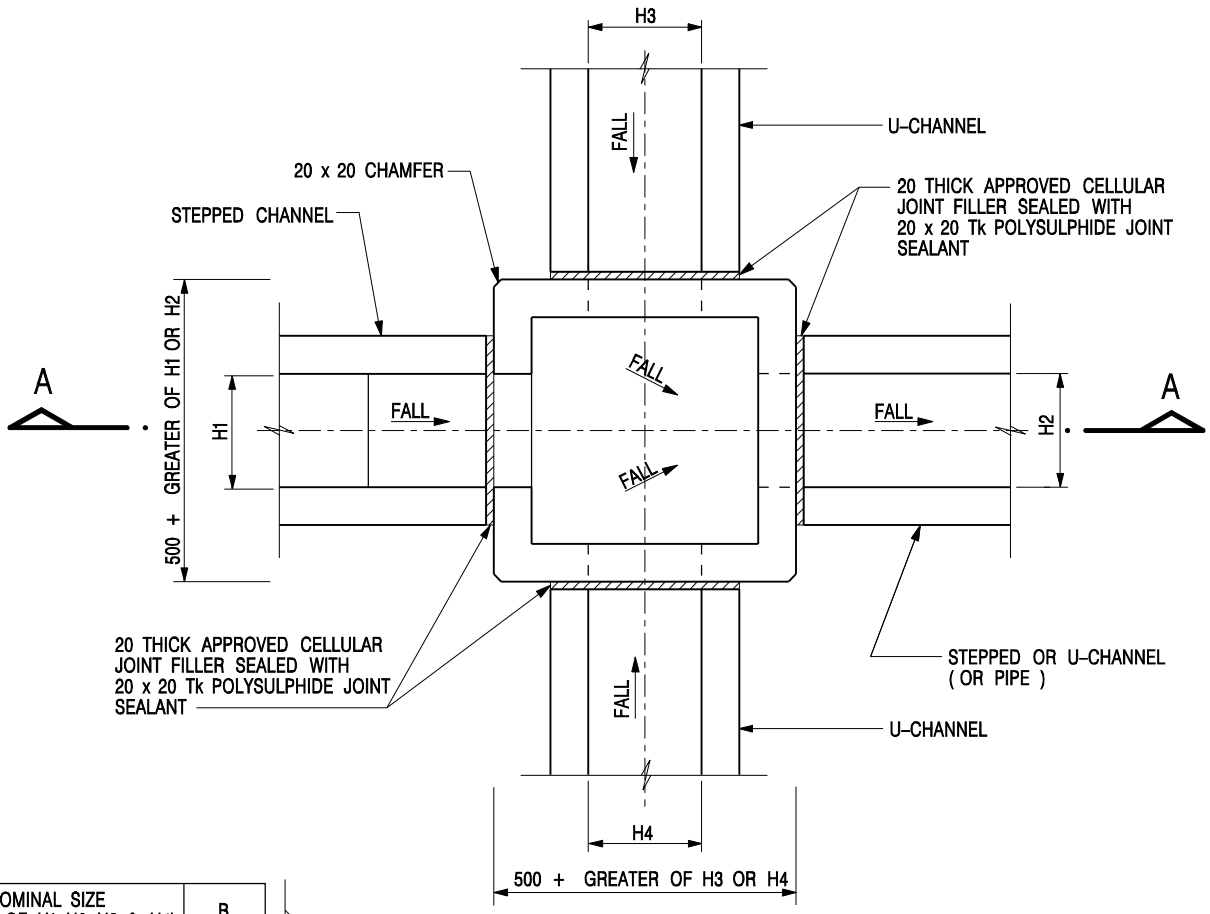
REFERENCE

SCALE 1 : 20

DRAWING No.

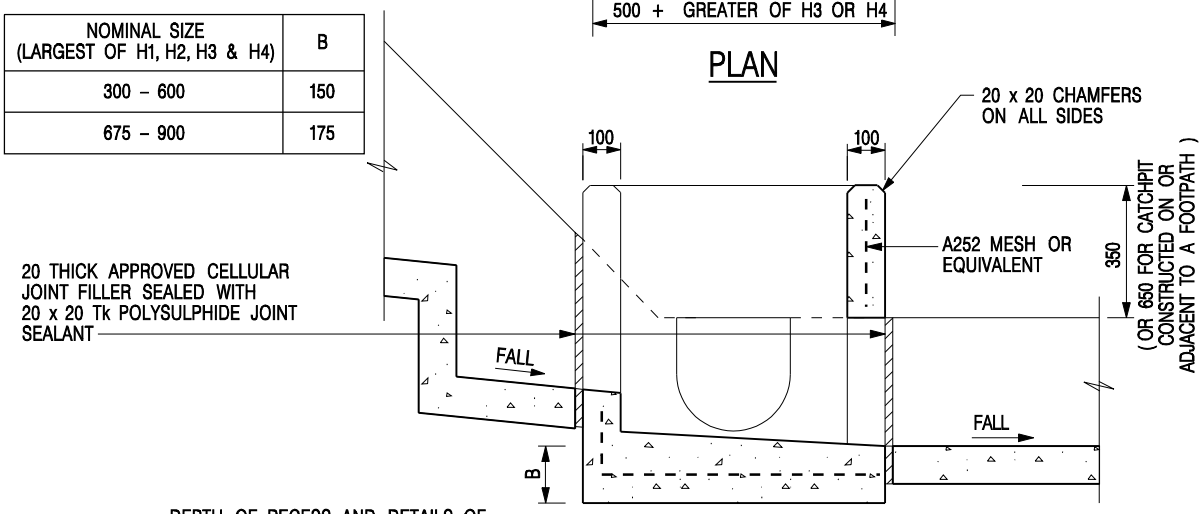
DS 1091A

( SHEET 3 OF 3 )

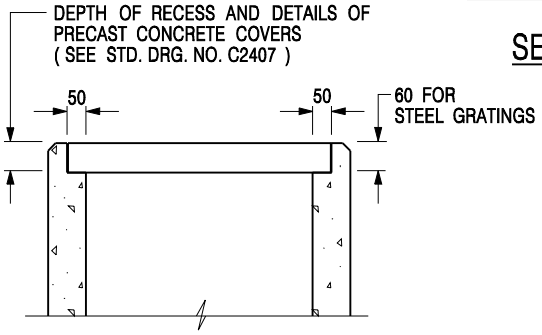



PLAN

| NOMINAL SIZE (LARGEST OF H1, H2, H3 & H4) | B |
|---|---|
| 300 – 600 | 150 |
| 675 – 900 | 175 |




SECTION A – A




NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 5 FOR OTHER NOTES.

ALTERNATIVE TOP SECTION FOR PRECAST CONCRETE COVERS / GRATINGS

| REF. | REVISION | SIGNATURE | DATE |
|---|---|---|---|
| – | FORMER DRG. NO. C2405J. | Original Signed | 03.2015 |

# STANDARD CATCHPIT DETAILS

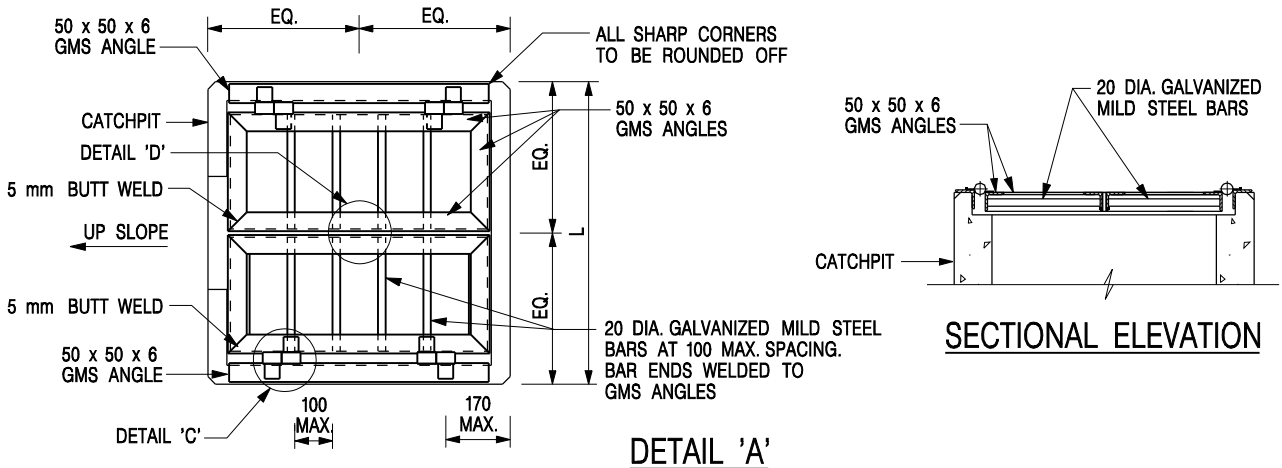
(SHEET 1 OF 5)

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

| | |
|---|---|
| SCALE 1 : 20 | DRAWING NO. C2405 /1 |
| DATE JAN 1991 | |

卓越工程 建設香港

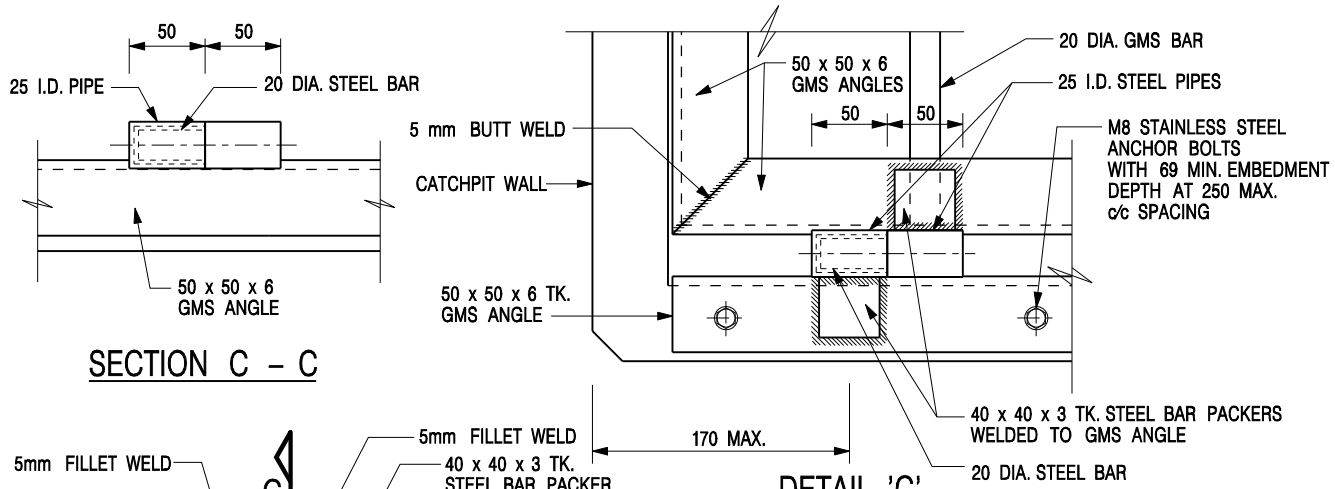
We Engineer Hong Kong's Development




## DETAIL 'A'

( DETAILS OF DOUBLE SIDE OPENING STEEL GRATING FOR L>900mm )

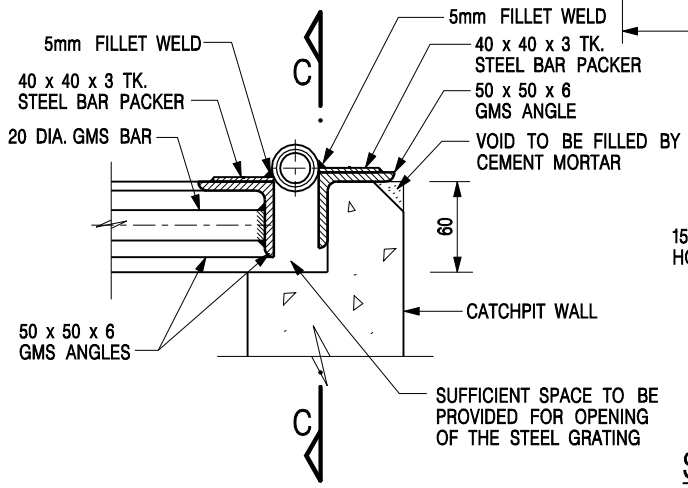
SCALE 1 : 20




## DETAIL 'C'

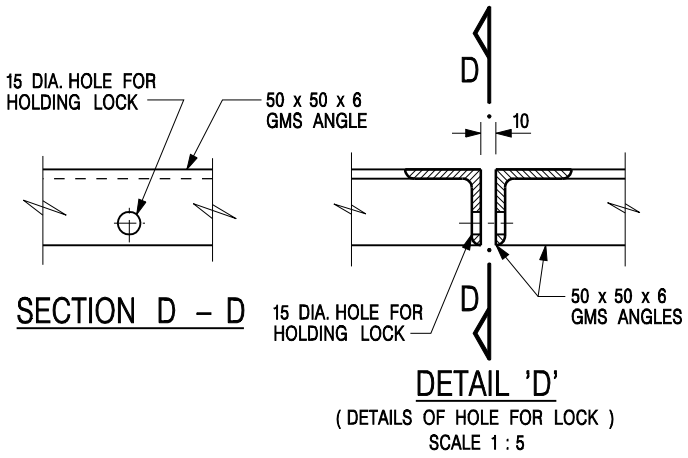
( DETAILS OF HINGE )

SCALE 1 : 5




## SECTIONAL ELEVATION

( DETAIL 'C' )




## DETAIL 'D'

( DETAILS OF HOLE FOR LOCK )

SCALE 1 : 5

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 5 FOR OTHER NOTES.

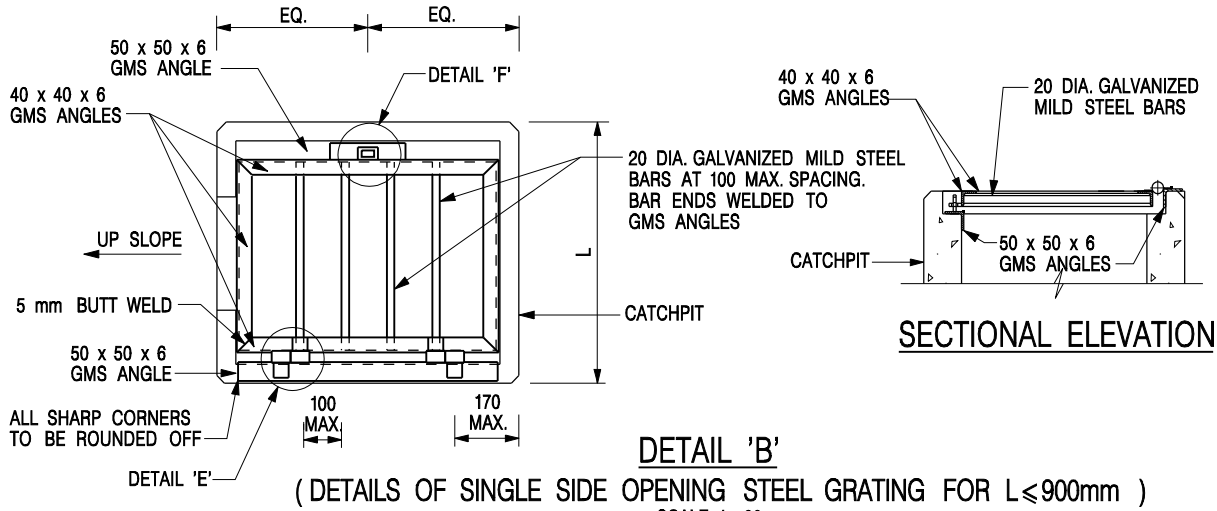
| REF. | REVISION | SIGNATURE | DATE |
|---|---|---|---|
| – | FORMER DRG. NO. C2405J. | Original Signed | 03.2015 |

# STANDARD CATCHPIT DETAILS

(SHEET 2 OF 5)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

| SCALE | AS SHOWN | DRAWING NO. |
|---|---|---|
| DATE | JAN 1991 | C2405 /2 |

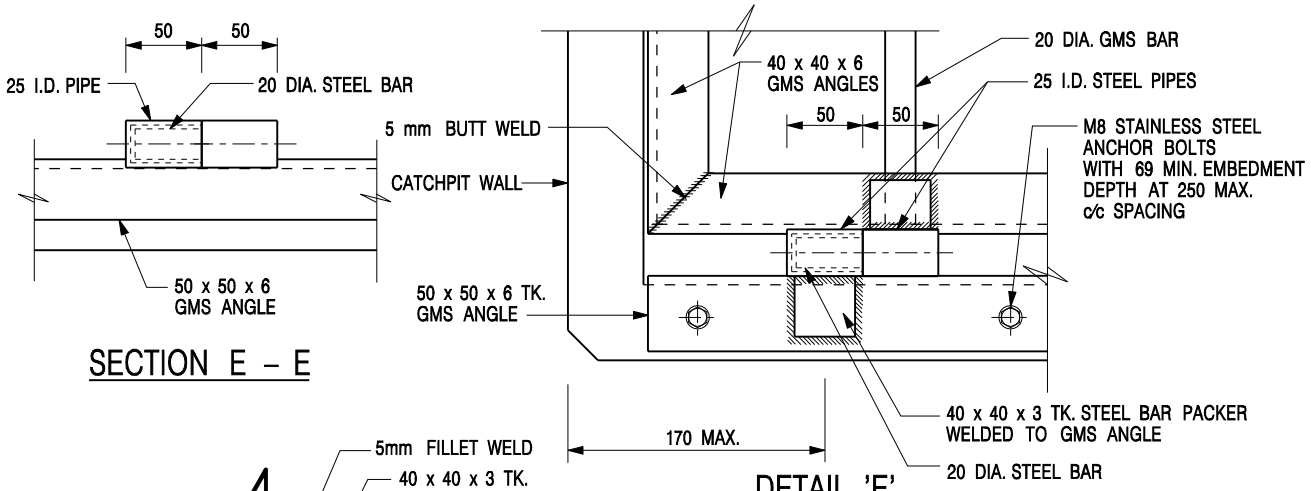



## SECTIONAL ELEVATION

## DETAIL 'B'

( DETAILS OF SINGLE SIDE OPENING STEEL GRATING FOR L≤900mm )

SCALE 1 : 20



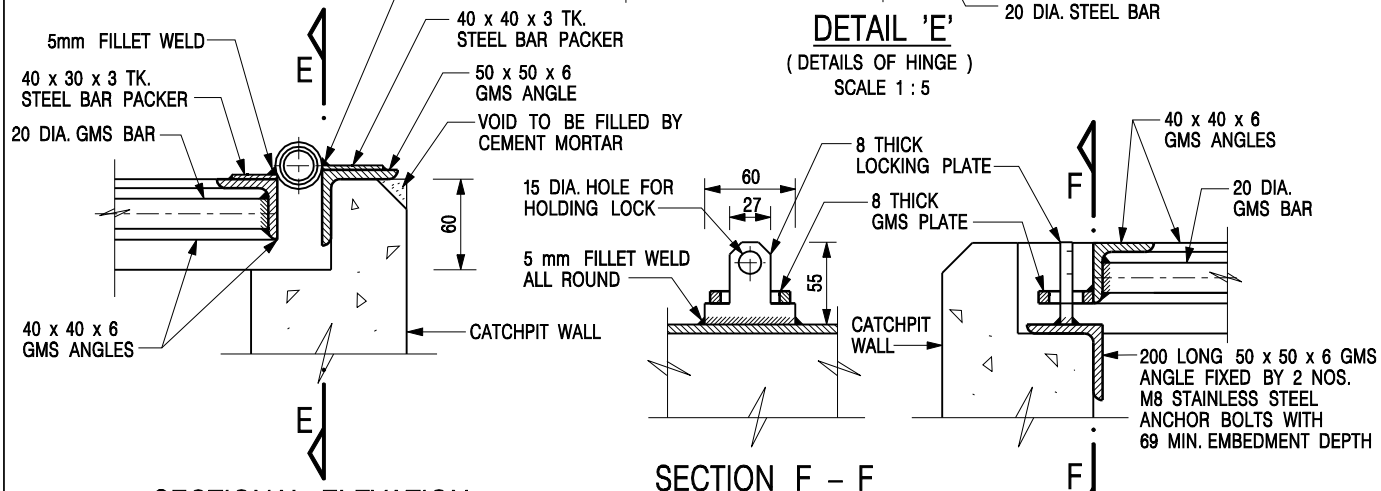

## SECTION E – E

170 MAX.

## DETAIL 'E'

( DETAILS OF HINGE )

SCALE 1 : 5




## SECTIONAL ELEVATION

( DETAIL 'E' )

## SECTION F – F

## DETAIL 'F'

( DETAILS OF LOCKING PLATE )

SCALE 1 : 5

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 5 FOR OTHER NOTES.

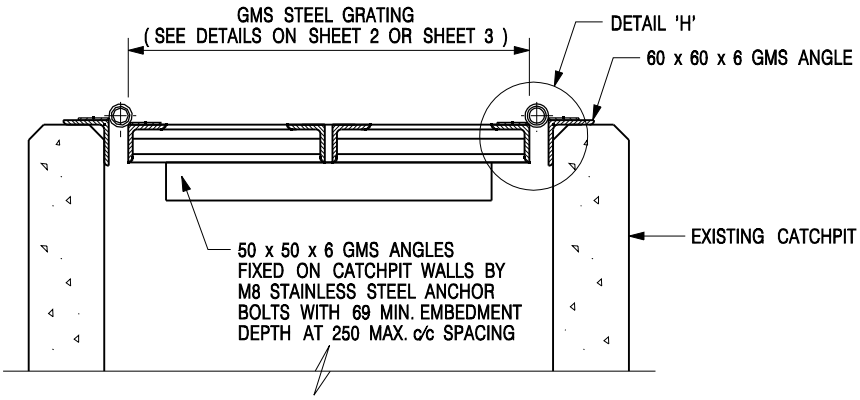
| REF. | REVISION | SIGNATURE | DATE |
|---|---|---|---|
| – | FORMER DRG. NO. C2405J. | Original Signed | 03.2015 |

# STANDARD CATCHPIT DETAILS

(SHEET 3 OF 5)

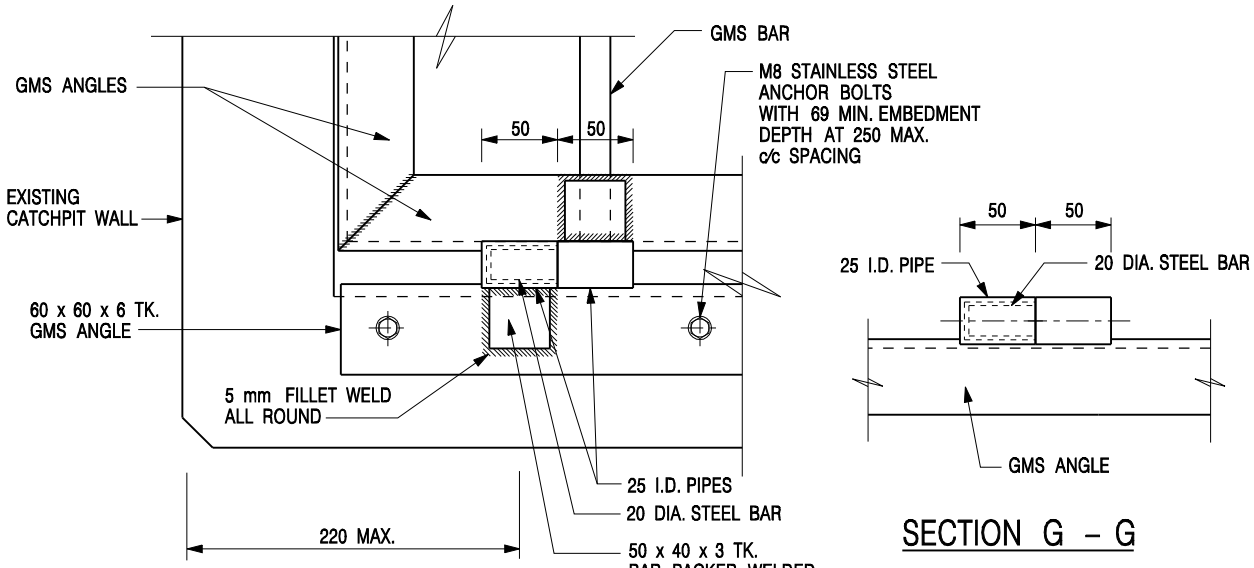
CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

| SCALE | AS SHOWN | DRAWING NO. |
|---|---|---|
| DATE | JAN 1991 | C2405 /3 |




## DETAIL 'G' – DETAILS OF STEEL GRATING CONSTRUCTED ON EXISTING CATCHPIT

SCALE 1 : 10

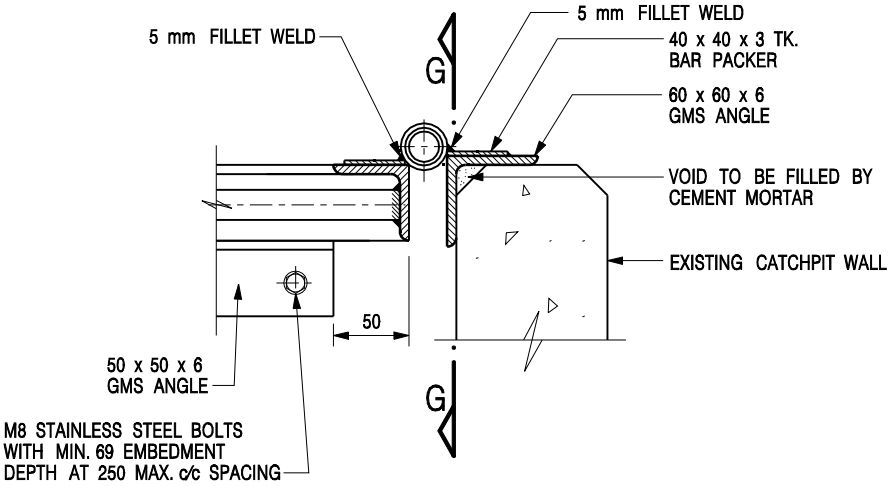



## DETAIL 'H'

( DETAILS OF HINGE )

SCALE 1 : 5

## SECTION G – G




## SECTIONAL ELEVATION

( DETAIL 'H' )

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 5 FOR OTHER NOTES.

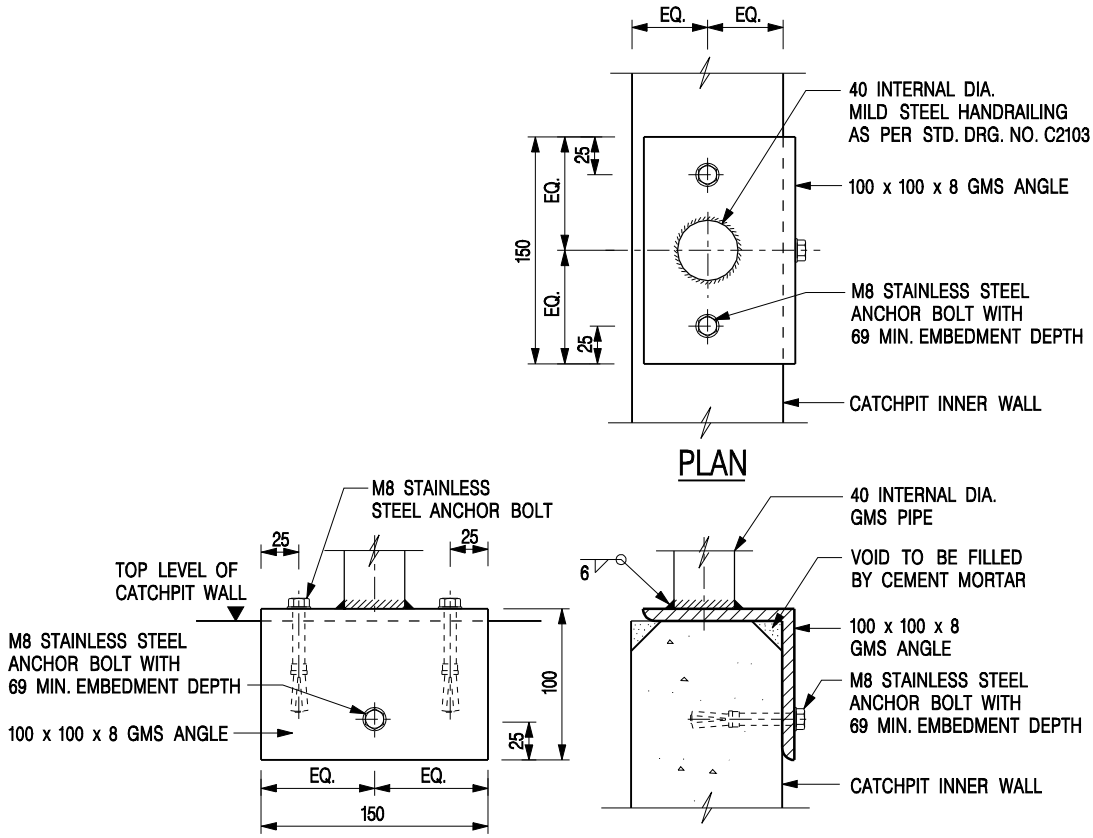
| REF. | REVISION | SIGNATURE | DATE |
|---|---|---|---|
| – | FORMER DRG. NO. C2405J. | Original Signed | 03.2015 |

# STANDARD CATCHPIT DETAILS

(SHEET 4 OF 5)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

| | |
|---|---|
| SCALE AS SHOWN | DRAWING NO. C2405 /4 |
| DATE JAN 1991 | |




# DETAIL 'J' – FIXING DETAILS FOR HANDRAILING ON TOP OF CATCHPIT WALL

SCALE 1 : 5

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE SHALL BE GRADE 20 /20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2 OR F2 AS APPROPRIATE.
4. FOR DETAILS OF JOINT, REFER TO STD. DRG. NO. C2413.
5. CONCRETE TO BE COLOURED AS SPECIFIED.
6. FOR CATCHPITS CONSTRUCTED ON OR ADJACENT TO A FOOTPATH, STEEL GRATINGS ( SEE DETAILS ON SHEET 2 OR SHEET 3 ) OR CONCRETE COVERS ( SEE STD. DRG. NO. C2407 ) SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.
7. IF INSTRUCTED BY THE ENGINEER, HANDRAILING ( SEE DETAIL 'J' ON SHEET 5; EXCEPT ON THE UPSLOPE SIDE ) IN LIEU OF STEEL GRATINGS OR CONCRETE COVERS CAN BE ACCEPTED AS AN ALTERNATIVE SAFETY MEASURE FOR CATCHPITS NOT ON A FOOTPATH NOR ADJACENT TO IT. TOP OF THE HANDRAILING SHALL BE 1 000 mm MIN. MEASURED FROM THE ADJACENT GROUND LEVEL.
8. MINIMUM INTERNAL CATCHPIT WIDTH SHALL BE 1 000 mm FOR CATCHPITS WITH A HEIGHT EXCEEDING 1 000 mm MEASURED FROM THE INVERT LEVEL TO THE ADJACENT GROUND LEVEL. AND, STEP IRONS ( SEE DSD STD. DRG. NO. DS1043 ) AT 300 mm c/c STAGGERED SHALL BE PROVIDED. THICKNESS OF CATCHPIT WALL FOR INSTALLATION OF STEP IRONS SHALL BE INCREASED TO 150 mm.
9. FOR RETROFITTING AN EXISTING CATCHPIT WITH STEEL GRATING, SEE DETAIL 'G' ON SHEET 4.
10. ALL STEEL ANGLES SHALL COMPLY WITH BS EN 10025 AND BS EN 10056.
11. UNLESS OTHERWISE SPECIFIED, ALL WELDS SHALL BE 5 mm CONTINUOUS FILLET WELDS.
12. ALL WELDS SHALL BE CHIPPED, GROUND SMOOTH, BRUSHED TO REMOVE SLAG PRIOR TO HOT-DIP GALVANIZATION.
13. ALL STEELWORK SHALL BE HOT-DIP GALVANIZED TO BS EN ISO 1461. ALL EXPOSED STEELWORK SURFACES SHALL BE TREATED AND PAINTED IN ACCORDANCE WITH THE GENERAL SPECIFICATION.
14. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

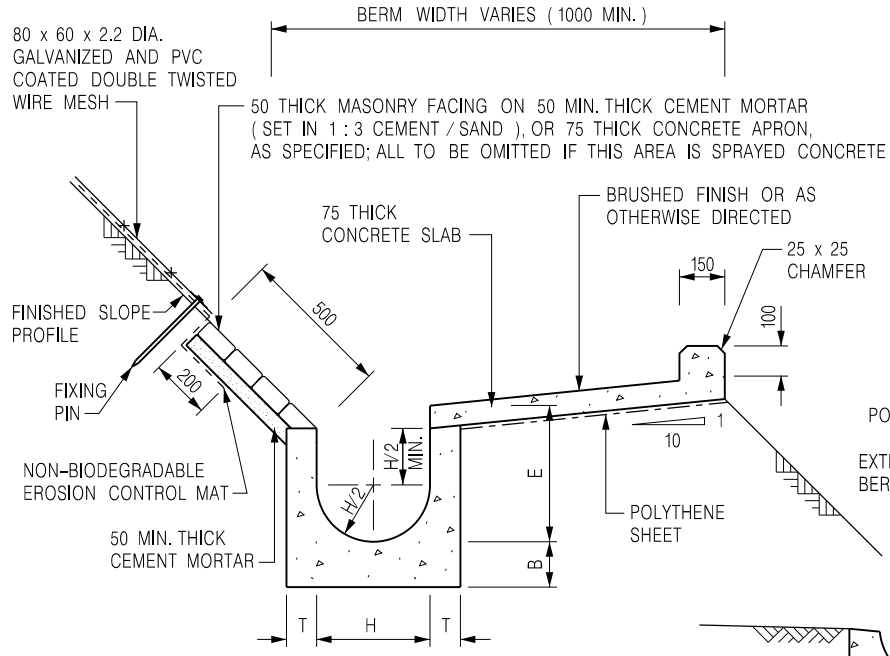
| REF. | REVISION | SIGNATURE | DATE |
|---|---|---|---|
| – | FORMER DRG. NO. C2405J. | Original Signed | 03.2015 |

# STANDARD CATCHPIT DETAILS

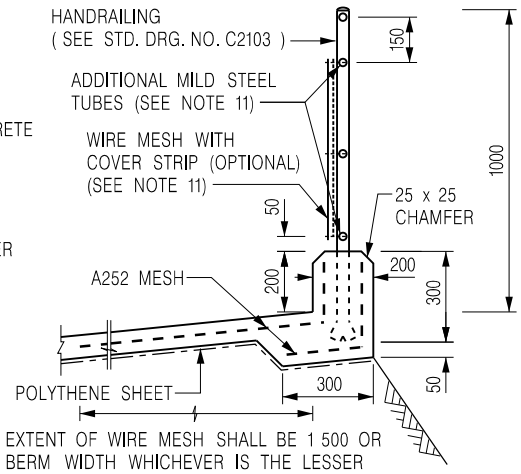
(SHEET 5 OF 5)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

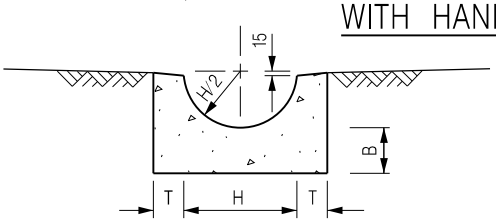
| | |
|---|---|
| SCALE AS SHOWN | DRAWING NO. C2405 /5 |
| DATE JAN 1991 | |



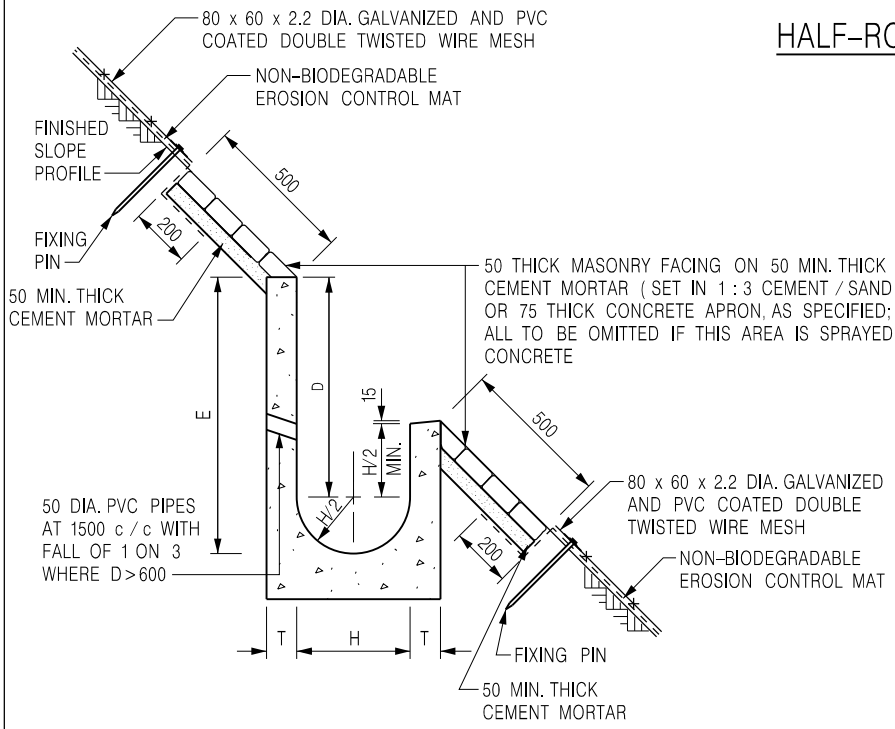

## U-CHANNELS CONSTRUCTED ON BERM




## DETAILS OF BERM WITH HANDRAILING




## HALF-ROUND CHANNEL




## U-CHANNELS NOT CONSTRUCTED ON BERM

### NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE TO BE GRADE 20 / 20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2, F2 OR BRUSHED FINISH AS DIRECTED.
4. SPACING OF EXPANSION JOINT IN CHANNELS, BERM SLABS AND APRONS TO BE 10 METRES MAXIMUM, SEE STD. DRG. NO. C2413 FOR DETAILS.
5. JOINTS FOR CHANNELS, BERM SLABS, APRONS AND WALLS, ETC. TO BE ON THE SAME ALIGNMENT.
6. FOR DIMENSIONS T, H, & B, SEE TABLE BELOW.
7. BIODEGRADABLE EROSION CONTROL MAT IF REQUIRED, SEE STD. DRG. NO. C2511/1E.
8. CONCRETE TO BE COLOURED AS SPECIFIED.
9. CONCRETE U-CHANNEL CAN BE CAST IN-SITU OR PRECAST CONCRETE SUBJECT TO THE ENGINEER'S AGREEMENT ON THE DETAILS.
10. DETAILS OF EROSION CONTROL MAT AND WESH MESH ON BERM. (SEE STD DRG. NO. C2511/1E)
11. THE WIRE MESH ON HANDRAILING IS OPTIONAL. THE COVER STRIP AND ADDITIONAL MILD STEEL TUBES ARE NEEDED ONLY IF WIRE MESH IS PROVIDED. (SEE STD. DRG. NO. C2103)

| NOMINAL SIZE H | T | B | REINFORCEMENT |
|---|---|---|---|
| 300 | 80 | 100 | A252 MESH PLACED CENTRALLY AND T=100 WHEN E>650 |
| 375 – 600 | 100 | 150 | |
| 675 – 900 | 125 | 175 | A252 MESH PLACED CENTRALLY |

| REF. | REVISION | SIGNATURE | DATE |
|---|---|---|---|
| J | DETAILS OF HANDRAILING AMENDED. | Original Signed | 08.2024 |
| I | MINOR AMENDMENT. | Original Signed | 07.2018 |
| H | THICKNESS OF MASONRY FACING AMENDED. | Original Signed | 01.2005 |
| G | MINOR AMENDMENT. | Original Signed | 01.2004 |
| F | GENERAL REVISION. | Original Signed | 12.2002 |

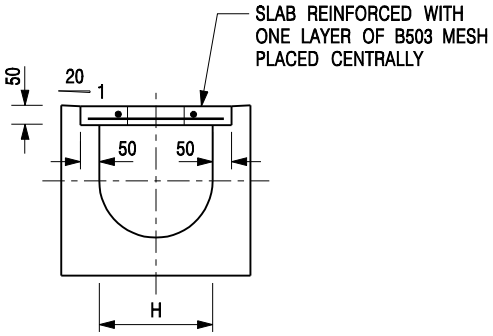
# DETAILS OF HALF-ROUND AND U-CHANNELS ( TYPE A – WITH MASONRY APRON )

CEDD **CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT**

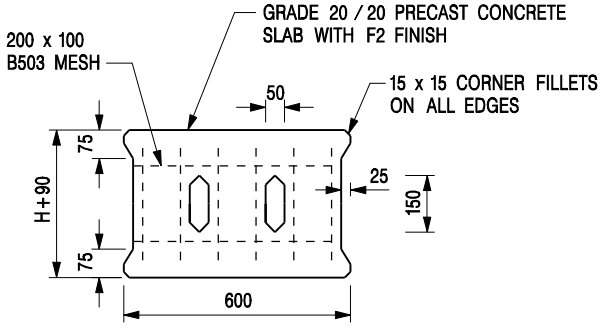
**SCALE** 1 : 25

**DATE** JAN 1991

**DRAWING NO.** C2409J



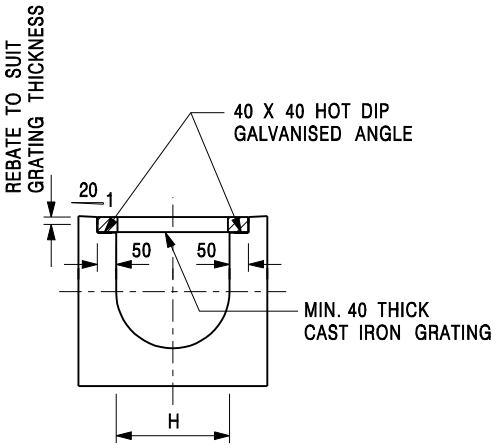

TYPICAL SECTION



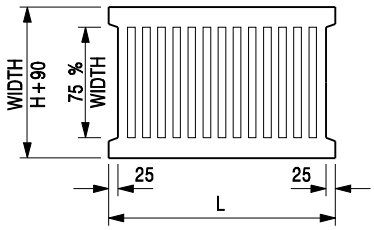

PLAN OF SLAB

## U-CHANNELS WITH PRECAST CONCRETE SLABS

(UP TO H OF 525)




TYPICAL SECTION




L = 600mm FOR H ≤ 375mm
L = 400mm FOR H > 375mm

CAST IRON GRATING

(DIMENSIONS ARE FOR GUIDANCE ONLY, CONTRACTOR MAY SUBMIT EQUIVALENT TYPE)

## U-CHANNEL WITH CAST IRON GRATING

(UP TO H OF 525)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. H = NOMINAL CHANNEL SIZE.
3. ALL CAST IRON FOR GRATINGS SHALL BE GRADE EN-GJL-150 COMPLYING WITH BS EN 1561.
4. FOR COVERED CHANNELS TO BE HANDED OVER TO HIGHWAYS DEPARTMENT FOR MAINTENANCE, THE GRATING DETAILS SHALL FOLLOW THOSE AS SHOWN ON HyD STD. DRG. NO. H3156.

| REF. | REVISION | SIGNATURE | DATE |
|---|---|---|---|
| E | NOTES 3 & 4 AMENDED. | Original Signed | 12.2014 |
| D | NOTE 4 ADDED. | Original Signed | 06.2008 |
| C | MINOR AMENDMENT. NOTE 3 ADDED. | Original Signed | 12.2005 |
| B | NAME OF DEPARTMENT AMENDED. | Original Signed | 01.2005 |
| A | CAST IRON GRATING AMENDED. | Original Signed | 12.2002 |

# COVER SLAB AND CAST IRON GRATING FOR CHANNELS

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2412E

**Assessment of Hydraulic Capacities of the Proposed Drainage System for 1 in 50 year design return period**

**Using Rational Method**
Design Flow = 0.278CiA $m^3/s$ for grassland (heavy soil) - steep, C 0.35
for concrete surface, C = 0.95

**Using Manning Equation**
Design Mean Velocity = $R^{1/6}/n(RS_f)^{1/2}$ where n = 0.016 for concrete-lined open channel with fair surface
0.045 for natural stream channels, winding some pools and shoals with some weeds and stones with fair surface
(ref. Table13 in SDM)

**Using Gumbel Solution in frequency analysis**
Rainfall intensity = $a / (t_d+b)^c$ where a = 505.5 , b= 3.29 and c= 0.355 in 50 year design return period
referenced from Table 3a in SDM - Storm Constants for Different Return Periods of HKO Headquarters

**Using Bransby William's Equation (for channel flow)**
Inlet time $t_0$ = $0.14465L/(H^{0.2}A^{0.1})$ or 2 when the distance is too short

**Using Colebrook's White Equation (for pipe flow)**
V = - Sqt (8gDs) x log [($k_s$ / 3.7D) + (2.51v / D x Sqt (2gDs))]
For precast concrete pipes with 'O' ring joints with poor condition,
$k_s$ (mm) = 0.6 $k_s$ (m) = 0.0006
v ($m^2/s$) = 1.00E-06
g ($m^2/s$) = 9.81

* - conservative, as the subject proposed development is for temporary use for 3 years only

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **USCP/USMH** | **DSCP/DSMH** | **Collected Runoff from Catchment (refer to Figure 3 and 4)** | **USGL (mPD)** | **DSGL (mPD)** | **USIL (mPD)** | **DSIL (mPD)** | **INVERT DIFF. (m)** | **LENGTH OF CHANNEL / DRAIN l (m)** | **SLOPE s** | **SLOPE 1 IN** | **LENGTH FOR CALCULATION OF INLET TIME L (m)** | **AVERAGE SLOPE OF GROUND FOR CALCULATION OF INLET TIME H (m per 100m)** | **INLET TIME $t_0$ (min) = 0.14465 x $[L/(H^{0.2} \times A^{0.1})]$** | **TIME OF FLOW INSIDE CHANNEL/ DRAIN $t_f$ (min) = l/V (i.e. Column (9) ÷ Column (26) ÷ 60)** | **TIME OF CONCENTRATION $t_c$ (min) = $t_0 + t_f$** | **RAINFALL INTENSITY i (mm/hr)** | **RAINFALL INTENSITY INCLUDING EFFECT OF CLIMATE CHANGE (+16.0%*) (mm/hr) [refer to item (e) and (k) in SDM Corrigendum No. 1/2022]** | **ADOPTED RAINFALL INTENSITY INCLUDING EFFECT OF CLIMATE CHANGE (+16.0%) & DESIGN ALLOWANCE (12.1%) (mm/hr) [refer to item (e), (k) and (n) in SDM Corrigendum No. 1/2022]** | **RUNOFF COEF. C** | **SUB-CATCHMENT AREA A ($m^2$)** | **EFF. AREA ($m^2$)** | **CUM. EFF. AREA ($m^2$)** | **DESIGN FLOW ($m^3/s$)** | **SIZE (mm)** | **CHANNEL TYPE** | **VELOCITY (m/s)** | **FLOW CAPACITY ($m^3/s$)** | **90% FLOW CAPACITY ($m^3/s$) (to cater for potential deposition of sediment)** | **SPARE CAPACITY ($m^3/s$)** | **Occupancy of the Proposed Pipe / Channel** | |
| Top of Area A1 | Starting Point | A1 | | | 31.58 | 30.00 | | 17.00 | | | 17.00 | 0.35 | 1.57 | | | | | | 0.35 | 722 | 253 | 253 | | | | | | | | | |
| Starting Point | CP10 | A1 + 1/3 Site Area (conservative) | 30.00 | 30.10 | 29.53 | 29.47 | 0.06 | 13.00 | 0.005 | 220 | - | - | 1.57 | 0.18 | 1.75 | 284.63 | 330.17 | 370.12 | 0.95 | 617 | 586 | 839 | 0.086 | 375 | UC | 1.19 | 0.27 | 0.24 | 0.152 | 36.2% | OK! |
| CP10 | CP11 | ditto | 30.10 | 30.20 | 29.47 | 29.45 | 0.01 | 3.00 | 0.005 | 220 | - | - | 1.75 | 0.04 | 1.79 | 283.81 | 329.22 | 369.05 | 0.95 | 0 | 0 | 839 | 0.086 | 375 | UC | 1.22 | 0.32 | 0.29 | 0.204 | 29.6% | OK! |
| CP11 | CP12 | ditto | 30.20 | 29.83 | 29.45 | 29.41 | 0.04 | 9.00 | 0.005 | 220 | - | - | 1.79 | 0.14 | 1.93 | 281.17 | 326.16 | 365.63 | 0.95 | 0 | 0 | 839 | 0.085 | 375 | UC | 1.11 | 0.16 | 0.14 | 0.056 | 60.2% | OK! |
| CP12 | CP13 | ditto | 29.83 | 29.75 | 29.41 | 29.38 | 0.03 | 5.50 | 0.005 | 220 | - | - | 1.93 | 0.08 | 2.01 | 279.57 | 324.30 | 363.55 | 0.95 | 0 | 0 | 839 | 0.085 | 375 | UC | 1.08 | 0.14 | 0.12 | 0.037 | 69.3% | OK! |
| CP13 | CP14 | ditto | 29.75 | 29.60 | 29.38 | 29.23 | 0.03 | 7.00 | 0.005 | 220 | - | - | 2.01 | 0.11 | 2.12 | 277.58 | 322.00 | 360.96 | 0.95 | 0 | 0 | 839 | 0.084 | 375 | UC | 1.08 | 0.14 | 0.12 | 0.038 | 68.8% | OK! |
| CP14 | CP15 | ditto | 29.60 | 29.60 | 29.23 | 29.19 | 0.03 | 7.00 | 0.005 | 220 | - | - | 2.12 | 0.11 | 2.23 | 275.68 | 319.79 | 358.48 | 0.95 | 0 | 0 | 839 | 0.084 | 375 | UC | 1.10 | 0.15 | 0.14 | 0.053 | 61.3% | OK! |
| CP15 | CP16 | ditto | 29.60 | 29.50 | 29.19 | 29.11 | 0.08 | 18.00 | 0.005 | 220 | - | - | 2.23 | 0.27 | 2.50 | 270.96 | 314.32 | 352.35 | 0.95 | 0 | 0 | 839 | 0.082 | 375 | UC | 1.09 | 0.14 | 0.13 | 0.046 | 64.1% | OK! |
| CP16 | TM | ditto | 29.50 | 29.50 | 29.11 | 29.08 | 0.03 | 7.00 | 0.005 | 220 | - | - | 2.50 | 0.11 | 2.61 | 269.24 | 312.32 | 350.11 | 0.95 | 0 | 0 | 839 | 0.082 | 375 | UC | 1.11 | 0.16 | 0.14 | 0.061 | 57.4% | OK! |
| Top of Area A1 | Starting Point | A2 | | | 40.00 | 30.00 | | 88.00 | | | 88.00 | 0.35 | 6.56 | | | | | | 0.35 | 6,203 | 2,171 | 2,171 | | | | | | | | | |
| Starting Point | CP1 | A2 + 2/3 Site Area (conservative) | 30.45 | 30.20 | 30.00 | 29.75 | 0.09 | 7.00 | 0.013 | 80 | - | - | 6.56 | 0.06 | 6.61 | 223.97 | 259.81 | 291.24 | 0.95 | 1,235 | 1,173 | 3,344 | 0.271 | 450 | UC | 2.03 | 0.37 | 0.33 | 0.059 | 82.1% | OK! |
| CP1 | CP2 | ditto | 30.20 | 30.15 | 29.75 | 29.57 | 0.18 | 18.00 | 0.010 | 100 | - | - | 6.61 | 0.16 | 6.77 | 222.72 | 258.36 | 289.62 | 0.95 | 0 | 0 | 3,344 | 0.269 | 450 | UC | 1.91 | 0.46 | 0.41 | 0.142 | 65.5% | OK! |
| CP2 | CP3 | ditto | 30.15 | 29.60 | 29.57 | 29.15 | 0.26 | 21.00 | 0.013 | 80 | - | - | 6.77 | 0.17 | 6.94 | 221.38 | 256.80 | 287.88 | 0.95 | 0 | 0 | 3,344 | 0.268 | 450 | UC | 2.03 | 0.37 | 0.33 | 0.062 | 81.1% | OK! |
| CP3 | CP4 | ditto | 29.60 | 29.60 | 29.15 | 29.08 | 0.07 | 7.00 | 0.010 | 100 | - | - | 6.94 | 0.06 | 7.01 | 220.91 | 256.25 | 287.26 | 0.95 | 0 | 0 | 3,344 | 0.267 | 450 | UC | 1.87 | 0.40 | 0.36 | 0.090 | 74.7% | OK! |
| CP4 | CP5 | ditto | 29.60 | 29.50 | 29.08 | 28.99 | 0.09 | 9.00 | 0.010 | 100 | - | - | 7.01 | 0.08 | 7.09 | 220.30 | 255.54 | 286.46 | 0.95 | 0 | 0 | 3,344 | 0.266 | 450 | UC | 1.86 | 0.39 | 0.35 | 0.082 | 76.4% | OK! |
| CP5 | CP6 | ditto | 29.50 | 29.50 | 28.99 | 28.91 | 0.08 | 8.00 | 0.010 | 100 | - | - | 7.09 | 0.07 | 7.16 | 219.77 | 254.94 | 285.79 | 0.95 | 0 | 0 | 3,344 | 0.266 | 450 | UC | 1.92 | 0.47 | 0.42 | 0.155 | 63.2% | OK! |
| CP6 | CP7 | ditto | 29.50 | 29.30 | 28.91 | 28.69 | 0.22 | 22.00 | 0.010 | 100 | - | - | 7.16 | 0.19 | 7.35 | 218.37 | 253.31 | 283.96 | 0.95 | 0 | 0 | 3,344 | 0.264 | 450 | UC | 1.93 | 0.49 | 0.44 | 0.174 | 60.2% | OK! |
| CP7 | CP8 | ditto | 29.30 | 29.50 | 28.69 | 28.62 | 0.07 | 15.00 | 0.005 | 220 | - | - | 7.35 | 0.18 | 7.53 | 217.06 | 251.79 | 282.25 | 0.95 | 0 | 0 | 3,344 | 0.262 | 450 | UC | 1.37 | 0.51 | 0.46 | 0.198 | 57.0% | OK! |
| CP8 | CP9 | ditto | 29.50 | 29.50 | 28.62 | 28.52 | 0.10 | 22.00 | 0.005 | 220 | - | - | 7.53 | 0.26 | 7.79 | 215.21 | 249.64 | 279.84 | 0.95 | 0 | 0 | 3,344 | 0.260 | 450 | UC | 1.39 | 0.58 | 0.52 | 0.263 | 49.8% | OK! |
| CP9 | TM | ditto | 29.50 | 29.50 | 28.52 | 28.50 | 0.02 | 5.00 | 0.005 | 220 | - | - | 7.79 | 0.06 | 7.85 | 214.79 | 249.16 | 279.31 | 0.95 | 0 | 0 | 3,344 | 0.260 | 450 | UC | 1.39 | 0.60 | 0.54 | 0.277 | 48.4% | OK! |
| **Discharge Point** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TM | Proposed outfall | A1 + A2 + Site Area | 29.50 | 30.00 | 28.35 | 28.33 | 0.02 | 1.00 | 0.017 | 60 | | | 7.85 | 0.01 | 7.86 | 214.75 | 249.11 | 279.25 | 0.95 | 0 | 0 | 4,183 | 0.290 | 450 | pipe | 2.63 | 0.42 | 0.38 | 0.087 | 77.0% | OK! |
| **Existing Streamcourse at Downstream of the Subject Site** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Proposed outfall | Section X-X at the immediate downstream of the Proposed outfall | A1 + A2 + Site Area + A3 | | 30.00 | 494.00 | 28.41 | | 995.00 | | 100 | | | 20.25 | 10.46 | 30.70 | 144.57 | 167.70 | 187.99 | 0.35 | 150,515 | 52,680 | 56,863 | 2.651 | 3000 | V-shaped earth channel | 1.59 | 3.78 | 3.40 | 0.753 | 77.9% | OK! |
| **U-channel at the Proposed External Access** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Proposed 300 UC | Existing 375 UC | A4 | 30.47 | 28.69 | 30.12 | 28.39 | 1.44 | 72.00 | 0.020 | 50 | | | 2.00 | 0.61 | 2.61 | 269.14 | 312.21 | 349.98 | 0.35 | 3,908 | 1,368 | 1,368 | 0.119 | 300 | UC | 1.96 | 0.16 | 0.14 | 0.023 | 83.9% | OK! |

subcatchment
Site Area 1,852 1,852
A1 722
A2 6,203
A3 150,515

total = 159,292

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Ng Hang Kwong, BBS
FRICS FHKIS R.P.S.(GP)
Honorary World Valuer (WAVO)

宋樹鴻
Sung Shu Hung
FRICS MHKIS R.P.S.(GP)(PD) MCIREA
MHIREA BSc (Hons)

Consultant :

劉志光
Lau Chi Kwong
FRICS FHKIS ALS MHKIUS
R.P.S.(LS)(PFM) MSc

李霧儀
Lee Mo Yi
MPIA RPP MUDD BA (Hons)

林桂金
Daniel K.K. Lam
MRICS MHKIS MCIREA R.P.S.(GP) BSc

趙慧姿
Chiu Wai Chi
MRICS MHKIS MSc BBus (MKtg)

陳志凌
Elwyn C. Chan
RPE PMgr CEnv FIHE FCIOB MICE
MHKIE MSOE FCMI MCIArb MSc

潘孝維
Pun How Wai
B.Arch.HK RIBA

**By Email and Hand**

Date : 13 November 2025
Your Ref.: TPB/A/TM/601
Our Ref. : LDS/PLAN/7145

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

Dear Sir/Madam,

**Application for Planning Permission for**
**Proposed House at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.**
**(Application No. A/TM/601)**

We refer to the comments from various Government departments on the captioned application and submit herewith our response in **Table 1** and relevant revised technical assessments for your consideration.

Should there be any queries, please contact our Ms. Cannis Lee at [redacted]

Yours faithfully,
For and on behalf of
**Lawson David & Sung Surveyors Limited**

Encl.

c.c. DPO/TM&YLW (Attn.: Mr. Aiden Chu) – By Email
Client



[redacted]

**Table 1: Responses to Comments from Government Departments on Planning Application No. A/TM/601 (13 November, 2025)**

| | COMMENTS | | RESPONSES |
|---|---|---|---|
| **1.** | **Drainage Services Department (DSD)** | | |
| | The applicant should be advised that the limited desk-top checking by Government on the drainage proposal covers only the fundamental aspects of the drainage design which will by no means relieve his/her obligations to ensure that (i) the proposed drainage works will not cause any adverse drainage or environmental impacts in the vicinity; and (ii) the proposed drainage works and the downstream drainage systems have the adequate capacity and are in good conditions to receive the flows collected from his lot and all upstream catchments. Our comments on the submitted Drainage Impact Assessment (DIA) are as follows: | | Noted and agreed. |
| (a) | Re: Section 7.5, while additional runoff would be generated due to the proposed development, it would be inappropriate to conclude that "the proposed development would not cause any adverse drainage impact onto the area." Please rephrase. | (a) | The phrase is amended to "the proposed development would not cause any unacceptable adverse drainage impact onto the area" (see the revised DIA report in **Annex A**). |
| (b) | Re: Figure 4, please show clearly the paved and unpaved area on this plan or on another plan with satellite imagery to confirm the correct adoption of the paving area assumption. In particular, it is noted that A3 is a large catchment where part of it appears to be paved area. In view of the above, please review whether it is appropriate to apply the unpaved catchment coefficient to the entire catchment and revise the calculations accordingly. | (b) | Most of the area of the concerned subcatchment area, i.e. A3, is unpaved and some scattered houses exist near the uphill side of Shan Shek Wan Road. In order to cater for the existence of the currently paved areas, i.e. the scattered houses and the road, as demarcated in Figure 4, an equivalent catchment coefficient taking into consideration of the ratio between paved and unpaved areas of the concerned subcatchment area is therefore adopted in the calculations in the amended DIA. |

| COMMENTS | RESPONSES |
|---|---|
| | |
| (c) Re: Figure 5,<br>(i) Please also advise the fall of the catchment situated immediately west of the proposed road to demonstrate that runoff of such catchment would not be delivered by the proposed 300mm U-channel. | (c)<br>(i) Contribution of the catchment situated immediately west of the proposed road to the proposed 300mm U-channel is reviewed according to the topographical results and is added into Figure 5 and the calculations. |
| (ii) The proposed terminal manhole TM should only have one outlet where its invert level is denoted as D.T.L. Please review if X1 is redundant. | (ii) The X1 is redundant and therefore deleted. |
| (iii) It is noted that the invert level of the proposed outfall (+28.33 mPD) is lower than the existing stream bed level (+28.41 mPD). The invert level of the proposed outfall should be higher than the existing stream bed level to maintain free discharge of the flow at the outfall and to avoid backwater effect. | (iii) The gradients of the internal channels are amended such that the invert level of the proposed outfall, i.e. +28.43 mPD, is not lower than the existing stream bed level (+28.41 mPD). Hence, backwater effect is avoided. |

| COMMENTS | RESPONSES |
|---|---|
| (d) Re: Assessment of Hydraulic Capacities of the Proposed Drainage System,<br>(i) With reference to Section 4.3.3 of the Stormwater Drainage Manual, please be advised that the recommended Intensity-Duration Frequency Relationship is based on the GEV distribution model instead of the Gumbel solution indicated in your assessment. Please revise the calculations accordingly. | (d) (i) Amended accordingly. |
| (ii) Two fields of "Top of Area A1" were labelled. Please check if any typo may be involved. | (ii) A typo was made. "Top of Area A2" shall be used at the upstream of CP1. |
| (iii) Please elaborate how the discharge of 1/3 to CP16 and 2/3 to CP9 was assumed and supplement the relevant delineation of such sub-catchment in Figure 5. | (iii) The relevant delineation of sub-catchment of CP16 and CP9 win the subject site boundary is added in Figure 5 and the calculations are amended accordingly in the amended DIA. |
| (iv) Please indicate clearly whether Manning equation or Colebrook-White equation was adopted for the calculation of each section. | (iv) Manning Equation is for channel flow and Colebrook's White Equation is for pipe flow. The relevant type of provision is stipulated in Column (26) in the calculations. |
| (v) Please elaborate on Column (22) EFF. AREA, which is not a standard term in the Stormwater Drainage Manual, in the calculation. | (v) 'EFFECTIVE CATCHMENT AREA' is adopted. |
| (vi) Please illustrate and elaborate on what basis the follow section parameter of section X-X was adopted in the calculation. Please provide relevant site survey record of the relevant existing streamcourse at downstream for reference. | (vi) The section X-X was adopted in the calculation because it is a comparatively narrow section of the existing streamcourse in the vicinity at the downstream of the subject site and the existing streamcourse becomes relatively steeper at the further downstream, i.e. having greater capacity, as indicated in the Government survey sheets. |

| COMMENTS | | RESPONSES | |
|---|---|---|---|
| | (vii) Please advise how this special note "*" may be relevant to this calculation. | | (vii) The special note "*" is obsolete and therefore deleted. |
| (e) | The existing drainage system to which the proposed drainage connection is to be made and the existing drainage facilities to be modified are not maintained by this Department. Consent from the concerned departments/maintenance parties/owners should be obtained for the proposed connections to their drainage systems and the proposed modification of their drainage facilities to ensure that the proposed drainage systems can be practicably implemented. | (e) | Noted and agreed. The proposed drainage works would only be constructed within the Application Lot, i.e. TMTL 550 and adjacent Government land. Detail design of the proposed drainage works shall be submitted to Buildings Department and undergo central processing mechanism under which all relevant Government departments will be notified and can grant their approvals/consents on the proposed drainage works. |
| (f) | Please clarify the maintenance parties of the proposed drainage works. | (f) | The proposed drainage works will be maintained by the owners of the subject proposed development. |
| | In addition, we have the following general reminders:- | | |
| (a) | There are existing drainage facilities maintained by DSD in the vicinity of the site. The applicant shall take extreme care when working in the vicinity of any existing drainage works in order not to disturb, interfere with or cause damage to them. Any blockage or damaged to the said works due to the proposed development shall be made good at the applicant's cost. | (a) | Noted and agreed. |
| (b) | For any works to be undertaken outside the lot boundary, the applicant should obtain prior agreement from DLO/TM and/or the relevant private lot owners. | (b) | Noted and agreed. |
| (c) | The applicant should construct and maintain the proposed drainage facilities properly whether within or outside the subject lots and rectify them if they are found to be | (c) | Noted and agreed. |

| COMMENTS | RESPONSES |
|---|---|
| inadequate or ineffective during operation at their own expense. The applicant shall also be liable for and shall indemnify claims and demands arising out of any damage and/or nuisance caused by failure of their facilities/systems. | |
| **2. Environmental Protection Department (EPD)** | |
| <u>EPD's Comments on Environmental Assessment (EA)</u><br>1. Air Quality<br>1.1 Table 2.1 – Please remove "for Government Projects" in the title. | 1.<br>1.1 Revised accordingly (see revised EA in **Annex B**). |
| 1.2 Section 2.2.1 – Please revise as: "The Air Pollution Control (Fuel Restriction) Regulations" in Line 1, 4, 5. Please also check the numbering of the sections. | 1.2 Revised accordingly. |
| 1.3 Section 2.3.1 –<br>1.3.1 Suggest to replace "other criteria air pollutants" by "air pollutants other than dust" in Line 2-3. | 1.3.1 Revised accordingly. |
| 1.3.2 Please revise as "At this planning application stage" in Line 8. | 1.3.2 Revised accordingly. |
| 1.4 Section 2.3.4 – Please remove "Where appropriate" in Line 2, and replace "are recommended" by "shall be carried out" in Line 2-3. | 1.4 Revised accordingly. |
| 1.5 Section 2.3.5 – Suggest to delete this section. | 1.5 The sections has been deleted. |

| COMMENTS | RESPONSES |
|---|---|
| 1.6 Section 2.3.6 – Please replace "should" by "shall" in Line 1, "could" by "shall" in Line 3, "may" by "shall" in Line 5. | Revised accordingly. Please refer to updated S2.3.5. |
| 1.7 Section 2.4.1 & 7.1.4 –<br>1.7.1 Please provide the effluent volume/flow rate to justify that the scale is small. | 1.7.1 One residential unit with flow rate of 0.7$m^3$ per day.<br>**1. Proposed Development**<br>1a. Total number of units = 1 units<br>1b. Total number of residents = 3 people -- (avg household size of 2.6 from 2021 Population Census - Tuen Mun)<br>1c. Design flow = 270 litre/person/day -- (Modern Village in Table T-1 of GESF)<br>1d. Sewage Generation rate = **0.7** $m^3$/day<br><br>Please refer to updated S2.4.1 & S7.1.4. |
| 1.7.2 Please supplement the separation distance between the septic tank and the proposed development to confirm no adverse odour impact to the proposed development. | 1.7.2 With distance of ~31m between the proposed septic tank and proposed development.<br><br>Please refer to updated S2.4.1 & S7.1.4. |
| 1.8 Section 2.4.3, 2.4.4 & Table 2.4 –<br>1.8.1 Please supplement source of reference of the road type of the concerned roads (e.g. TD Traffic Census). | 1.8.1 TD's endorsement on road type of the concerned roads will be provided once available. |
| 1.8.2 For Lung Fu Road, according to TD Traffic Census 2023, the road type should be Primary Distributor rather than District Distributor. Please check. | 1.8.2 Revised accordingly. |
| 1.8.3 For San Shek Wan Road, the road type cannot be found in TD Traffic Census 2023. Please seek TD's advice whether the road should be classified as Local Distributor. Alternatively, the Consultant may adopt 20m buffer distance for the San Shek Wan Road as a conservative approach. | 1.8.3 TD's endorsement on road type of the concerned roads will be provided once available. |

| COMMENTS | RESPONSES |
|---|---|
| 1.9 Section 2.4.4 – Please supplement the shortest separation between the proposed access road and existing air sensitive receives to confirm that the access road would not cause adverse air quality impact the existing ASRs. | 1.9 The shortest separation between the proposed access road and existing air sensitive receiver (ASR A1) is about 143m. |
| 1.10 Section 7.1.2 – Please replace "significant" by "adverse" in Line 3. | 1.10 Revised accordingly. |
| 2. Land Contamination<br><br>2.1 Section 6.3 & Appendix 4 – Please provide the updated aerial photos and relevant observation in the sections. Moreover, please rearrange all the aerial photos in similar orientation for easier review. | 2. Table 6.1 and Appendix 4 have been updated. |
| 3. Waste Management<br><br>3.1 Section 5.2.1 – The Dumping at Sea Ordinance (Cap. 466) seems irrelevant to the proposed development. Please remove it. | 3.<br><br>3.1 The Dumping at Sea Ordinance (Cap. 466) has been deleted to avoid confusion. |
| 3.2 Section 5.2.2 - PNAP 252 ADV-21 seems irrelevant to the proposed development. Please remove it. | 3.2 PNAP 252 ADV- has been deleted to avoid confusion. |
| 3.3 Section 5.3.2 - Please confirm if timber is anticipated to be generated during construction. If so, please specify in relevant sections on whether the timber will be sent to Y·PARK for recycling. | 3.3 Timber in S5.3.2 has been removed to avoid confusion. |
| 3.4 Sections 5.3.8 & 5.3.12 - The term "small" is subjective and can be misleading, as it does not accurately reflect the actual waste quantities. Please | 3.4 Revised accordingly. Please refer to S5.3.8 & S5.3.12. |

| COMMENTS | RESPONSES |
|---|---|
| remove this term, and avoid to use other ambiguous terms (e.g. "limited", "minimal", and "insignificant" etc.) | |
| 3.5 Section 5.5.3 – Please provide the estimated quantity of general refuse to be generated during operation. | 3.5 S5.5.3 and S7.1.11 have been revised. |
| 3.6 Section 5.4.6 (1st bullet) - It is suggested to specify whether the Waste Management Plan will be submitted as part of the Environmental Management Plan to the Architect/Engineer for approval in accordance with ADV-19. | 3.6 Revised accordingly. |
| 3.7 Section 5.7 – For completeness, please also include the summary of operation phase. | 3.7 S5.7.2 has been revised. |
| 4. Sewerage<br><br>The sewerage arrangement remains unchanged in this submission (as compared to s.12A rezoning application No. Y/TM/31), i.e. the applicant proposed to use septic tank as there is no public sewer in the vicinity of the site.<br><br>In view that there is no existing or planned public sewers in the vicinity, and the population size is small, the septic tank proposed by the applicant is acceptable. The applicant should follow all the requirements as stipulated in ProPECC PN 1/23. | 4. Noted. |

| COMMENTS | RESPONSES |
|---|---|
| **3. Geotechnical Engineering Office, Civil Engineering and Development Department (GEO/CEDD)** | |
| (a) Section 4.2, Figure 7 and Figure 14 of the GPRR. It is noted that the applicant has committed, in the GPRR, to undertake a natural terrain hazard study (NTHS) and to implement mitigation measures, if necessary, as part of the proposed development. However, the proposed NTHS study area as shown in Figure 7 and Figure 14 are inconsistent. The applicant is reminded that the NTHS study area should include the entire upslope natural terrain catchment above the subject site. Please ask the applicant to clarify and amend the figure(s) accordingly. | (a) Figure 7 and Figure 14 are revised to include the entire upslope natural terrain catchment above the site (see the revised Figure 7 and Figure 14 of the GPRR report in **Annex C**). |
| **4. District Planning Officer/Tuen Mun and Yuen Long West, Planning Department (DPO/TM&YLW, PlanD)** | |
| 1. Planning Statement<br>1.1 Figure 7 - Section C-C in is apparently missing in the Master Layout Plan in Figure 4, please amend the figures accordingly. | 1. Updated Figure 4 Master Layout Plan enclosed with building section C-C mark incorporated (see **Annex D**).<br><br>Updated Figure 5 Floor Plan also enclosed with section A-and section C marks direction corrected (see **Annex D**). |
| 2. Landscape Proposal with Tree Survey Report<br>2.1 Sections 2.10 and 2.11 – it is mentioned that a total of 7 Leucaena leucocephala will be fell. However, in the Tree Survey Report (Section 3.2, Table A2.1 and Annex II – Tree Treatment Schedule), the number of Leucaena leucocephala affected is shown as 6, please clarify. If the number of Leucaena leucocephala to be fell is confirmed to be 6, amendments to the relevant sections of the Landscape Proposal and Planning Statement are also required. | 2. The proposal concludes that 17 trees are required of tree felling plus the removal of 6 weedy trees, *Leucaena leucocephala*. A total of 17 new trees of heavy standard stocks would be planted with 1:1 replanting ratio (17 trees felled: 17 new trees planted) with excluding the removal of 6 no. of *Leucaena leucocephala*.<br><br>Relevant text and figures of Landscape Proposal and Tree Survey Report (see **Annex E**) and the Planning Statement (see **Annex D**) have been revised. Revised pages with highlight of changes enclosed to this FI. |

| | COMMENTS | | RESPONSES |
|---|---|---|---|
| **5.** | **Transport Department (TD)** | | |
| 2. | Regarding the Traffic Impact Assessment, we have the following comments: | 2. | |
| (i) | Section 5.2 – please provide the details of 2025 existing pedestrian flow; | (i) | Please refer to **Sections 2.11** to **2.14** in the Traffic Impact Assessment (TIA) report (see **Annex F**) for the details of 2025 existing pedestrian flow. |
| (ii) | To minimize impact on San Shek Wan Road, the junction with access road is suggested to be designed for maneuvering of two private cars at the same time. | (ii) | The design of junction of San Shek Wan Road / Proposed Access Road shown in Figure 3.2 in the TIA report has already allowed for 2 private cars to enter and leave simultaneously. Please see **Figure R1**. |
| (iii) | Suitable signs and marking should be provided at the junction between San Shek Wan Road and the access road, at the relocated passing bay and at San Shek Wan Road to alert motorist the access road ahead and slow down. | (iii) | Please refer to **Figure R2** for the proposed traffic signs and road marking for the junction of San Shek Wan Road / Proposed Access Road. |
| (iv) | For pedestrian safety, footpath near the new location of passing bay should be provided. | (iv) | Please refer to **Figure R2** which shows the 1.5m-wide footpath provided near the proposed passing bay. |
| 4. | Regarding the access management, please note that we have the following comments from traffic engineering viewpoint:- | 4. | |
| (i) | Please be advised that the proposed vehicular access points is not located at public road under management of this department. Comments of the management and maintenance authorities of the location concerned should be sought. | (i) | Noted. The applicant will take the responsibility for the management and maintenance of the Proposed Access Road. |
| (ii) | Please be advised that the Subject Site is served by an access road which is not a public road under management of this department. The applicant should consult the management and maintenance authorities for the captioned application, including whether the access road | (ii) | Noted. The applicant will take the responsibility for the management and maintenance of the Proposed Access Road. |

| COMMENTS | | RESPONSES | |
|---|---|---|---|
| | is adequate to serve the proposed use or upgrading works are required. | | |
| (iii) | No motor vehicles shall be permitted to reverse into and out of the subject site onto adjacent public roads. | (iii) | Noted. |
| **6.** | **Leisure and Culture Services Department (LCSD)** | | |
| 1. | In light of the Proposed Access Road would affect a section of an existing horse trail currently use by the Tuen Mun Public Riding School (TMPRS) of **HKJC Public Riding School Limited** (HKJCPRS), which under tendency agreement with LCSD (held under permanent government land allocation no. GLA-TM296). From our preliminary assessment and two previous applications, interference is observed and will definitely pose potential risks to the horse riders and horses by the proposed vehicular traffic generated by the proposed residential development and the road widening/improvement works of the Proposed Access Road, as such, we have consulted the TMPRS and in-corporate their comment at below: | 1. | Please note that similar concerns were addressed in the S12A (No. Y/TM/11) and S16 (No. A/TM/469) applications, which were previously approved for the proposed holiday camp development. Approval condition "the submission and implementation of the management plan and operational plan for the vehicles and pedestrians of the holiday camp for passing the horse trail to the proposed holiday camp to the satisfaction of the Director of Leisure and Cultural Services or of the TPB" was imposed on the last application (No. A/TM/469). These concerns were also discussed at the District Lands Conference (DLC) on 5.5.2016 and addressed in the Special Conditions of New Grant No. 22878 (see **Annex G**). The Applicant has taken note of the comments from TMPRS and HKJCPRS as well as the LCSD's advice and is obliged to ensure the safety of vehicles and pedestrians passing through the horse trail to reach the Application Site. A similar arrangement could be adopted for the current application.<br><br>Compared with previous applications (Nos. A/TM/469 and Y/TM/31), the number of residents at the Application Site has been further reduced. The Applicant noted that, given the nature of the proposed residential development, the presumed number of users and traffic it will generate, it will be less than the formerly approved holiday camp. Therefore, the potential impact on and risk to the existing horse trail will be comparatively lower.<br><br>Electronic gates will be installed at both sides of the intersecting points |

| COMMENTS | RESPONSES |
|---|---|
| | to ensure that drivers stop and check the traffic conditions before entering the horse trail. Warning signs will also be erected to alert drivers and horse riders to pay attention at the road intersection.<br><br>Safety measures will also be adopted during the widening and improvement works on the Proposed Access Road.<br><br>As with the previous S12A and S16 applications, the Applicant will maintain on-going communication with TMPRS, HKJCPRS and the relevant government departments, holding regular meetings to address their concerns and agree on measures to handle any potential issues. |
| 2. The HKJCPRS expressed their concerns about the impacts on the routine operation and riding safety at TMPRS and its hacking trail as follows : | 2. Noted. See our response in 1 above. |
| **HKJCPRS's Comment**<br><br>a. Unsafe condition:<br>There are inherent risks involved in horse riding and horses can be unpredictable at times. All manner of situations, such as loud noises, sudden movements and loose dogs, generated by the occupants of the proposed development site can frighten the horses and result in serious accidents. | |
| b. Unauthorized entry:<br>The occupants of the proposed development site are potentially and unknowingly putting themselves and riders at risk for injury, as they have no knowledge of equine behavior when trespassing on the hacking trail. | |
| c. Traffic impact: | |

| COMMENTS | | RESPONSES |
|---|---|---|
| | With the completion of the access road widening works, the utilization of the road will be increased. As the drivers are not aware of the horse behavior, their vehicles can pose danger to horses and riders by starting the engine suddenly, sounding the horn and shining the headlights. | |
| d. | Facility damage:<br>Due to the close proximity of the proposed development site to the hacking trail, there may be damage to the facilities in the course of construction works, such as the concrete surface with rubber mats, metal railings and drainage channels. Any alteration of landscape and topography of the hacking trail caused by the construction works will adversely affect the safety and suitability of the site for horse riding. | |
| e. | Construction noise:<br>The large machines in the construction site will generate very loud noises, affecting the whole riding school area where riding activities are regularly conducted for abled-bodied and disabled riders. Horses may react vigorously to the construction noise through nervousness and anxiety, which can result in them suddenly running away or moving sideways, which can result in severe accidents for the riders and employees while they are working around horses in the stables and paddocks. | |
| f. | Hoarding structure:<br>The set-up of the hoarding structure along the construction site of the hacking trail will not only cause an obstruction to the riding route but also impose adverse visual effect to frighten and spook the horses. | |

| | COMMENTS | RESPONSES |
|---|---|---|
| | The proposed access road would affect a section of the existing horse trail currently used by the TMPRS. The interface is observed and may pose potential risks to the horse riders and horses by the vehicular traffic generated by the proposed development and the road widening/improvement works of the proposed access road. HKJCPRS has no objection to the application provided the relevant mitigation measures to address the interface issues would be imposed in the land lease apart from regular meetings and ongoing communications with the applicant, contractors and occupants of the proposed development. | |
| | **Both of Tuen Mun Recreation & Sports Centre (TMRSC)'s and HKJCPRS's Comment** | |
| 3. | Both LCSD and HKJCPRS shall not be responsible for the liabilities and damages of any vehicle and injury of pedestrian/ resident using and passing the horse trail of TMPRS. The project proponent shall possess valid third party insurance to protect both LCSD and HKJCPRS against any potential claims that may happen in the future. | 3. Noted. Please note that similar concerns have been addressed in DLC meeting on 5.5.2016 (see **Annex G**). |
| 4. | Submission of implementation of management plan and construction plan with detailed works programmes to LCSD and HKJCPRS, as well as the operation plan for the vehicles and pedestrians/resident of the development for passing the horse trail shall be provided and upon satisfaction before any commencement of works. Division | 4. Noted. |

| | COMMENTS | | RESPONSES |
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| | of noisy work and cope with the operation of TMPRS in which to minimize the noise impact caused to the horses and horse riders, this may impose dangerous or frightening the horses. Therefore we wish we could have more information of a holistic planning for our comments on the drawings and settings. | | |
| | **TMRSC's Comment** | | |
| 5. | In the event that any trees are in direct conflict with the proposed works, relevant authority's approval shall be obtained for their removal as according to prevailing Technical Circular; besides the planting of vegetation/ tree shall not affect the health of horses. | 5. | Noted. Please also refer to Tree Survey Report attached in the submitted Landscape Proposal in regards of the proposed trees to be felled within the Application Site and Proposed Access Road. |
| 6. | The project proponent shall follow and consider all the advices and comments provided by Lands Department and Buildings Department or relevant departments upon the application is approved. | 6. | Noted. |
| 7. | If it is inevitable for causing interference to the horse trail and no other alternative to resolve, the project proponent is recommended to study the feasibility on shifting the horse trail out of the construction site or even the future residential area or provision of a new horse trail for use. | 7. | Noted. |
| **7.** | **Chief Town Planner/Urban Design and Landscape, Planning Department (UD&L, PlanD)** | | |
| 1. | Please note below our comments on the submission from landscape planning perspective: | | |
| | **Appendix 1 (Landscape Proposal with Tree Survey Report)** | | |
| a. | Discrepancy in the description of the existing trees location is observed between para. 2.7 under Appendix 1 | a. | When tree is found leaning and the tree crown is significantly shifting away from its tree base, it is a common practice of land surveyor to |

| COMMENTS | RESPONSES |
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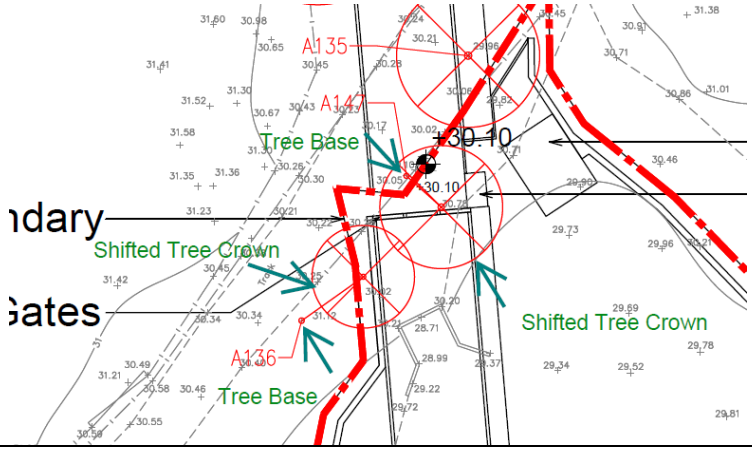
| and drawing no. LDSS02A-TT02 ; and drawing no. LDSS02A-TT03. According to para. 2.7, it is noted that "…*Refers to the recent topographical survey update of existing tree location, there is <u>no tree (base level) exactly located within the site</u>*…." However, referring to drawing no. LDSS02A-TT01 and drawing no. LDSS02A-TT02, the base level of the existing trees (A136, A147, A149, A150 & A162) are located within the application site. The Applicant is advised to carefully review and verify the accuracy and consistency of the information provided. | show how far and where the crown shifted in tree survey plan to reflect the actual tree condition for reviewing potential tree impact. See below clarification.<br><br>Please note Trees A147 and A136 will be affected by the roadworks, Trees A149, A150 and A162 will be affected by the boundary wall works. Regards of their poor leaning form or being as weedy tree, their main trunks and majority of their tree crown would be affected by the works, therefore they are recommended to be felled.<br><br>  |

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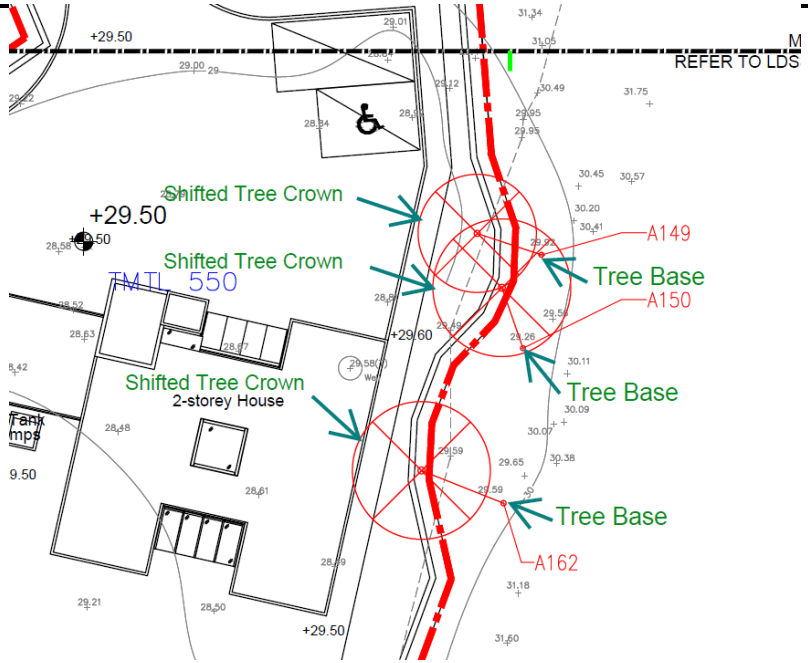
| |  |
| b. <u>Table 9.1 (Proposed Planting Mix)</u><br>i. The Applicant is advised to provide a column / remarks to show whether the proposed shrub, ground cover and lawn species are native or exotic for reference. | i. The proposed planting/garden areas are solely designed for the single house family. The proposed planting mix is indicative at planning stage, to demonstrate how the planting proposal associated with the house development can integrate with the green environment. The planting proposal is subject to future detailed planting design according to owner's preference.<br>Native plant species remarked in the table for reference only.<br>Relevant text and figures of Landscape Proposal and Tree Survey Report have been revised (see **Annex E**). |
| ii. The Applicant is advised to provide a column to show the number of the proposed tree species for reference. | ii. The proposed tree planting is solely designed for the single house family, providing shade and amenity as well as edge planting to soften the development edge. The proposed tree planting species is indicative |

| COMMENTS | | RESPONSES | |
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| | | | at planning stage and it is subject to future detailed planting design according to owner's preference.<br>Reference tree number of the proposed tree species added to the table for reference only.<br>Relevant text and figures of Landscape Proposal and Tree Survey Report have been revised (see **Annex E**). |
| iii. | For item (i) and (ii) above due consideration of biodiversity aspect by enriching diversification of landscape planting and optimizing the use of native species in the proposed development are recommended. | iii. | Noted. The proposed planting/garden areas are solely designed for the single house family; the planting proposal is subject to future detailed planting design according to owner's preference. For such a small house development, the indicative planting proposal has enriched the diversification of landscape planting and optimised the use of native species. |
| iv. | It is noted that the size of the proposed trees is "Heavy Standard." The applicant is advised to provide a note on the source and the size of the "Heavy Standard" tree for reference. | iv. | The planting proposal is subject to future detailed planting design according to owner's preference. Proposed tree species are common to Hong Kong and they are native or locally adopted species. All proposed species are commonly found in Mainland China nurseries.<br><br>Specification of "Heavy Standard" tree has been put in Annex A Section 5.5, extracts relevant section below for your reference.<br><br>" 5.5 Trees with Heavy Standard are defined as follow:<br>**Heavy Standard:**<br>• A sturdy straight stem at least 2000mm high from the root collar to the lowest branch;<br>• Total height above the root collar exceeding 3500mm but not exceeding 6000mm;<br>• Stem diameter exceeding 75mm but not exceeding 150mm measured at a height of 1300mm from the root collar;<br>• According to the species, either a well-balanced branching head, or a well-defined straight and upright leader with branches growing out from the stem with good symmetry, and a minimum length of |

| COMMENTS | RESPONSES |
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| | 800mm;<br>• A rootball not less than 750mm in diameter and 400mm in depth;<br>• Grown in a container not less than 750mm in diameter and 600mm in depth; and<br>• Free from any kind of pest, fungi, disease and parasitic plants. |
| c. Figure 1.1 & 1.2 (Landscape Plan)<br>i. It is observed that some grey and beige colors occupy a large portion of the application site that is connected to the pedestrian and vehicular entrance/exist, but they are not indicated in the legend table. Please review. | i. Relevant legend added (see **Annex E**). |
| ii. A discrepancy in the proposed soft-landscape treatment is observed among this figure, Section B-B', and paragraph 9.10. Paragraph 9.10 notes "*Hydroseeding on sloping area.*" However, the Landscape Plan shows that the northern area adjacent to the application boundary is proposed for lawn planting, while Section B-B' indicates that the proposed lawn area is a slope. Please review. | ii. "*Hydroseeding on sloping area.*" is a potential treatment on slope/retaining wall. Whilst there is no sloping area proposed within the application site, this sentence in para. 9.10 has been deleted.<br><br>Section B-B' is cutting across the site showing the edge plantings, part tree planting in lawn in the north of the site can only be seen in far and largely screened by the house. These planting behind the house is added to Section B-B'. Existing sloping green is location outside the application site.<br><br>Relevant text and figures of Landscape Proposal and Tree Survey Report have been revised (see **Annex E**). |
| **Appendix A (Tree Survey Report) of Appendix 1**<br>d. Drawings LDSS02A-TT01 – TT03 – It is observed that some surveyed trees are outside the application site. The applicant is reminded that the surveyed tree(s) outside the application site is for our reference only. The applicant should seek comments and approval from the relevant authority on the tree works concerned and/or compensatory/replacement planting proposal, where | d. Noted. Affected trees outside the application site will seek comments and approval from the relevant authority on the tree works. The loss of existing trees will be compensated/ replaced with high quality trees within the development. |

| | COMMENTS | | RESPONSES |
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| | appropriate. | | |
| e. | Para 4.4 - Discrepancy in the number of *Leucaena leucocephala* is observed between this paragraph, Table A2.1 and Annex II. According to Table A2.1 and Annex II, only six *Leucaena leucocephala* are found, but seven *Leucaena leucocephala* are stated in para. 4.4. Please review. | e. | Text has been revised (see **Annex E**). |
| f. | Para. 5.2 – It is noted that "*A total of 16 new trees will be planted within the site to compensate for the tree loss, excluding the removal of 7 nos. of Leucaena leucocephala. A re-planting ratio in terms of quantity of at least 1:1 would be achieved (16 trees felled : 16 new planted).*" The applicant is advised to review the number of *Leucaena leucocephala* and to achieve the stated a re-planting ratio and quantity. | f. | Text has been revised.<br>"A total of 17 new trees will be planted within the site for compensate the tree loss with excluding the removal of 6 nos. of *Leucaena leucocephala*. A replanting ratio in term of quantity of minimum 1:1 would be achieved (17 trees felled: 17 new planted)." (see **Annex E**). |
| **8.** | **Lands Department (LandsD)** | | |
| | Our comments on the subject planning application from land administration point of view are as follows: | | |
| i. | According to para. 4.3 and Table 4.1 of the Planning Statement (PS), the proposed house development would be a single family house with a designed population of 3, and the house contains a guardroom with a non-domestic GFA of 0.949m$^2$. The applicant should be reminded that such GFA would be counted as domestic GFA under the land administration regime. | i. | Noted. |
| ii. | Notwithstanding that a single family house is proposed, according to para. 5.5 of the PS, a leisure lawn of about 3m$^2$ is proposed at the northern portion of the subject site | ii. | The leisure lawn is a private open space and will be solely used for the proposed single family house. |

| COMMENTS | | RESPONSES | |
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| | as communal open space for the enjoyment of the residents. The applicant is requested to clarify whether the said leisure lawn should be solely used for the proposed single family house. | | |
| iii. | According to paras. 4.4 - 4.5 and Figure 4 of the PS, road widening/improvement works to the existing access connecting the application site and San Shek Wan Road are proposed ("the Proposed Access Road") and the applicant would be responsible for the construction and the future management and maintenance of the Proposed Access Road. It is noted that majority of the Proposed Access Road falls on Government land adjacent to Slope No. 5SE-D/C76 while a minor portion falls on Government land within Slope No. 5SE-D/C172. Besides, its alignment differs from that of the right of way ("the Brown Area") granted under the New Grant No. 22878. Further, according to the applicant's Traffic Impact Assessment at Appendix Id of the PS, a new location of passing bay at San Shek Wan Road adjacent to Slope No. 5SE-D/C172 is proposed ("the Passing Bay"). TD, HyD and GEO, CEDD's technical comments should be sought on the Proposed Access Road and the Passing Bay. This Office would reserve comment at this preliminary stage. Furthermore, details of the proposed right of way from and to the application site under lease including its extent and alignment would be considered during the processing of the lease modification or land exchange application stage. | iii. | Noted. TD, HyD and GEO, CEDD's technical comments have be sought on the Proposed Access Road and the Passing Bay. |
| iv. | According to para. 4.6 and Figure 4 of the PS, the Proposed Access Road would affect a section of an existing horse trail currently maintained by LCSD in connection with the use of LCSD's public horse-riding | iv. | The Applicant will be responsible for the construction and the future management and maintenance of the proposed structures. LCSD and TD's comments have been sought on the interference that may cause to the horse riders and horses by the proposed vehicular traffic |

| COMMENTS | | RESPONSES | |
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| | centre (held under permanent Government land allocation no. GLA-TM296). In this regard, electronic gates and warning signs are proposed. The applicant is requested to clarify the party who would be responsible for the construction and the future management and maintenance of the proposed structures. In addition, LCSD and TD's comments should be sought on the interference that may cause to the horse riders and horses by the proposed vehicular traffic generated by the proposed residential development and the road widening/improvement works of the Proposed Access Road. Further, it is noted that one of the proposed electronic gates is located within the Proposed Access Road. As the proposed right of way under lease should not give the owner of the Lot the exclusive right over it. The applicant is requested to clarify that the proposed safety measures would not result in exclusive use of the Proposed Access Road or any part thereof by the owner of the Lot. | | generated by the proposed residential development and the road widening/improvement works of the Proposed Access Road.<br><br>The proposed safety measures, installation of an electronic gates, would not result in exclusive use of the Proposed Access Road or any part thereof by the owner of the Lot. |
| v. | According to Figure 4 of the Flaming Submission, a 1.5m toe wall along the northern part of the Proposed Access Road is proposed. The applicant is requested to clarify the party who would be responsible for the construction and the future management and maintenance of the proposed toe wall. In addition, GEO, CEDD's comments should be sought on the proposed toe wall. This Office would reserve comment at this preliminary stage. | v. | The Applicant will be responsible for the construction and its future management and maintenance of the proposed toe wall. GEO, CEDD's comments has been sought on the proposed toe wall. |

# Annex A

Revised Drainage Impact Assessment

# S16 Planning Application for

# Development of 1 House at TMTL 550, Tuen Mun, New Territories

(HT25045)

## Drainage Impact Assessment (DIA) Report

**October 2025**

| | |
|---|---|
| Prepared & approved by | LEE Kwok Cheung<br>*RPE(Civil)* |

何田顧問工程師有限公司
HO TIN & ASSOCIATES
CONSULTING ENGINEERS LIMITED

[redacted]

# CONTENT

1. Introduction
2. General Site Description and the Proposed Development
3. Existing Drainage System of the Area
4. Potential Drainage Impact
5. Proposed Drainage Works
6. Hydraulic Calculation
7. Conclusion

**FIGURE**

**Figure 1** **Site Location Plan**
**Figure 2** **Conditions of the Application Site on 15 May 2025**
**Figure 3** **Proposed Master Layout Plan**
**Figure 4** **Existing Drainage Flow Paths and Catchment Areas**
**Figure 5** **Proposed Stormwater Drainage Layout**
**Figure 6** **Outfall Details**

**APPENDIX** **Assessment of Hydraulic Capacities of the Proposed Drainage System**

# 1. Introduction

1.1 Ho Tin & Associates Consulting Engineers Limited (HTA) was appointed by the client to prepare a Drainage Impact Assessment (DIA) in support of a S16 Planning Application for changing the land use from recreation into residential use with plot ratio of 0.2 for development of a two storey house at TMTL 550, Tuen Mun, New Territories (the 'subject site').

1.2 This report presents the DIA for the proposed house development at the subject site.

1.3 The objectives of this DIA are to:

- indicate any changes/increase in drainage characteristics due to the proposed development;
- assess any potential drainage impacts of the existing/planned drainage facilities nearby due to the proposed development; and
- propose mitigation measures and drainage improvement work, if necessary, to minimize any adverse drainage impact.

1.4 The scope of this DIA includes:-

- site description and existing land use;
- identification of stormwater flow pattern before and after proposed development of the subject site;
- assessment of impact on the existing drainage facilities due to the proposed development; and
- proposal of new drainage facilities for the proposed development if found necessary.

# 2. General Site Description and the Proposed Development

2.1 A Site Location Plan is shown in **Figure 1**. The subject site is currently zoned "Recreation" on the Approved Tuen Mun Outline Zoning Plan No. S/TM/41. Its area is about 1,852m$^2$. It is located within a parcel of land bounded by Lung Mun Road on the east, Hung Lau on the south, Lung Fu Road on the west and San Shek Wan Road on the north. It is currently a piece of vacant land (please refer to **Figure 2**).

2.2 The subject site was previously approved for a holiday camp development and is now proposed to construct a 2-storey house with plot ratio of about 0.2. A Proposed Master Layout Plan is shown in **Figure 3**.

## 3. Existing Drainage System of the Area

3.1 Catchment areas and flow paths of the concerned area is shown in **Figure 4**. The subject site is located at the toe of embankment of Lung Fu Road near the toe of Castle Peak. The subject site would receive surface runoff from the adjacent Catchment A1 and A2 in addition to the rain falling directly onto its area. With respect to the existing topography, total surface runoff of the subject site would flow westward into an existing streamcourse which conveys the surface runoff of the Catchment A3.

3.2 A small Catchment A4 is demarcated to identify the stormwater catchment of the proposed access linking between the subject site and San Shek Wan Road.

## 4. Potential Drainage Impact

4.1 Since the subject site would be converted from a campsite into a residential area, the runoff coefficient of the subject site area will then be changed from 0.25 (conservatively a flat grassland (heavy soil) condition is presumed, and for other areas 0.35 is adopted) to 0.95 (for concrete). The subject site discharges and will continue to discharge stormwater into the same location of the existing watercourse in the vicinity at its west side. The flow patterns and the catchment boundaries of the subject area would remain unchanged. Therefore, the increase in surface runoff at the existing watercourse in the vicinity at the west side of the subject site would be solely due to the change in the runoff coefficient of the subject site area after the proposed development.

4.2 Referring to the attached **Figure 4**, total catchment area (excluding the subject site) of the existing watercourse at the point of discharge of the subject site
= (150,515 (including 9,484 $m^2$ of paved area) + 722 + 6,203) $m^2$ = 157,440 $m^2$

Hence, the equivalent runoff coefficient of the total catchment area (excluding the subject site) = (9,484 x 0.95 + (157,440 – 9,484) x 0.35) / 157,440 = 0.39

The subject site area = 1,852 $m^2$
Increase in runoff coefficient of the subject site, C = 0.95 – 0.25 = 0.70

Since Q = 0.278 x C x i x A, increase in quantity of surface runoff solely due to change in C in all design periods = [0.70 x 1,852 /(0.25 x 1,852 + 0.39 x 157,440)] x 100% = 2.10% which is insignificant.

4.3 Detailed calculation for assessment of drainage impact on the existing drainage facilities and streamcourse due to additional runoff generated from the development is shown in the lower part of the **Appendix**. The calculation illustrates that the existing drainage facilities and streamcourse at the downstream of the subject site are capable to collect additional runoff generated from the development without causing any unacceptable drainage impact.

4.4 Therefore, it is considered that the proposed development would not cause any unacceptable adverse drainage effects upon the subject area and its surroundings.

## 5. Proposed Drainage Works

5.1 The proposed finished ground levels of the subject development are close to the existing site levels such that no substantial ground levelling nor site formation works would be required. Ground surfaces of the subject site would be generally paved.

5.2 Existing flow paths of the catchments in the concerned area would be maintained in general. Surface runoff from the Catchment A1 and A2 flowing onto the subject site would be intercepted by peripheral channels at the subject site boundary. Total surface runoff received from the subject site would be conveyed to a discharge point at the existing streamcourse to the west.

5.3 In order to properly manage surface runoff of the subject site, peripheral U-channels with catchpit at corner will be constructed along the subject site boundary. The flows inside the channels will be discharged into a proposed terminal manhole TM with desilting trap located near the western corner of the subject site near the existing streamcourse. A Stormwater Drainage Layout Plan is shown in **Figure 5**. Proposed Outfall Details at the existing watercourse is shown in **Figure 6**.

5.4 All surface runoff collected within the subject site would be conveyed to the proposed terminal manhole and from which the collected flow would be discharged into the adjacent existing streamcourse. It should not have implementation problems on construction works and the operation of the drainage.

5.5 300mm U-channel is proposed along the western side of the proposed external access to receive surface runoff from the access itself as well as the adjacent area. The channel would discharge into an existing 375mm U-channel abutting on the edge of San Shek Wan Road. It has to notice that because of the existing topography, flows from the same area of the external access road would inevitably flow into the existing 375mm U-channel at present, hence there would be no change in drainage pattern of the concerned area after the completion of the proposed access road (please refer to the photo below).

5.6 There is no change in the drainage paths of the area of the external access, i.e. the concerned existing 375mm U-channel has been conveying surface runoff from the same area of the access road, except an U-channel will be provided along the access road to properly manage the surface runoff after the subject development. Hence, it also should not have implementation problems on construction works and the operation of the drainage. Besides, the subject proposed development including the external access road would be subject to Buildings Ordinance. Drainage and road drainage plan of the subject proposed development shall be submitted to all relevant government departments via the Buildings Department's central processing mechanism for approval at the later detail design stage.

5.7 Details of proposed drainage provisions shall follow relevant details shown in Government departments' Standard Drawings as follows:

| Proposed Drainage Provisions | Standard Drawings | Drawing No. & Title |
|---|---|---|
| Terminal manhole with trap | DSD Standard Drawings | DS 1091A - Terminal Manhole Type T2_1 |
| Catchpit | CEDD Standard Drawings | C 2405/1 to /5 – Standard Catchpit Details |

| | | |
|---|---|---|
| U-channel | | C2409J – Details of Half-round and U-channels |
| Channel cover / grating | | C2412E – Cover Slab and Cast Iron Grating for Channels |

## 6. Hydraulic Calculation

6.1 Assessment criteria is based on the recommendation set out in the Stormwater Drainage Manual (Fifth edition, Jan 2018) (SDM) and its Corrigendum No. 1/2022, 1/2024 and 2/2024 issued by DSD. Design Return Period of 50 years (recommended for 'Main Rural Catchment Drainage Channel' in SDM) is adopted.

6.2 The corresponding runoffs under rainfall intensity for various return period are worked out with reference to Rational Method. Brandy-Williams method is used in calculation of the time of concentration. A uniformly distributed rainfall with an intensity is determined by the Intensity-Duration-Frequency. With referenced to Table 3a - Storm Constants for different return periods of HKO Headquarters from SDM, the rainfall profiles are derived based on the following equation:

$$i = \frac{a}{(t+b)^c}$$

where i = mean rainfall intensity (mm/hr)
t = duration time of concentration (min)
a, b and c = storm constants given in Table below

**Table : Storm Constants**

| Return Period (years) | 50 |
|---|---|
| a | 505.5 |
| b | 3.29 |
| c | 0.355 |

A 16.0% rainfall increase is adopted in the hydraulic calculation to cater for effects due to climate change in accordance with the table 28 with projection to End of 21st Century as stipulated in the item (e) and (k) of the SDM - Corrigendum No. 1/2022. Besides, taking into consideration of design allowance in End of 21st Century, a further 12.1% rainfall increase is incorporated into the hydraulic assessment.

6.3 Hydraulic assessment is enclosed in the **Appendix**. 10% reduction in flow area has been incorporated to cater for potential deposition of sediment in stormwater channels and pipes as recommended in the SDM. The proposed channels and underground drainage are

designed to cater for the estimated runoff under the designed rainstorms. With respect to the calculation, the proposed stormwater drainage system is capable to cater for the surface runoff without causing any adverse drainage impacts on the subject site and its surroundings.

6.4 Since all drainage would have sufficient spare capacity, no water backup will occur at the upstream under rainstorms of 50-year (or lower) return periods.

## 7. Conclusion

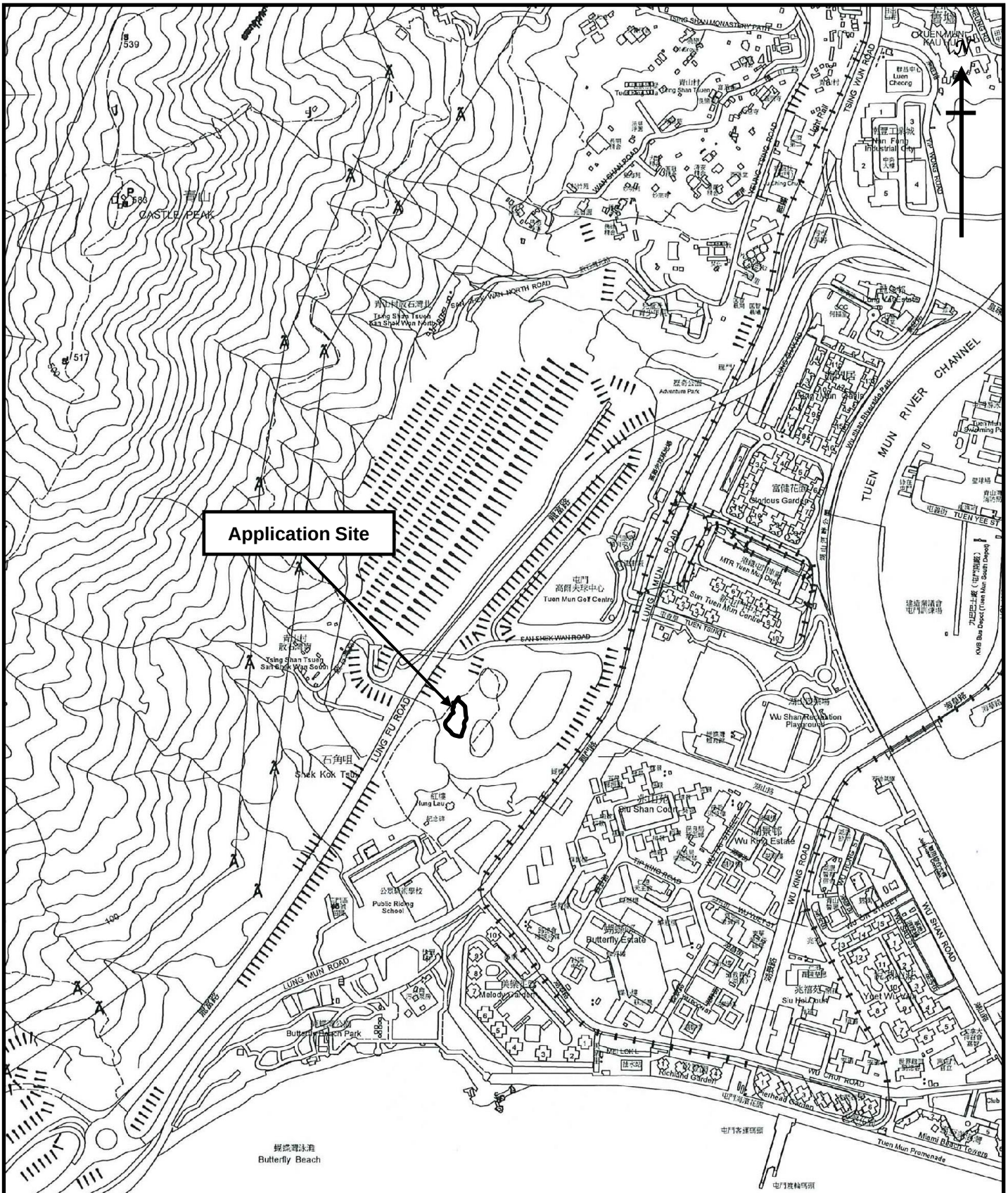
7.1 The subject site was previously approved for a holiday camp development and is now proposed to erect a 2-storey house with plot ratio of about 0.2. Only minor land levelling works would be required at the subject site.

7.2 Existing flow paths of the adjacent upstream areas of the subject site, i.e. Catchment A1, A2, A3 and A4, would be maintained in general. The subject site therefore would not cause any blockage to the flows of its adjacent areas.

7.3 Peripheral U-channels will be constructed along the subject site boundary to receive surface runoff from the adjacent areas in addition to avoid surface runoff running outside onto the surroundings. The flow inside the channels will be discharged via a purposedly constructed terminal manhole into the existing streamcourse. The existing streamcourse is checked to have sufficient capacity to convey the total flow of the concerned areas.

7.4 In addition, proposed U-channels will also be constructed to receive surface runoff on the proposed access road and the collected surface runoff will be properly conveyed to the existing 375mm U-channel abutting on the edge of San Shek Wan Road instead of uncontrolled overland flow toward the same existing 375mm U-channel as present.

7.5 In conclusion, the subject proposed development would not cause any unacceptable adverse drainage impact onto the area.


Application Site
TUEN MUN RIVER CHANNEL
LUNG MUN ROAD
LUNG FU ROAD
CASTLE PEAK
青山
Tsing Shan Tsuen
Shek Kok Tsui
石角咀
Tuen Mun Golf Centre
Wu Shan Recreation Playground
Wu King Estate
Butterfly Estate
Public Riding School
Butterfly Beach Park
Butterfly Beach
Tuen Mun Promenade
Miami Beach Towers
Richland Garden
Sun Tuen Mun Centre
MTR Tuen Mun Depot
Glorious Garden
Adventure Park
Wu Shan Court
Siu Hei Court
Yiet Wu Yuen
Melody Garden
Tung Leu
Tsing Shan Tsuen San Shek Wan North
Tsing Shan Tsuen San Shek Wan South
SAN SHEK WAN ROAD
SHI HEI WAN NORTH ROAD
TSING WUN ROAD
WU SHAN ROAD
WU KING ROAD
TIP WING ROAD
TUEN YEE ST
KWAI CHUNG ROAD
TSING SHAN MONASTERY PATH
Tuen Mun Swimming Pool
KMB Bus Depot (Tuen Mun South Depot)
Tuen Mun Government Offices
Tuen Mun Ferry Pier
Tuen Mun Ferry Terminal
Tuen Mun Bus Terminus
Tuen Mun Hospital
Tuen Mun Centre
Tuen Mun Town Plaza
Tuen Mun Heung Sze Wui Road Government Offices
Tuen Mun Law Courts Building
Tuen Mun Government Offices
Tuen Mun Fire Station
Tuen Mun Police Station
Tuen Mun Magistracy
Tuen Mun Post Office
Tuen Mun Government Secondary School
Tuen Mun Government Primary School
Tuen Mun Government Offices
Tuen Mun Government Offices
Tuen Mun Government Offices

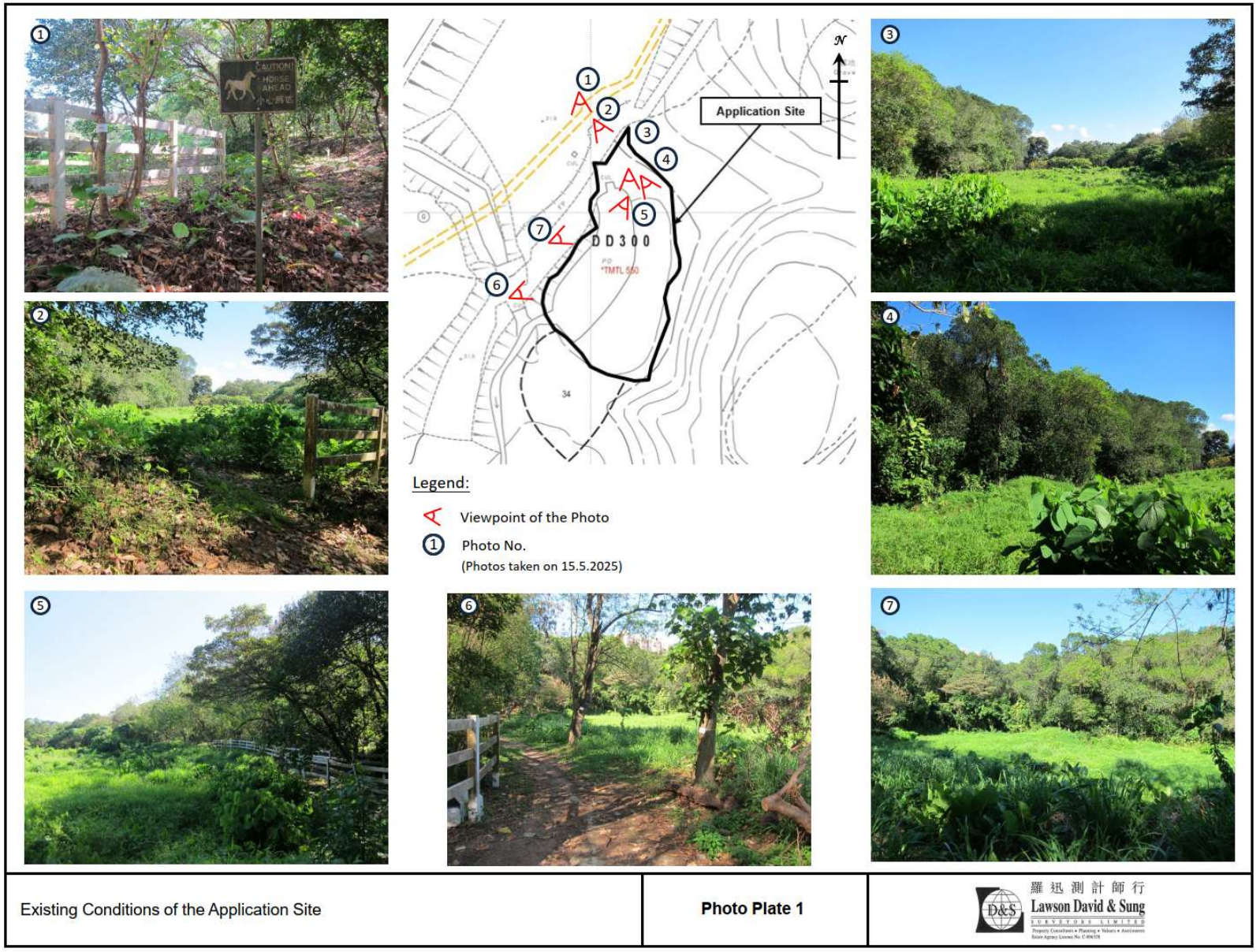
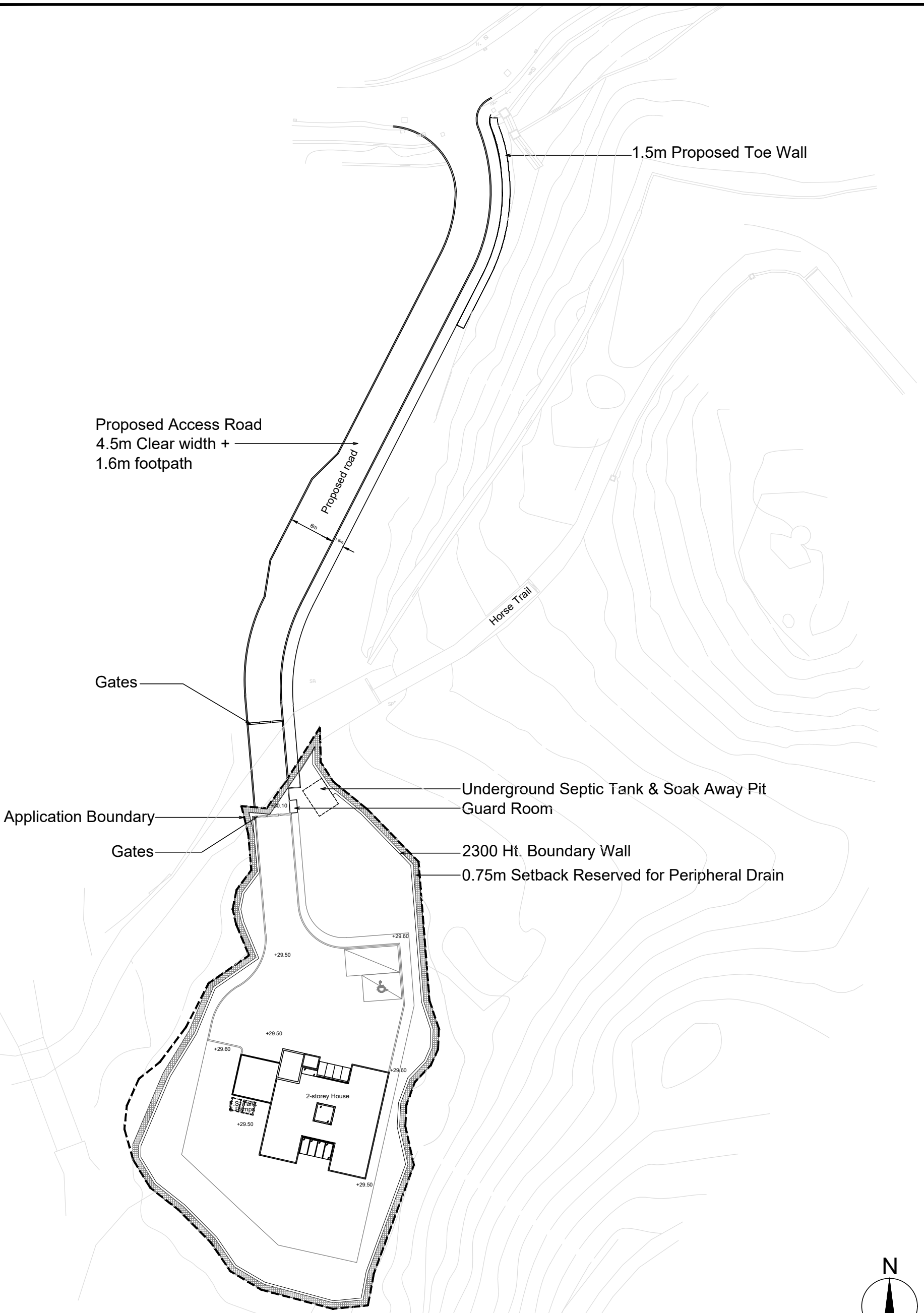



**Figure 2 – Conditions of the Application Site on 15 May 2025**




| | | | |
|---|---|---|---|
| | PROJECT<br>PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. 550 (TMTL 550), TUEN MUN, N.T. | 何田顧問工程師有限公司<br>HO TIN & ASSOCIATES<br>CONSULTING ENGINEERS LIMITED | |
| | TITLE<br>PROPOSED MASTER LAYOUT PLAN | SCALE<br>1 : 500 – A3 | DRAWING No.<br>FIGURE 3 |

H:\25045_SanShekWanRoad\DRAWING\25045_FIG_3_00.dwg, 8/7/2025 16:22:08

827 500 N

827 000 N

813 000 E

813 500 E

814 000 E

N

A3=150,515m²

A4=4,637m²

A1=722m²

A2=6,203m²

THE SITE
1,852m²

SECTION X X

FALL

TUEN MUN RECREATION & SPORTS CENTRE

Tuen Mun Golf Centre

LEGEND:

SUBJECT SITE BOUNDARY

CATCHMENT BOUNDARY

REMARK:

PAVED AREA WITHIN SUBCATCHMENT A3 (TOTAL AREA =9484m²)

PROJECT

PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. 550 (TMTL 550), TUEN MUN, N.T.

何田顧問工程師有限公司
HO TIN & ASSOCIATES
CONSULTING ENGINEERS LIMITED

TITLE

EXISTING DRAINAGE FLOW PATHS AND CATCHMENT AREAS

SCALE

1 : 4000 – A3

DRAWING No.

FIGURE 4

H:\25045_SanShekWanRoad\DRAWING\25045_FIG_4_01 & 5_01.dwg, 8/10/2025 15:55:18

N

813 900 E

826 800 N

826 700 N

EXISTING CATCH PIT TO BE MODIFIED INTO COVERED CATCH PIT WITH THE TOP LEVEL FLUSHING WITH THE FINISHED ROAD SURFACE

EXISTING 375UC TO BE MODIFIED INTO COVERED U-CHANNEL WITH THE TOP LEVEL FLUSHING WITH THE FINISHED ROAD LEVEL

EXISTING 300UC

EXISTING 300UC TO BE REPLACED

隧道 Tunnel

Proposed road

6m

FALL

300 UC 1 IN 40

START POINT
C.L.=+30.00
I.L.=+29.53

1 IN 40 300UC

START POINT
C.L.=+30.45
I.L.=+30.00

CP10
C.L.=+30.10
I.L.=+29.47

1 IN 80 450UC

CP1
C.L.=+30.20
I.L.=+29.75

CP11
C.L.=+30.20
I.L.=+29.45

1 IN 220 375UC

1 IN 100 450UC

1 IN 220 375UC

CP12
C.L.=+29.83
I.L.=+29.41

CP2
C.L.=+30.15
I.L.=+29.57

CP13
C.L.=+29.75
I.L.=+29.38

1 IN 220 375UC

1 IN 80 450UC

CP3
C.L.=+29.60
I.L.=+29.15

CP15
C.L.=+29.60
I.L.=+29.19

CP14
C.L.=+29.60
I.L.=29.23

1 IN 220 375UC

FALL

(AREA a =526m²)

FALL

1 IN 100 450UC

CP4
C.L.=+29.60
I.L.=+29.08

CP16
C.L.=+29.50
I.L.=+29.11

EXISTING 3500x2000 BOX CULVERT

OUTFALL

1 IN 220 375UC

1 IN 100 450UC

CP5
C.L.=+29.50
I.L.=+28.99

TM
C.L.=+29.50
A1=+29.08 – 375UC
A2=+28.60 – 450UC
D.T.L.=28.45 – 450ø

1 IN 300 450UC

CP6
C.L.=+29.50
I.L.=+28.91

CP9
C.L.=+29.50
I.L.=+28.62

(AREA b =1326m²)

PROPOSED OUTFALL
I.L.=+28.43

450ø PIPE
1 IN 60

EXISTING STREAM BED LEVEL=+28.41

1 IN 300 450UC

1 IN 135 450UC

1 IN 260 450UC

SECTION X–X FOR ASSESSMENT

CP8
C.L.=+29.50
I.L.=+28.69

CP7
C.L.=+29.30
I.L.=+28.75

LEGEND:

- SUBJECT SITE BOUNDARY
- SUBCATCHMENT BOUNDARY WITHIN THE SUBJECT SITE OF CP9 AND CP16
- +29.50 PROPOSED GROUND LEVEL
- PROPOSED STORMWATER TERMINAL MANHOLE
- PROPOSED STORMWATER DRAIN
- PROPOSED U-CHANNEL & CATCH PIT

PROJECT
PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. 550 (TMTL 550), TUEN MUN, N.T.

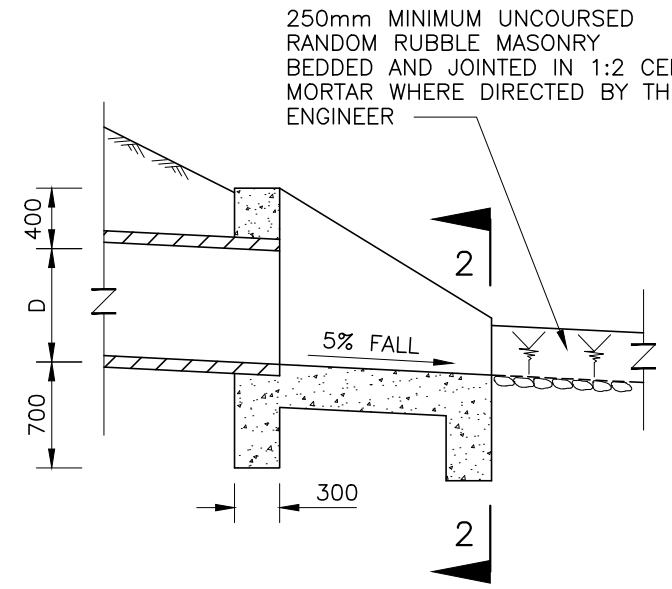
何田顧問工程師有限公司
HO TIN & ASSOCIATES
CONSULTING ENGINEERS LIMITED

TITLE
PROPOSED STORMWATER DRAINAGE LAYOUT

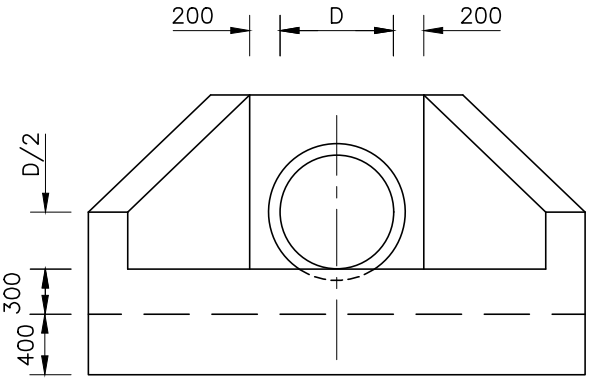
SCALE
1 : 500 – A3

DRAWING No.
FIGURE 5

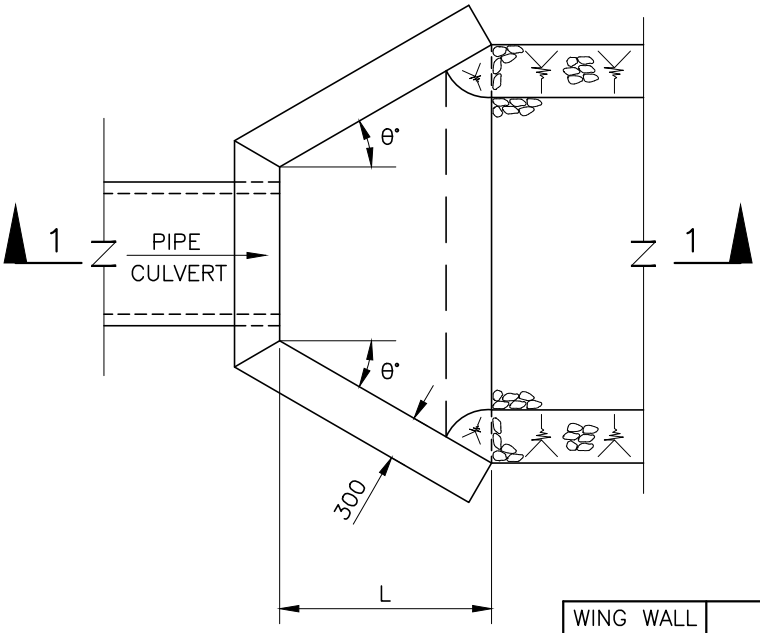
H:\25045_SanShekWanRoad\DRAWING\25045_FIG_4_01 & 5_01.dwg, 8/10/2025 16:03:44




1–1




2–2




PLAN

NOTES :

1. CONCRETE : GRADE 30D/20

| WING WALL FLARE θ° | DIAMETER OF PIPE CULVERT D | | | |
|---|---|---|---|---|
| | 450–750 | 900–1200 | 1350–1650 | 1800–1950 |
| | L | | | |
| 0° | 1800 | 2400 | 3000 | 3600 |
| 30° | 1400 | 1800 | 2300 | 2700 |
| 45° | 1200 | 1500 | 1900 | 2300 |

PROJECT
PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. 550 (TMTL 550), TUEN MUN, N.T.

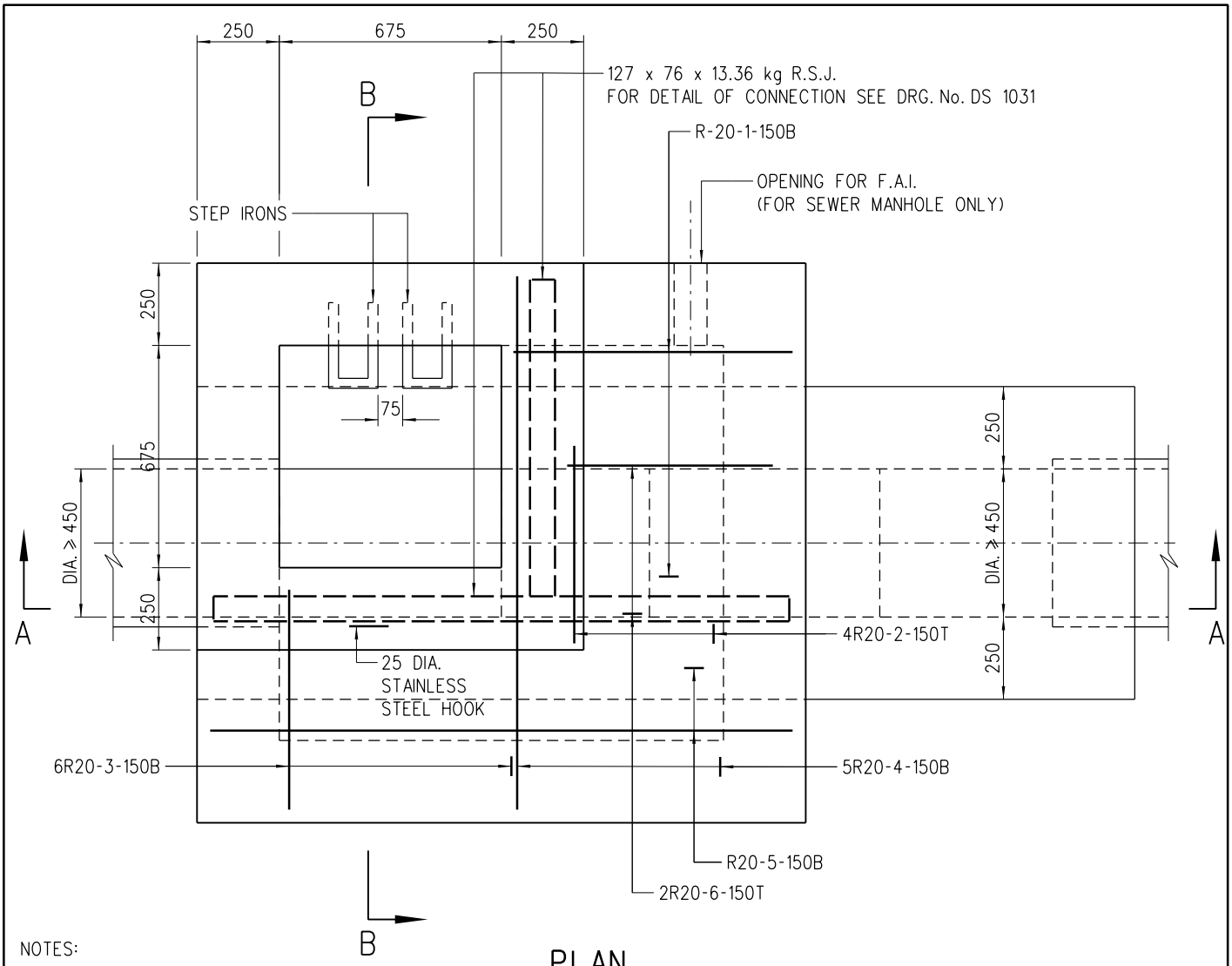
何田顧問工程師有限公司
HO TIN & ASSOCIATES
CONSULTING ENGINEERS LIMITED

TITLE
OUTFALL DETAILS

SCALE
N. T. S.

DRAWING No.
FIGURE 6

H:\25045_SanShekWanRoad\DRAWING\25045_FIG_6_00.dwg, 8/7/2025 16:31:28




PLAN

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. NOTATION OF REINFORCEMENT : THE SEQUENCE OF DESCRIPTION OF IDENTIFICATION MARKS ON DRAWINGS FOR STEEL REINFORCING BARS FOR CONCRETE WORK IS AS FOLLOWS (NUMBER, TYPE, SIZE, MARK, SPACING, LOCATION OR COMMENT)
3. B DENOTES GRADE 500B RIBBED REINFORCEMENT.
4. R DENOTES GRADE 250 PLAIN REINFORCEMENT.
5. PIPE DIAMETER : EQUAL OR GREATER THAN 450 mm
6. NORMAL RANGE OF DEPTH : 1 750 TO 4 250 mm (MEASURED FROM ROAD LEVEL TO LOWEST INVERT)
7. USED IN : STORMWATER DRAIN AND SEWER
8. JUNCTION : POSITION OF JUNCTION TO BE DETERMINED IN EACH INDIVIDUAL CASE. CHANNELS IMMEDIATELY UNDER ACCESS TO MANHOLE SHOULD BE AVOIDED.
9. TOP TREATMENT : SEE DRAWING No. DS 1032
10. STEP IRON : SEE DRAWING No. DS 1043
11. FOUNDATION : FOUNDATION OF MANHOLE VARIES WITH SITE CONDITION. THEREFORE, IT SHOULD BE DETERMINED ON SITE BY THE ENGINEER.
12. CONCRETE MIX : GRADE 30/20
13. DIAMETER OF F.A.I. NORMALLY 100 mm
14. MINIMUM COVER AT END OF BARS 40 mm
15. COVER AND FRAME NOT SHOWN ON PLAN FOR CLARITY.
16. RECESS WITH SQUARE STEEL ROD SHALL BE PROVIDED AT TOP OF MANHOLE CHAMBER FOR INSTALLING MONITORING DEVICE(S). DETAILS REFER TO DSD STANDARD DRAWING NO. DS 1099.

| REV. | DESCRIPTION | SIGNATURE | DATE |
|---|---|---|---|
| A | NOTE 16 ADDED | ORIGINAL SIGNED | 2.8.2022 |
| | NEW ISSUE | ORIGINAL SIGNED | 13.1.2016 |

# TERMINAL MANHOLE TYPE T2_1

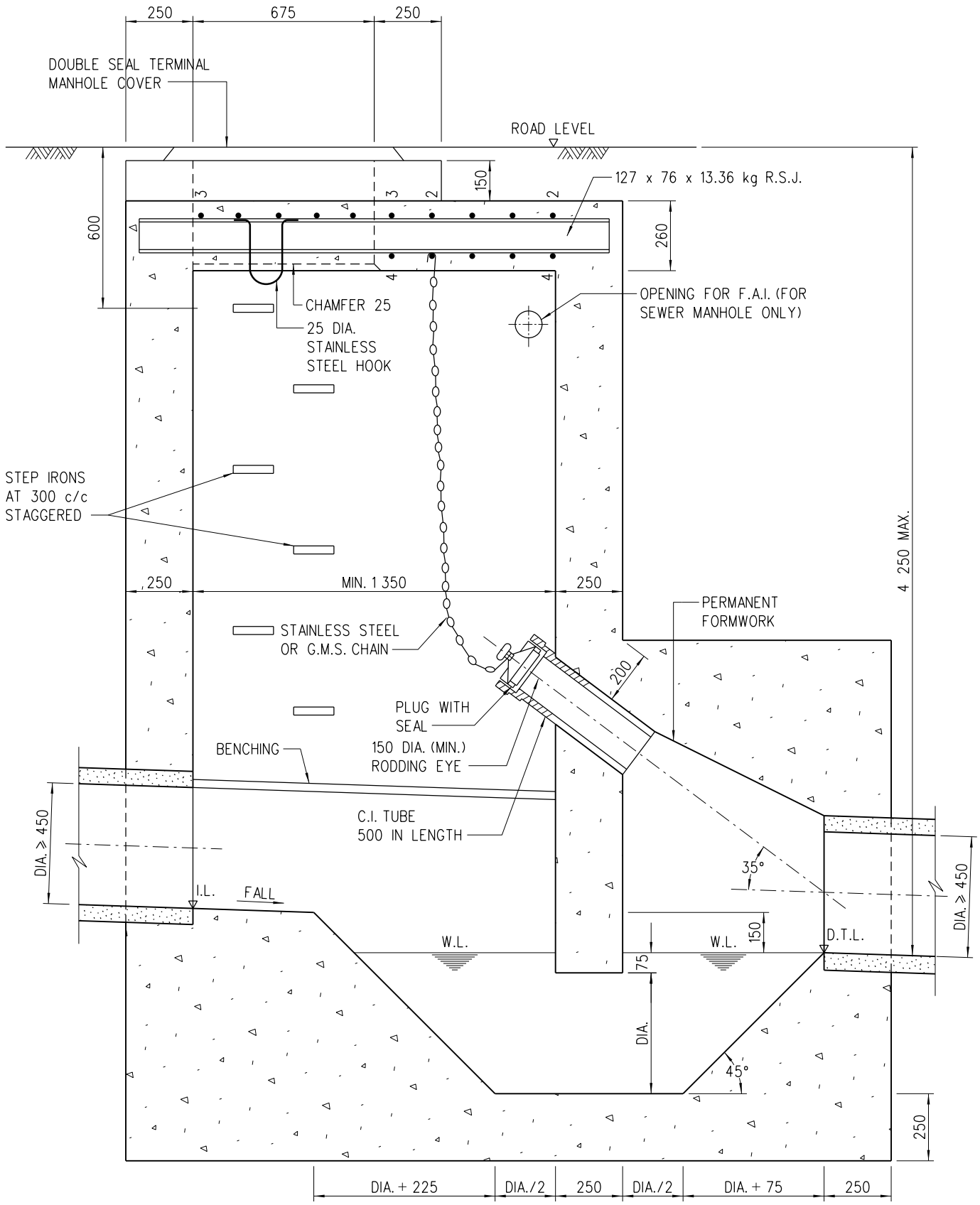
DRAINAGE SERVICES DEPARTMENT

REFERENCE

SCALE 1 : 20

DRAWING No. DS 1091A

( SHEET 1 OF 3 )




SECTION A-A

| REV. | DESCRIPTION | SIGNATURE | DATE |
|---|---|---|---|
| A | NOTE 16 ADDED | ORIGINAL SIGNED | 2.8.2022 |
| | NEW ISSUE | ORIGINAL SIGNED | 13.1.2016 |

# TERMINAL MANHOLE TYPE T2_1

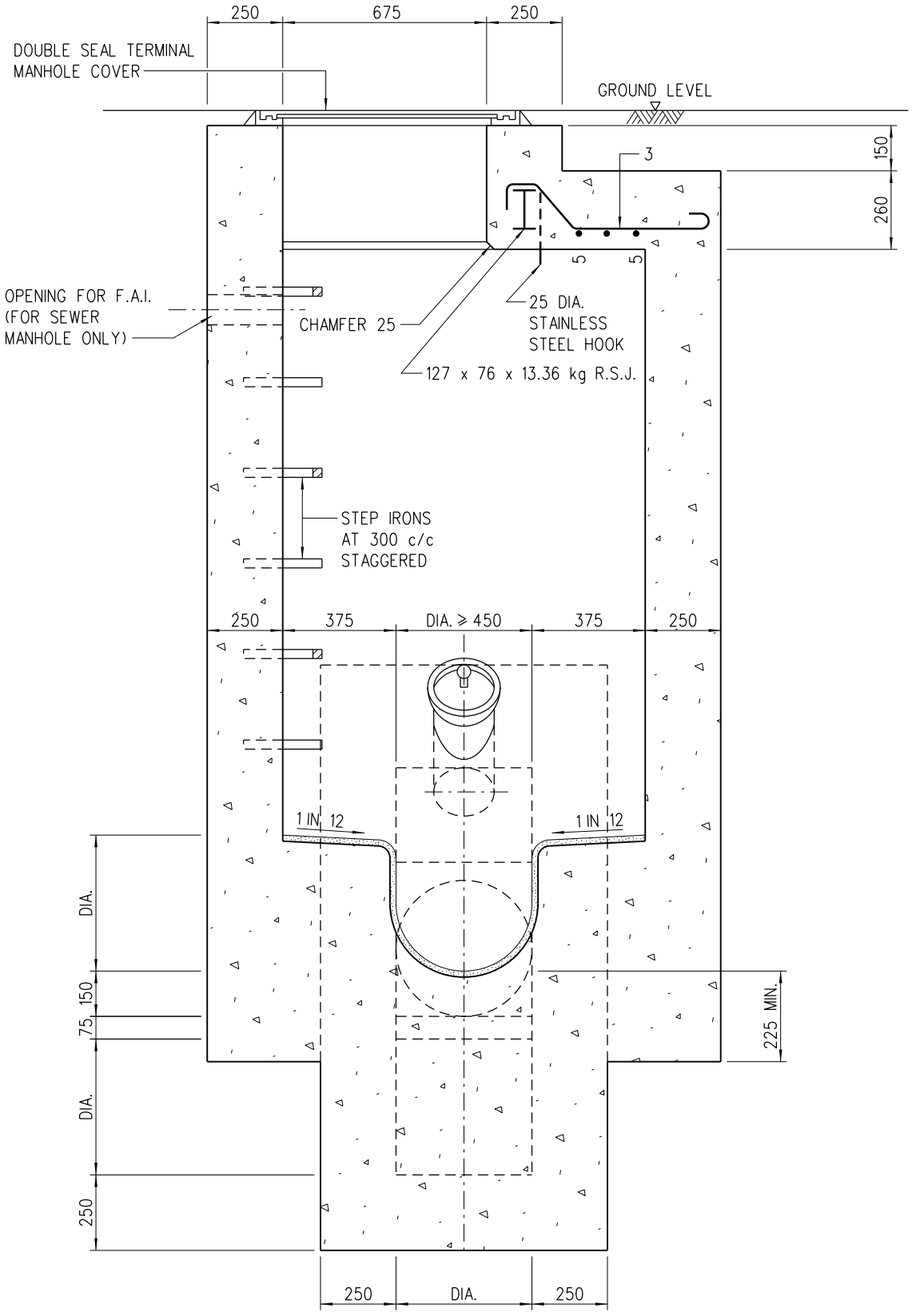
DRAINAGE SERVICES DEPARTMENT

REFERENCE

SCALE 1 : 20

DRAWING No. DS 1091A

( SHEET 2 OF 3 )




SECTION B-B

| REV. | DESCRIPTION | SIGNATURE | DATE |
|---|---|---|---|
| A | NOTE 16 ADDED | ORIGINAL SIGNED | 2.8.2022 |
| | NEW ISSUE | ORIGINAL SIGNED | 13.1.2016 |

# TERMINAL MANHOLE TYPE T2_1

DRAINAGE SERVICES DEPARTMENT

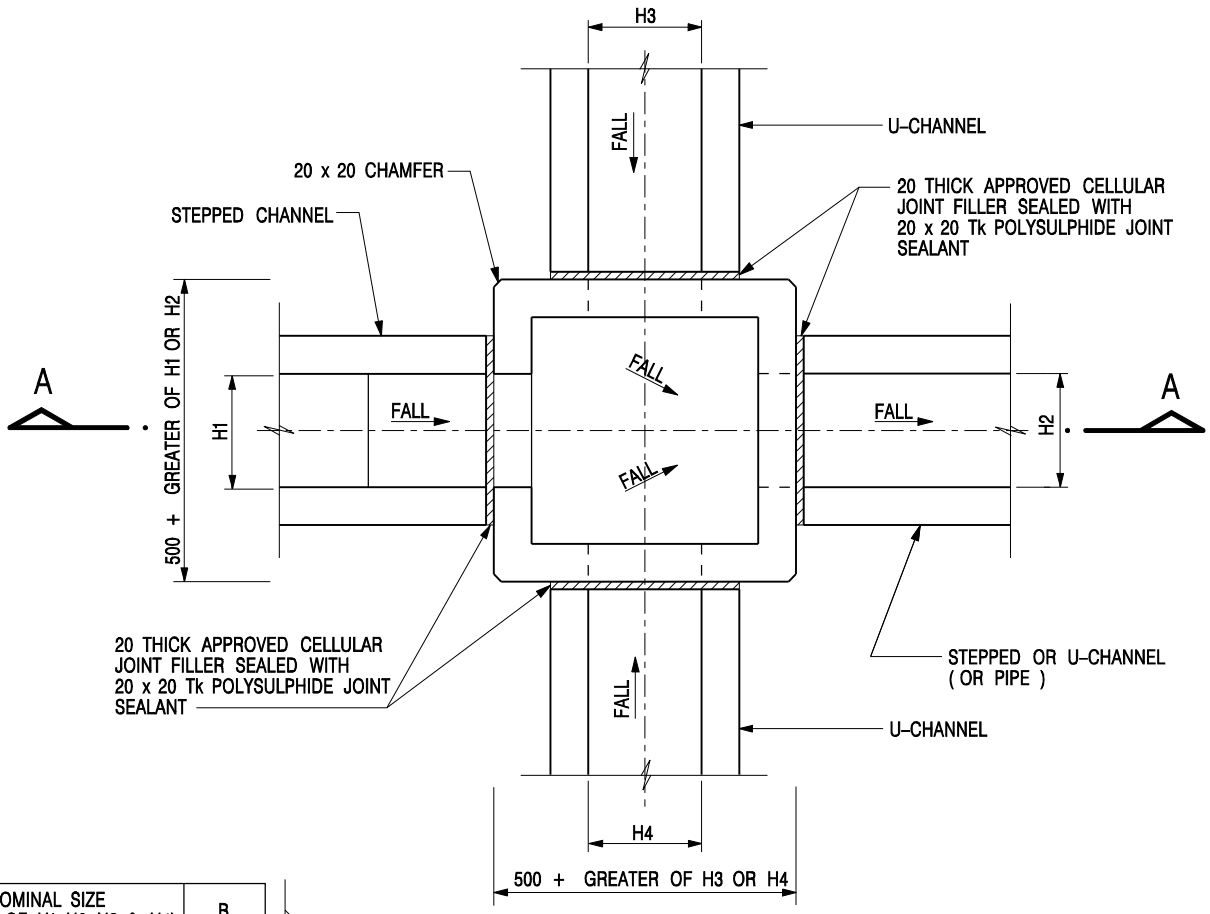
REFERENCE

SCALE 1 : 20

DRAWING No.

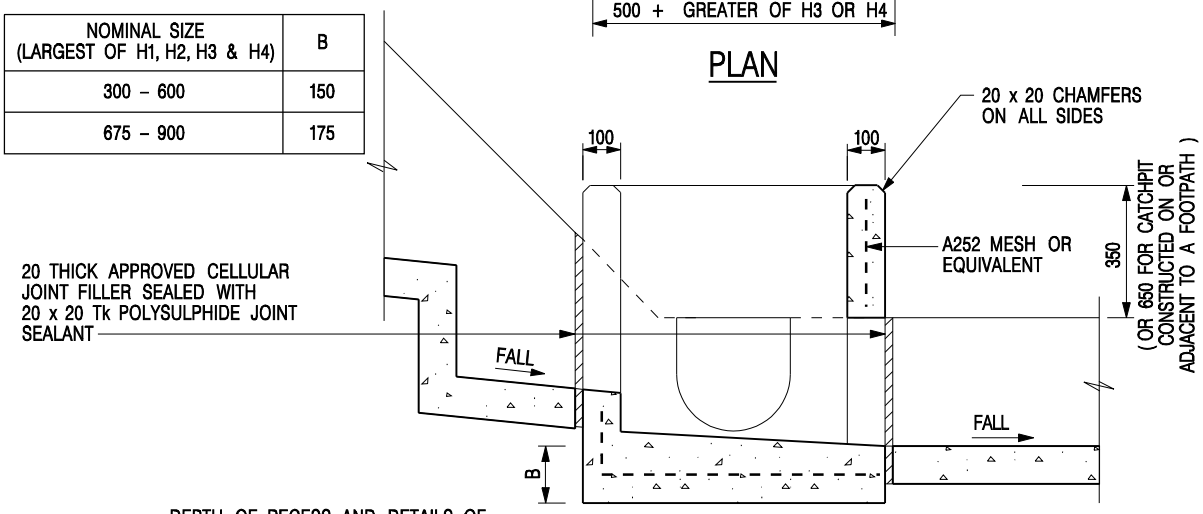
DS 1091A

( SHEET 3 OF 3 )

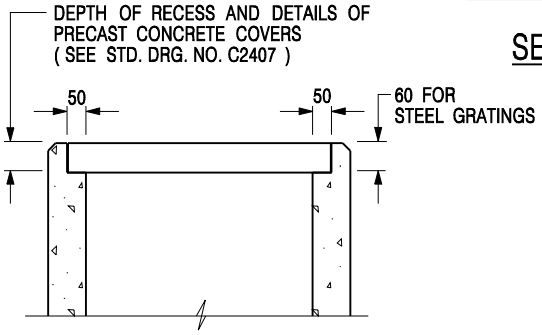



PLAN

| NOMINAL SIZE (LARGEST OF H1, H2, H3 & H4) | B |
|---|---|
| 300 – 600 | 150 |
| 675 – 900 | 175 |




SECTION A – A




NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 5 FOR OTHER NOTES.

ALTERNATIVE TOP SECTION FOR PRECAST CONCRETE COVERS / GRATINGS

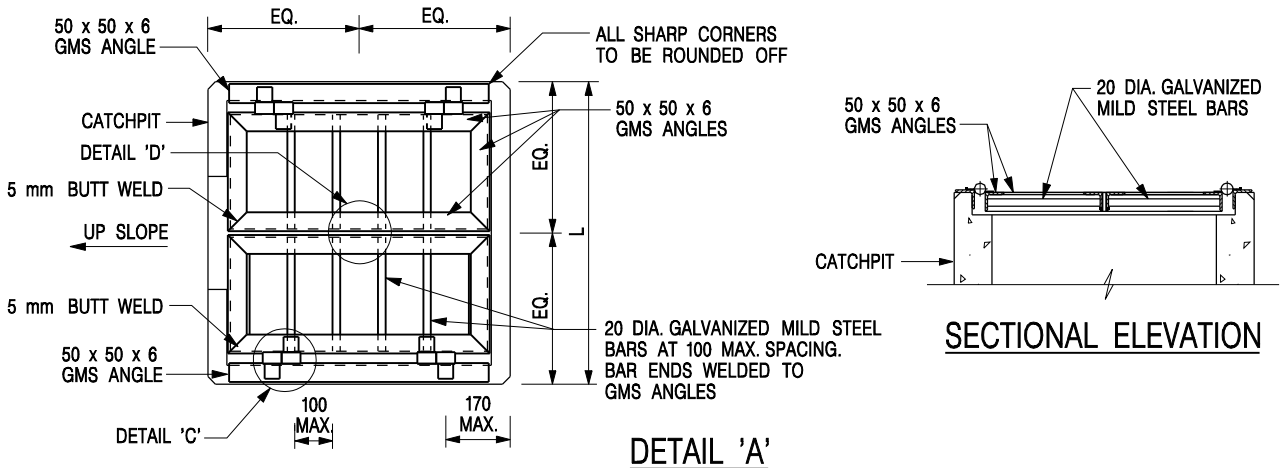
| REF. | REVISION | SIGNATURE | DATE |
|---|---|---|---|
| – | FORMER DRG. NO. C2405J. | Original Signed | 03.2015 |

# STANDARD CATCHPIT DETAILS

(SHEET 1 OF 5)

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

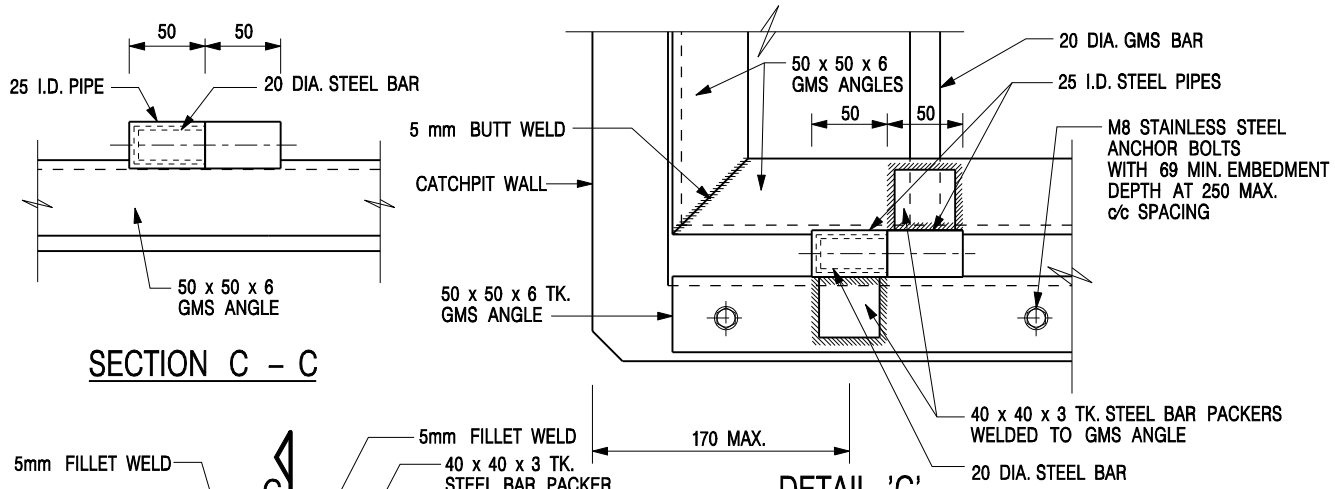
| SCALE | 1 : 20 | DRAWING NO. |
|---|---|---|
| DATE | JAN 1991 | C2405 /1 |




## DETAIL 'A'

( DETAILS OF DOUBLE SIDE OPENING STEEL GRATING FOR L>900mm )

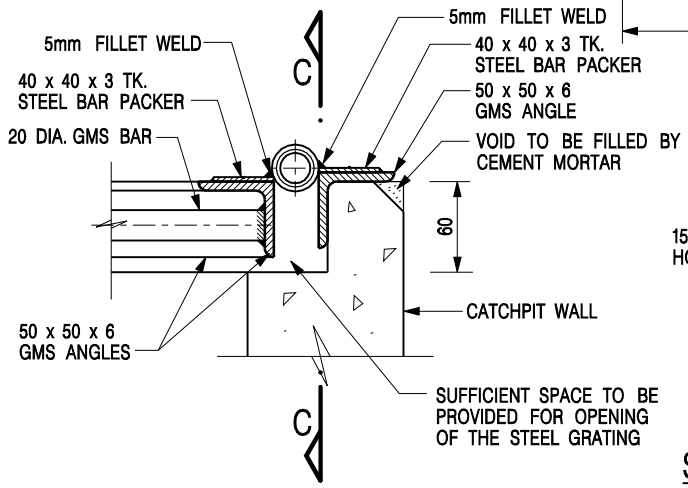
SCALE 1 : 20




## DETAIL 'C'

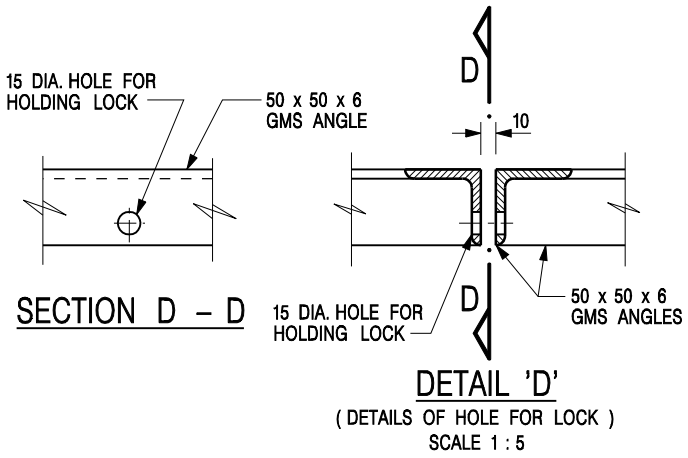
( DETAILS OF HINGE )

SCALE 1 : 5




## SECTIONAL ELEVATION

( DETAIL 'C' )




## DETAIL 'D'

( DETAILS OF HOLE FOR LOCK )

SCALE 1 : 5

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 5 FOR OTHER NOTES.

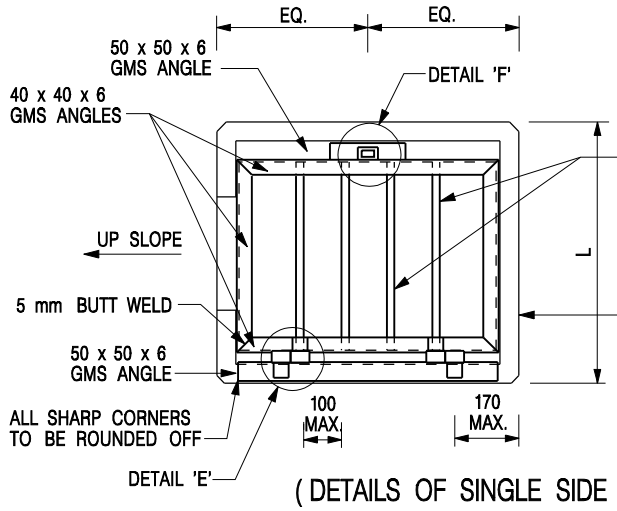
| REF. | REVISION | SIGNATURE | DATE |
|---|---|---|---|
| – | FORMER DRG. NO. C2405J. | Original Signed | 03.2015 |

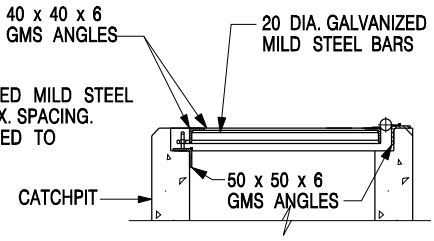
# STANDARD CATCHPIT DETAILS

(SHEET 2 OF 5)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

| SCALE | AS SHOWN | DRAWING NO. |
|---|---|---|
| DATE | JAN 1991 | C2405 /2 |



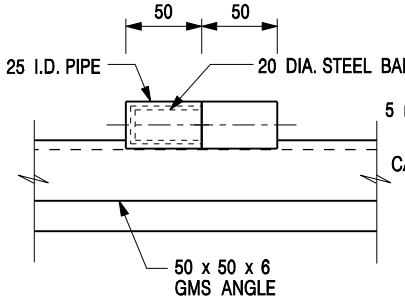




SECTIONAL ELEVATION

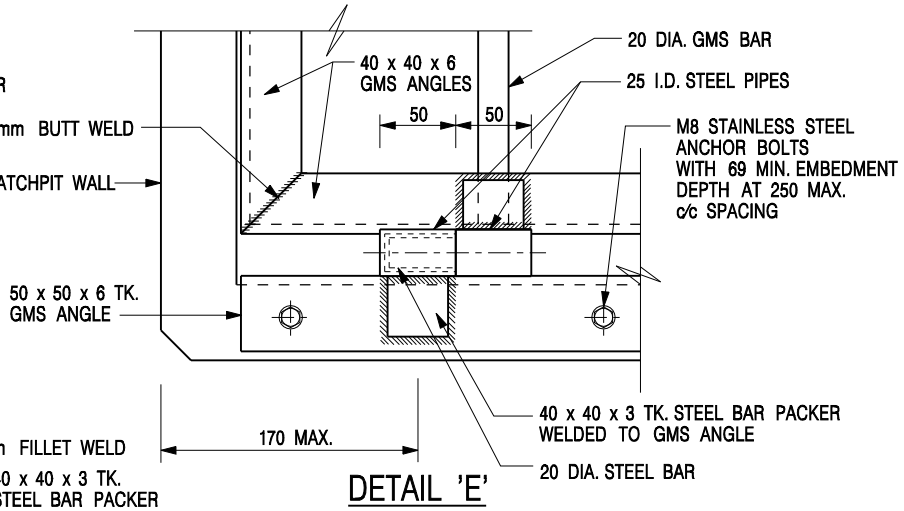
## DETAIL 'B'

( DETAILS OF SINGLE SIDE OPENING STEEL GRATING FOR L≤900mm )

SCALE 1 : 20



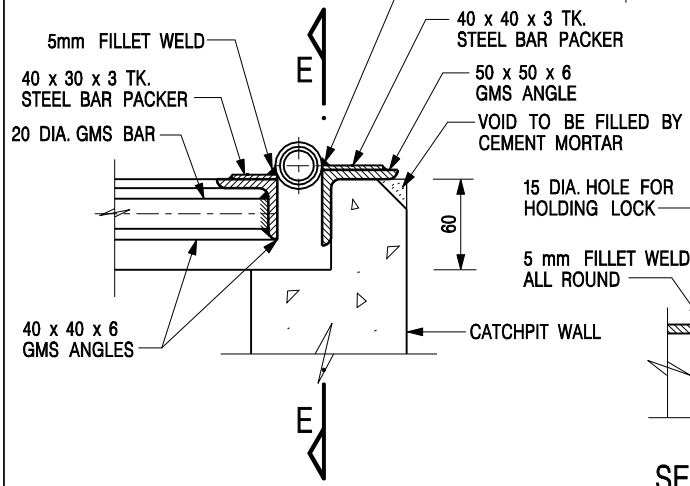

SECTION E – E




## DETAIL 'E'

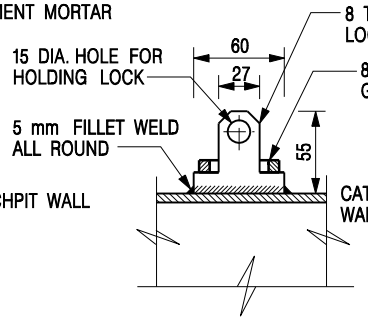
( DETAILS OF HINGE )

SCALE 1 : 5

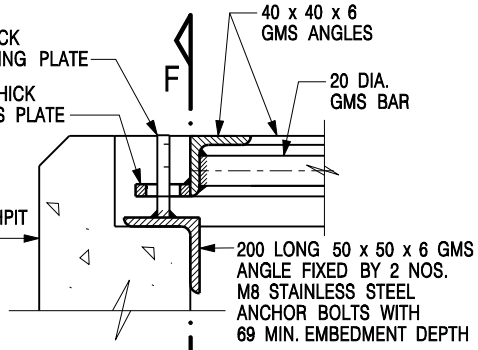



SECTIONAL ELEVATION

( DETAIL 'E' )




SECTION F – F




## DETAIL 'F'

( DETAILS OF LOCKING PLATE )

SCALE 1 : 5

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 5 FOR OTHER NOTES.

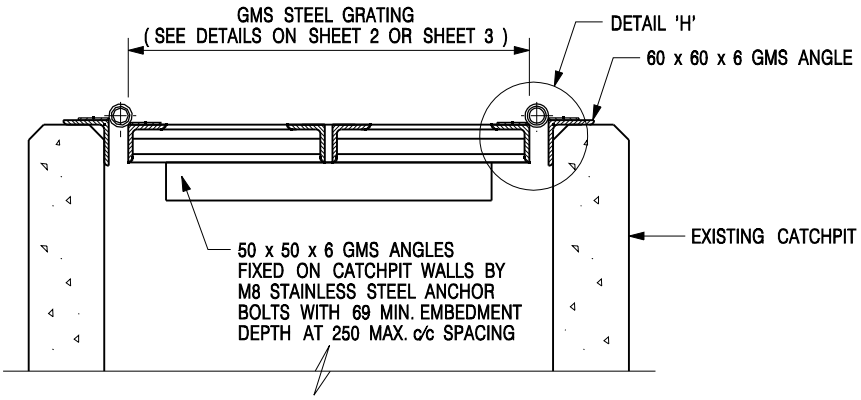
| REF. | REVISION | SIGNATURE | DATE |
|---|---|---|---|
| – | FORMER DRG. NO. C2405J. | Original Signed | 03.2015 |

# STANDARD CATCHPIT DETAILS

(SHEET 3 OF 5)

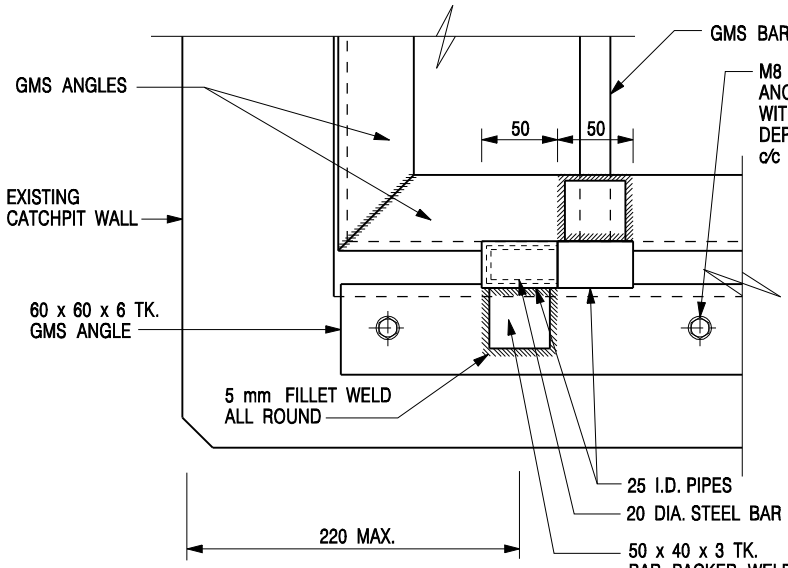
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

| | |
|---|---|
| SCALE AS SHOWN | DRAWING NO. C2405 /3 |
| DATE JAN 1991 | |




## DETAIL 'G' – DETAILS OF STEEL GRATING CONSTRUCTED ON EXISTING CATCHPIT

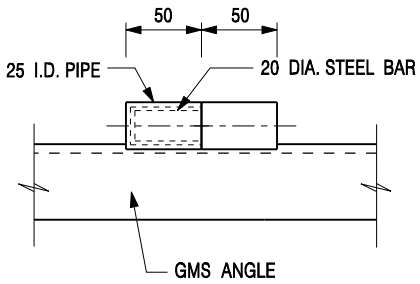
SCALE 1 : 10



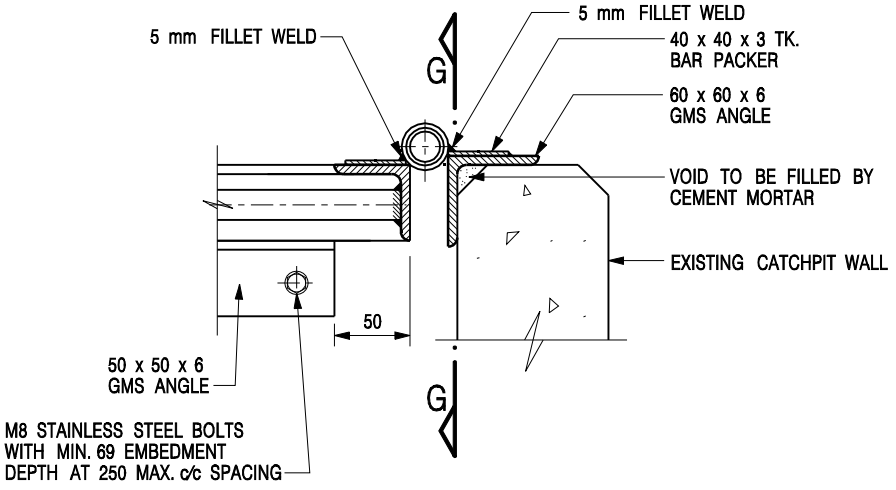

## DETAIL 'H'

( DETAILS OF HINGE )

SCALE 1 : 5




## SECTION G – G




## SECTIONAL ELEVATION

( DETAIL 'H' )

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REFER TO SHEET 5 FOR OTHER NOTES.

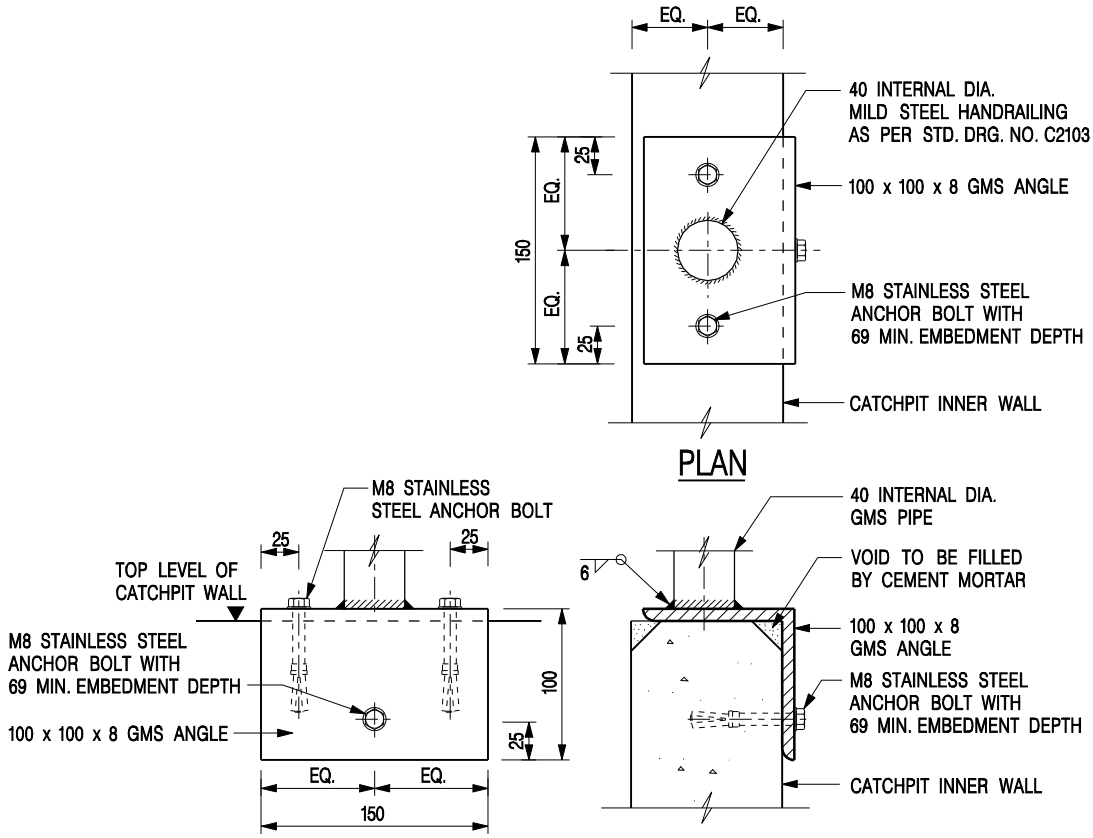
| REF. | REVISION | SIGNATURE | DATE |
|---|---|---|---|
| – | FORMER DRG. NO. C2405J. | Original Signed | 03.2015 |

# STANDARD CATCHPIT DETAILS

(SHEET 4 OF 5)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

| | |
|---|---|
| SCALE AS SHOWN | DRAWING NO. C2405 /4 |
| DATE JAN 1991 | |




# DETAIL 'J' – FIXING DETAILS FOR HANDRAILING ON TOP OF CATCHPIT WALL

SCALE 1 : 5

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE SHALL BE GRADE 20 /20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2 OR F2 AS APPROPRIATE.
4. FOR DETAILS OF JOINT, REFER TO STD. DRG. NO. C2413.
5. CONCRETE TO BE COLOURED AS SPECIFIED.
6. FOR CATCHPITS CONSTRUCTED ON OR ADJACENT TO A FOOTPATH, STEEL GRATINGS ( SEE DETAILS ON SHEET 2 OR SHEET 3 ) OR CONCRETE COVERS ( SEE STD. DRG. NO. C2407 ) SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.
7. IF INSTRUCTED BY THE ENGINEER, HANDRAILING ( SEE DETAIL 'J' ON SHEET 5; EXCEPT ON THE UPSLOPE SIDE ) IN LIEU OF STEEL GRATINGS OR CONCRETE COVERS CAN BE ACCEPTED AS AN ALTERNATIVE SAFETY MEASURE FOR CATCHPITS NOT ON A FOOTPATH NOR ADJACENT TO IT. TOP OF THE HANDRAILING SHALL BE 1 000 mm MIN. MEASURED FROM THE ADJACENT GROUND LEVEL.
8. MINIMUM INTERNAL CATCHPIT WIDTH SHALL BE 1 000 mm FOR CATCHPITS WITH A HEIGHT EXCEEDING 1 000 mm MEASURED FROM THE INVERT LEVEL TO THE ADJACENT GROUND LEVEL. AND, STEP IRONS ( SEE DSD STD. DRG. NO. DS1043 ) AT 300 mm c/c STAGGERED SHALL BE PROVIDED. THICKNESS OF CATCHPIT WALL FOR INSTALLATION OF STEP IRONS SHALL BE INCREASED TO 150 mm.
9. FOR RETROFITTING AN EXISTING CATCHPIT WITH STEEL GRATING, SEE DETAIL 'G' ON SHEET 4.
10. ALL STEEL ANGLES SHALL COMPLY WITH BS EN 10025 AND BS EN 10056.
11. UNLESS OTHERWISE SPECIFIED, ALL WELDS SHALL BE 5 mm CONTINUOUS FILLET WELDS.
12. ALL WELDS SHALL BE CHIPPED, GROUND SMOOTH, BRUSHED TO REMOVE SLAG PRIOR TO HOT-DIP GALVANIZATION.
13. ALL STEELWORK SHALL BE HOT-DIP GALVANIZED TO BS EN ISO 1461. ALL EXPOSED STEELWORK SURFACES SHALL BE TREATED AND PAINTED IN ACCORDANCE WITH THE GENERAL SPECIFICATION.
14. SUBJECT TO THE APPROVAL OF THE ENGINEER, OTHER MATERIALS CAN ALSO BE USED AS COVERS / GRATINGS.

| REF. | REVISION | SIGNATURE | DATE |
|---|---|---|---|
| – | FORMER DRG. NO. C2405J. | Original Signed | 03.2015 |

# STANDARD CATCHPIT DETAILS

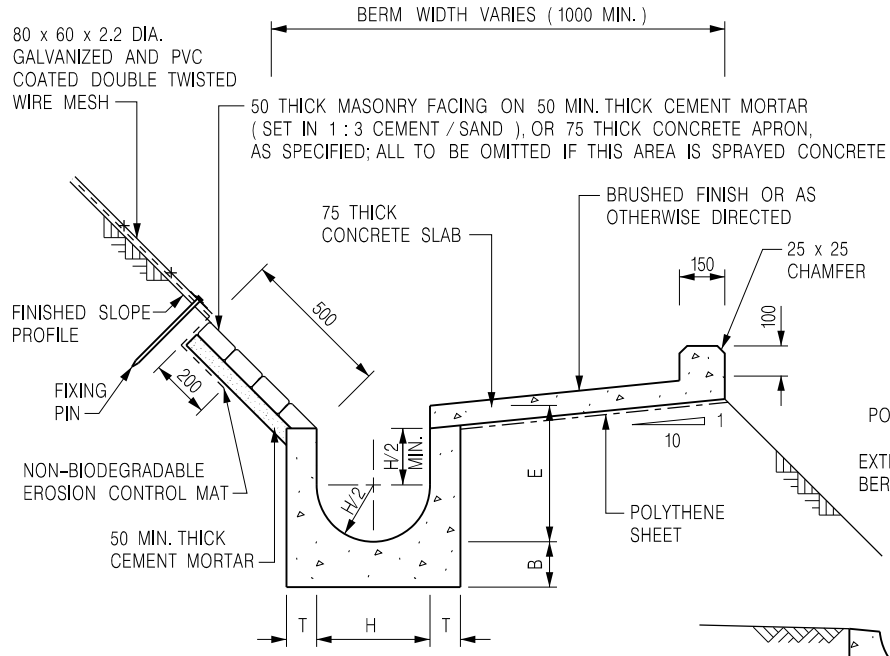
(SHEET 5 OF 5)

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

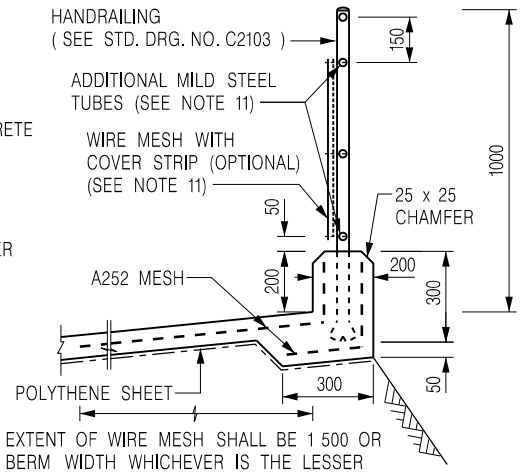
SCALE AS SHOWN

DATE JAN 1991

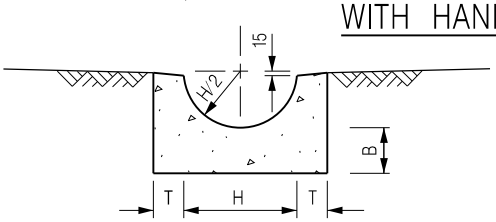
DRAWING NO. C2405 /5



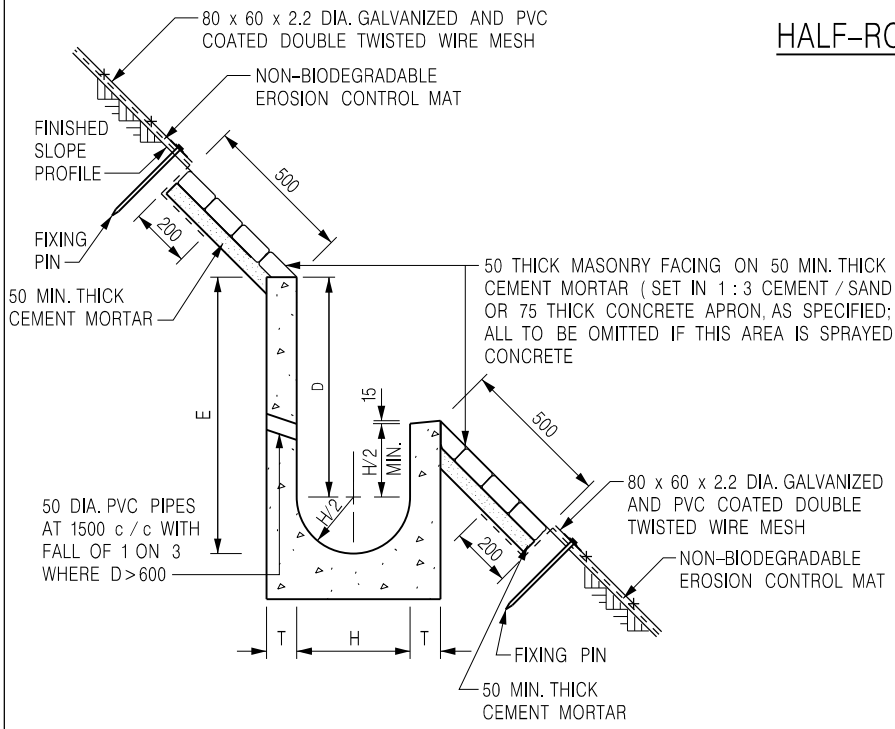

## U-CHANNELS CONSTRUCTED ON BERM




## DETAILS OF BERM WITH HANDRAILING




## HALF-ROUND CHANNEL




## U-CHANNELS NOT CONSTRUCTED ON BERM

### NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL CONCRETE TO BE GRADE 20 / 20.
3. CONCRETE SURFACE FINISH SHALL BE CLASS U2, F2 OR BRUSHED FINISH AS DIRECTED.
4. SPACING OF EXPANSION JOINT IN CHANNELS, BERM SLABS AND APRONS TO BE 10 METRES MAXIMUM, SEE STD. DRG. NO. C2413 FOR DETAILS.
5. JOINTS FOR CHANNELS, BERM SLABS, APRONS AND WALLS, ETC. TO BE ON THE SAME ALIGNMENT.
6. FOR DIMENSIONS T, H, & B, SEE TABLE BELOW.
7. BIODEGRADABLE EROSION CONTROL MAT IF REQUIRED, SEE STD. DRG. NO. C2511/1E.
8. CONCRETE TO BE COLOURED AS SPECIFIED.
9. CONCRETE U-CHANNEL CAN BE CAST IN-SITU OR PRECAST CONCRETE SUBJECT TO THE ENGINEER'S AGREEMENT ON THE DETAILS.
10. DETAILS OF EROSION CONTROL MAT AND WESH MESH ON BERM. (SEE STD DRG. NO. C2511/1E)
11. THE WIRE MESH ON HANDRAILING IS OPTIONAL. THE COVER STRIP AND ADDITIONAL MILD STEEL TUBES ARE NEEDED ONLY IF WIRE MESH IS PROVIDED. (SEE STD. DRG. NO. C2103)

| NOMINAL SIZE H | T | B | REINFORCEMENT |
|---|---|---|---|
| 300 | 80 | 100 | A252 MESH PLACED CENTRALLY AND T=100 WHEN E>650 |
| 375 – 600 | 100 | 150 | |
| 675 – 900 | 125 | 175 | A252 MESH PLACED CENTRALLY |

| REF. | REVISION | SIGNATURE | DATE |
|---|---|---|---|
| J | DETAILS OF HANDRAILING AMENDED. | Original Signed | 08.2024 |
| I | MINOR AMENDMENT. | Original Signed | 07.2018 |
| H | THICKNESS OF MASONRY FACING AMENDED. | Original Signed | 01.2005 |
| G | MINOR AMENDMENT. | Original Signed | 01.2004 |
| F | GENERAL REVISION. | Original Signed | 12.2002 |

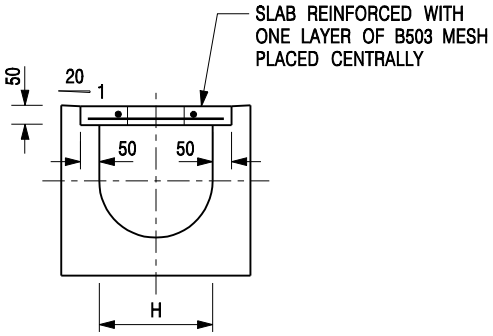
# DETAILS OF HALF-ROUND AND U-CHANNELS ( TYPE A – WITH MASONRY APRON )

CEDD **CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT**

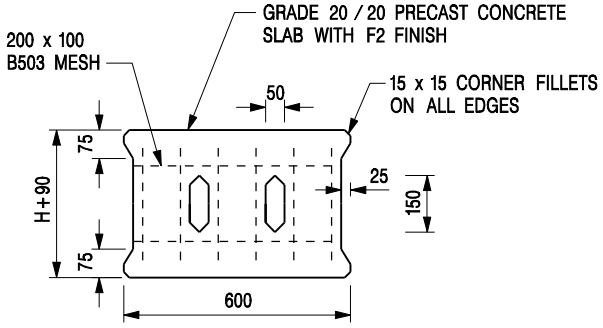
**SCALE** 1 : 25

**DATE** JAN 1991

**DRAWING NO.** C2409J



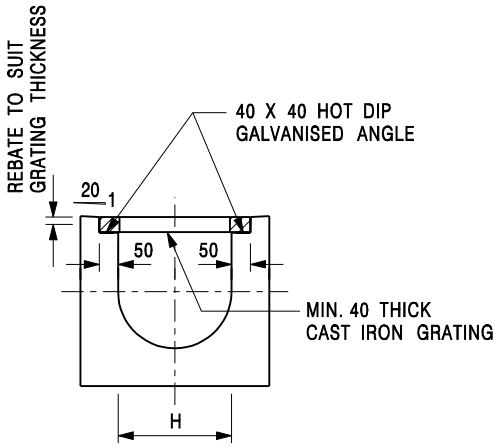

TYPICAL SECTION



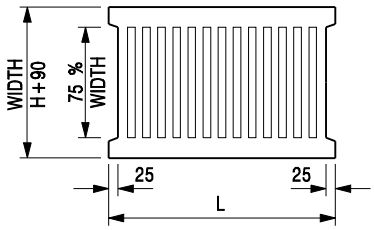

PLAN OF SLAB

## U-CHANNELS WITH PRECAST CONCRETE SLABS

(UP TO H OF 525)




TYPICAL SECTION




L = 600mm FOR H ≤ 375mm
L = 400mm FOR H > 375mm

CAST IRON GRATING

(DIMENSIONS ARE FOR GUIDANCE ONLY, CONTRACTOR MAY SUBMIT EQUIVALENT TYPE)

## U-CHANNEL WITH CAST IRON GRATING

(UP TO H OF 525)

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. H = NOMINAL CHANNEL SIZE.
3. ALL CAST IRON FOR GRATINGS SHALL BE GRADE EN-GJL-150 COMPLYING WITH BS EN 1561.
4. FOR COVERED CHANNELS TO BE HANDED OVER TO HIGHWAYS DEPARTMENT FOR MAINTENANCE, THE GRATING DETAILS SHALL FOLLOW THOSE AS SHOWN ON HyD STD. DRG. NO. H3156.

| REF. | REVISION | SIGNATURE | DATE |
|---|---|---|---|
| E | NOTES 3 & 4 AMENDED. | Original Signed | 12.2014 |
| D | NOTE 4 ADDED. | Original Signed | 06.2008 |
| C | MINOR AMENDMENT. NOTE 3 ADDED. | Original Signed | 12.2005 |
| B | NAME OF DEPARTMENT AMENDED. | Original Signed | 01.2005 |
| A | CAST IRON GRATING AMENDED. | Original Signed | 12.2002 |

# COVER SLAB AND CAST IRON GRATING FOR CHANNELS

CEDD CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

SCALE 1 : 20

DATE JAN 1991

DRAWING NO. C2412E

**Assessment of Hydraulic Capacities of the Proposed Drainage System for 1 in 50 year design return period**

**Using Rational Method**
Design Flow = 0.278CiA $m^3/s$ for grassland (heavy soil) - steep, C = 0.35
for concrete surface, C = 0.95

**Using Manning Equation (for channel flow)**
Design Mean Velocity = $R^{1/6}/n(RS_f)^{1/2}$ where n = 0.016 for concrete-lined open channel with fair surface
0.045 for natural stream channels, winding some pools and shoals with some weeds and stones with fair surface
(ref. Table13 in SDM)

**Using GEV distribution model in frequency analysis**
Rainfall intensity = $a / (t_D+b)^c$ where a = 505.5 , b= 3.29 and c= 0.355 in 50 year design return period
referenced from Table 3a in SDM Corrigendum No. 1/2022 - Storm Constants for Different Return Periods of HKO Headquarters

**Using Bransby William's Equation**
Inlet time $t_0$ = $0.14465L/(H^{0.2}A^{0.1})$ or 2 when the distance is too short

**Using Colebrook's White Equation (for pipe flow)**
V = - Sqt (8gDs) x log [($k_s$ / 3.7D) + (2.51v / D x Sqt (2gDs))]
For precast concrete pipes with 'O' ring joints with poor condition,
$k_s$ (mm) = 0.6 $k_s$ (m) = 0.0006
v ($m^2/s$) = 1.00E-06
g ($m^2/s$) = 9.81

| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| USCP/USMH | DSCP/DSMH | Collected Runoff from Catchment (refer to Figure 3 and 4) | USGL (mPD) | DSGL (mPD) | USIL (mPD) | DSIL (mPD) | INVERT DIFF. (m) | LENGTH OF CHANNEL / DRAIN l (m) | SLOPE s | SLOPE 1 IN | LENGTH FOR CALCULATION OF INLET TIME L (m) | AVERAGE SLOPE OF GROUND FOR CALCULATION OF INLET TIME H (m per 100m) | INLET TIME $t_0$ (min) = 0.14465 x [L/($H^{0.2}$ x $A^{0.1}$)] | TIME OF FLOW INSIDE CHANNEL/ DRAIN $t_t$ (min) = l/V (i.e. Column (9) ÷ Column (26) ÷ 60) | TIME OF CONCENTRATION $t_c$ (min) = $t_0 + t_t$ | RAINFALL INTENSITY i (mm/hr) | RAINFALL INTENSITY INCLUDING EFFECT OF CLIMATE CHANGE (+16.0%*) (mm/hr) [refer to item (e) and (k) in SDM Corrigendum No. 1/2022] | ADOPTED RAINFALL INTENSITY INCLUDING EFFECT OF CLIMATE CHANGE (+16.0%) & DESIGN ALLOWANCE (12.1%) (mm/hr) [refer to item (e), (k) and (n) in SDM Corrigendum No. 1/2022] | RUNOFF COEF. C | SUB-CATCHMENT AREA A ($m^2$) | EFFECTIVE CATCHMENT AREA ($m^2$) | CUM. EFFECTIVE CATCHMENT AREA ($m^2$) | DESIGN FLOW ($m^3/s$) | SIZE (mm) | CHANNEL TYPE | VELOCITY (m/s) | FLOW CAPACITY ($m^3/s$) | 90% FLOW CAPACITY ($m^3/s$) (to cater for potential deposition of sediment) | SPARE CAPACITY ($m^3/s$) | Occupancy of the Proposed Pipe / Channel | |
| Top of Area A1 | Starting Point | A1 | | | 31.58 | 30.00 | | 17.00 | | | 17.00 | 0.35 | 1.57 | | | | | | | 0.35 | 722 | 253 | 253 | | | | | | | | | |
| Starting Point | CP10 | A1 + area a | 30.00 | 30.10 | 29.53 | 29.47 | 0.06 | 13.00 | 0.005 | 220 | - | - | 1.57 | 0.18 | 1.75 | 284.63 | 330.17 | 370.12 | 0.95 | 526 | 500 | 752 | 0.077 | 375 | UC | 1.19 | 0.27 | 0.24 | 0.161 | 32.4% | OK! |
| CP10 | CP11 | ditto | 30.10 | 30.20 | 29.47 | 29.45 | 0.01 | 3.00 | 0.005 | 220 | - | - | 1.75 | 0.04 | 1.79 | 283.81 | 329.22 | 369.05 | 0.95 | 0 | 0 | 752 | 0.077 | 375 | UC | 1.22 | 0.32 | 0.29 | 0.213 | 26.6% | OK! |
| CP11 | CP12 | ditto | 30.20 | 29.83 | 29.45 | 29.41 | 0.04 | 9.00 | 0.005 | 220 | - | - | 1.79 | 0.14 | 1.93 | 281.17 | 326.16 | 365.63 | 0.95 | 0 | 0 | 752 | 0.076 | 375 | UC | 1.11 | 0.16 | 0.14 | 0.065 | 54.0% | OK! |
| CP12 | CP13 | ditto | 29.83 | 29.75 | 29.41 | 29.38 | 0.03 | 5.50 | 0.005 | 220 | - | - | 1.93 | 0.08 | 2.01 | 279.57 | 324.30 | 363.55 | 0.95 | 0 | 0 | 752 | 0.076 | 375 | UC | 1.08 | 0.14 | 0.12 | 0.046 | 62.2% | OK! |
| CP13 | CP14 | ditto | 29.75 | 29.60 | 29.38 | 29.23 | 0.03 | 7.00 | 0.005 | 220 | - | - | 2.01 | 0.11 | 2.12 | 277.58 | 322.00 | 360.96 | 0.95 | 0 | 0 | 752 | 0.076 | 375 | UC | 1.08 | 0.14 | 0.12 | 0.047 | 61.7% | OK! |
| CP14 | CP15 | ditto | 29.60 | 29.60 | 29.23 | 29.19 | 0.03 | 7.00 | 0.005 | 220 | - | - | 2.12 | 0.11 | 2.23 | 275.68 | 319.79 | 358.48 | 0.95 | 0 | 0 | 752 | 0.075 | 375 | UC | 1.10 | 0.15 | 0.14 | 0.061 | 55.0% | OK! |
| CP15 | CP16 | ditto | 29.60 | 29.50 | 29.19 | 29.11 | 0.08 | 18.00 | 0.005 | 220 | - | - | 2.23 | 0.27 | 2.50 | 270.96 | 314.32 | 352.35 | 0.95 | 0 | 0 | 752 | 0.074 | 375 | UC | 1.09 | 0.14 | 0.13 | 0.055 | 57.4% | OK! |
| CP16 | TM | ditto | 29.50 | 29.50 | 29.11 | 29.08 | 0.03 | 7.00 | 0.005 | 220 | - | - | 2.50 | 0.11 | 2.61 | 269.24 | 312.32 | 350.11 | 0.95 | 0 | 0 | 752 | 0.073 | 375 | UC | 1.11 | 0.16 | 0.14 | 0.069 | 51.4% | OK! |
| Top of Area A2 | Starting Point | A2 | | | 40.00 | 30.00 | | 88.00 | | | 88.00 | 0.35 | 6.56 | | | | | | | 0.35 | 6,203 | 2,171 | 2,171 | | | | | | | | | |
| Starting Point | CP1 | A2 + area b | 30.45 | 30.20 | 30.00 | 29.75 | 0.09 | 7.00 | 0.013 | 80 | - | - | 6.56 | 0.06 | 6.61 | 223.97 | 259.81 | 291.24 | 0.95 | 1,326 | 1,260 | 3,431 | 0.278 | 450 | UC | 2.03 | 0.37 | 0.33 | 0.052 | 84.2% | OK! |
| CP1 | CP2 | ditto | 30.20 | 30.15 | 29.75 | 29.57 | 0.18 | 18.00 | 0.010 | 100 | - | - | 6.61 | 0.16 | 6.77 | 222.72 | 258.36 | 289.62 | 0.95 | 0 | 0 | 3,431 | 0.276 | 450 | UC | 1.91 | 0.46 | 0.41 | 0.135 | 67.2% | OK! |
| CP2 | CP3 | ditto | 30.15 | 29.60 | 29.57 | 29.15 | 0.26 | 21.00 | 0.013 | 80 | - | - | 6.77 | 0.17 | 6.94 | 221.38 | 256.80 | 287.88 | 0.95 | 0 | 0 | 3,431 | 0.275 | 450 | UC | 2.03 | 0.37 | 0.33 | 0.055 | 83.2% | OK! |
| CP3 | CP4 | ditto | 29.60 | 29.60 | 29.15 | 29.08 | 0.07 | 7.00 | 0.010 | 100 | - | - | 6.94 | 0.06 | 7.01 | 220.91 | 256.25 | 287.26 | 0.95 | 0 | 0 | 3,431 | 0.274 | 450 | UC | 1.87 | 0.40 | 0.36 | 0.083 | 76.7% | OK! |
| CP4 | CP5 | ditto | 29.60 | 29.50 | 29.08 | 28.99 | 0.09 | 9.00 | 0.010 | 100 | - | - | 7.01 | 0.08 | 7.09 | 220.30 | 255.54 | 286.46 | 0.95 | 0 | 0 | 3,431 | 0.273 | 450 | UC | 1.86 | 0.39 | 0.35 | 0.075 | 78.4% | OK! |
| CP5 | CP6 | ditto | 29.50 | 29.50 | 28.99 | 28.91 | 0.08 | 8.00 | 0.010 | 100 | - | - | 7.09 | 0.07 | 7.16 | 219.77 | 254.94 | 285.79 | 0.95 | 0 | 0 | 3,431 | 0.273 | 450 | UC | 1.92 | 0.47 | 0.42 | 0.148 | 64.9% | OK! |
| CP6 | CP7 | ditto | 29.50 | 29.30 | 28.91 | 28.75 | 0.16 | 22.00 | 0.007 | 135 | - | - | 7.16 | 0.23 | 7.38 | 218.12 | 253.02 | 283.63 | 0.95 | 0 | 0 | 3,431 | 0.271 | 450 | UC | 1.63 | 0.37 | 0.33 | 0.062 | 81.2% | OK! |
| CP7 | CP8 | ditto | 29.30 | 29.50 | 28.75 | 28.69 | 0.06 | 15.00 | 0.004 | 260 | - | - | 7.38 | 0.20 | 7.58 | 216.68 | 251.35 | 281.76 | 0.95 | 0 | 0 | 3,431 | 0.269 | 450 | UC | 1.25 | 0.43 | 0.39 | 0.117 | 69.7% | OK! |
| CP8 | CP9 | ditto | 29.50 | 29.50 | 28.69 | 28.62 | 0.07 | 22.00 | 0.003 | 300 | - | - | 7.58 | 0.31 | 7.89 | 214.52 | 248.84 | 278.95 | 0.95 | 0 | 0 | 3,431 | 0.266 | 450 | UC | 1.17 | 0.44 | 0.40 | 0.132 | 66.9% | OK! |
| CP9 | TM | ditto | 29.50 | 29.50 | 28.62 | 28.60 | 0.02 | 5.00 | 0.003 | 300 | - | - | 7.89 | 0.07 | 7.97 | 214.04 | 248.28 | 278.32 | 0.95 | 0 | 0 | 3,431 | 0.265 | 450 | UC | 1.18 | 0.45 | 0.41 | 0.141 | 65.3% | OK! |
| **Discharge Point** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TM | Proposed outfall | A1 + A2 + Site Area | 29.50 | 30.00 | 28.45 | 28.43 | 0.02 | 1.00 | 0.017 | 60 | | | 7.97 | 0.01 | 7.97 | 213.99 | 248.23 | 278.27 | 0.95 | 0 | 0 | 4,183 | 0.289 | 450 | pipe | 2.63 | 0.42 | 0.38 | 0.088 | 76.7% | OK! |
| **Existing Streamcourse at Downstream of the Subject Site** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Proposed outfall | Section X-X at the immediate downstream of the Proposed outfall | A1 + A2 + Site Area + A3 | | 30.00 | 494.00 | 28.41 | | 995.00 | | 100 | | | 20.25 | 10.46 | 30.70 | 144.57 | 167.70 | 187.99 | 0.39 | 150,515 | 58,701 | 62,884 | 2.932 | 3000 | V-shaped earth channel | 1.59 | 3.78 | 3.40 | 0.472 | 86.1% | OK! |
| **U-channel at the Proposed External Access** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Proposed 300 UC | Existing 375 UC | A4 | 30.47 | 28.69 | 30.12 | 28.32 | 1.80 | 72.00 | 0.025 | 40 | | | 2.00 | 0.53 | 2.53 | 270.59 | 313.88 | 351.86 | 0.35 | 4,637 | 1,623 | 1,623 | 0.142 | 300 | UC | 2.29 | 0.23 | 0.21 | 0.067 | 67.9% | OK! |

subcatchment
Site Area 1,852 (area a 526, area b 1,326) 1,852
A1 722
A2 6,203
A3 150,515 (including paved area = 9,484 $m^2$) equivalent runoff coef. = (9,484 x 0.95 + (150,515 - 9,484) x 0.35) / 150,515 = 0.39
total = 159,292

# Annex B

Revised Environmental Assessment

Prepared for

**King Brave Limited c/o Lawson David & Sung Surveyors Limited**

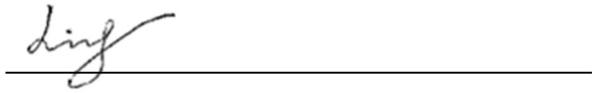
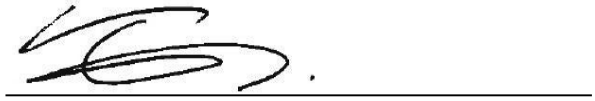
Prepared by

**Ramboll Hong Kong Limited**

# PROPOSED HOUSE DEVELOPMENT AT T.M.T.L. 550, TUEN MUN, NEW TERRITORIES

# S16 PLANNING APPLICATION

# ENVIRONMENTAL ASSESSMENT

| | |
|---|---|
| Date | **November 2025** |
| Prepared by | **Tony Ling**<br>**Environmental Consultant** |
| Signed |  |
| Approved by | **Tony Cheng**<br>**Senior Manager** |
| Signed |  |
| Project Reference | **RILTM550EI00** |
| Document No. | **R8944_v2.1** |

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Ramboll Hong Kong Limited

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

[redacted]

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# 1. INTRODUCTION

## 1.1 Project Background

1.1.1 The Application Site is located at T.M.T.L. 550, Tuen Mun, New Territories, zoned as "Recreation" ("REC") under the Approved Tuen Mun Outline Zoning Plan No. S/TM/41. The Subject Site is about 1,852 $m^2$. A planning application for the use of "Holiday Camp" was approved in May 2015 (A/TM/469).

1.1.2 The purpose of the submission is to develop the Application Site to a 2-storey house.

1.1.3 In order to support the planning application of the proposed development, an environmental assessment (EA) shall be prepared to support the proposed development from the environmental points of view.

1.1.4 Ramboll Hong Kong Limited (the Consultant) has been commissioned by the applicant to conduct this environmental assessment in relation to the planning application. Architectural drawings and technical information of the Subject Site were provided by Design Consultants Limited and Lawson David & Sung Surveyors Limited respectively whereas information on road traffic forecast was provided by CKM Asia Limited (the Traffic Consultant).

## 1.2 Application Site and its Environs

1.2.1 The Application Site is located at T.M.T.L. 550 in Tuen Mun. The site is currently zoned "Recreation".

1.2.2 The Subject Site is bounded by road carriageways on three sides. Lung Fu Road and Lung Mun Road are aligned on the northwest and southeast sides of the Subject Site respectively.

1.2.3 The Application Site is vacant currently and situated more than 1 km away from any existing/planned industrial developments.

1.2.4 **Figure 1** shows the location of the Application Site and the surrounding environs.

## 1.3 Proposed Development

1.3.1 Under the current application, the Proposed Development consists of one 2-storey house for residential purpose. The maximum building height is 36.6 mPD. A proposed underground septic tank which follows the same treatment strategy proposed in the previous approved holiday camp application, will be located at the north of House. The master layout plan and sections of the Proposed Development are shown in **Appendix 1**.

1.3.2 The tentative completion year for the Proposed Development is 2031.

## 1.4 Key Environmental Issues and Study Approach

1.4.1 Key Environmental issues and concerns as identified for the Project include:

Air Quality

1.4.2 For the construction phase, the potential air quality impacts would be caused by the dust emissions generated during construction activities. For the operation phase, the potential air quality impacts arising from the vehicular emissions of the nearby roads, and the chimney emissions (if any) of the nearby industrial activities should be addressed.

Noise

1.4.3 Site visits were conducted on 27 June 2025 to identify whether there is any potential industrial noise source in the vicinity (i.e. 300m) of the Application Site. No industrial activities are identified in the vicinity.

1.4.4 The identified noise source in the vicinity of the Application Site is the road traffic noise from nearby road network. Practical noise mitigation measures should be recommended where required in order to satisfy the requirement of the Hong Kong Planning Standards and Guidelines (HKPSG).

Water Quality

1.4.5 For the construction and operation phase, potential water quality impact arising from the Application Site on the Water Sensitive Receiver in the vicinity (i.e. 500m) of the site boundary of Application Site will be discussed in **Section 4**. Practical mitigation measures should be recommended, where necessary, to reduce the potential water quality impacts in order to control the residual impacts to acceptable levels.

Waste Management

1.4.6 Potential waste management issues in connection with construction and operation of the Project will be discussed in **Section 5**. It also recommends mitigation measures to alleviate impacts, where necessary.

Land Contamination

1.4.7 The historical landuse and existing condition have been studied for the purpose to identify if there is/was any potentially land contaminating activity held onsite, and actions recommended to be taken afterwards. A land contamination appraisal is included in **Section 6.**

# 2. AIR QUALITY IMPACT ASSESSMENT

## 2.1 Introduction

2.1.1 This section examines the potential air quality impacts that could arise from the construction phase and operation phase of the Project.

## 2.2 Environmental Legislation and Guidelines

2.2.1 The following legislation and regulations provide the standards and guidelines for evaluation of air quality impacts and the type of works that are subject to air pollution control:

- Air Pollution Control Ordinance (APCO) (Cap. 311) and the Air Quality Objectives (AQO)
- Air Pollution Control (Construction Dust) Regulation
- Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation
- Air Pollution Control (Fuel Restriction) Regulations
- Hong Kong Planning Standards and Guidelines (HKPSG)

Air Pollution Control Ordinance (CAP 311)

2.2.2 To achieve as soon as reasonably practicable and to maintain thereafter to safeguard the health of the community, a set of Air Quality Objectives (AQOs) is established under the Air Pollution Control Ordinance (Cap. 311). The prevailing AQOs that came into effect on 11 April 2025 are listed in **Table 2.1**.

**Table 2.1 The Hong Kong Air Quality Objectives (HKAQOs)**

| Pollutant | Averaging time | Concentration limit [i] (μg/m³) | Number of exceedances allowed per calendar year |
|---|---|---|---|
| Sulphur dioxide, $SO_2$ | 10-min | 500 | 3 |
| | 24-Hour | 40 | 3 |
| Respirable suspended particulates, RSP ($PM_{10}$) [ii] | 24-Hour | 75 | 9 |
| | Annual | 30 | NA |
| Fine suspended Particulates, FSP ($PM_{2.5}$) [iii] | 24-Hour | 37.5 | 18 |
| | Annual | 15 | NA |
| Nitrogen dioxide, $NO_2$ | 1-Hour | 200 | 18 |
| | 24-Hour | 120 | 9 |
| | Annual | 40 | NA |
| Ozone, $O_3$ | 8-Hour | 160 | 9 |
| | Peak Season | 100 | NA |
| Carbon monoxide, CO | 1-Hour | 30,000 | 0 |
| | 8-Hour | 10,000 | 0 |
| | 24-Hour | 4,000 | 0 |
| Lead | Annual | 0.5 | NA |

*Notes:*

*[i] All measurements of the concentration of gaseous air pollutants, i.e. sulphur dioxide, nitrogen dioxide, ozone and carbon monoxide, are to be adjusted to a reference temperature of 293 Kelvin and a reference pressure of 101.325 kilopascal.*

*[ii] Respirable suspended particulates means suspended particles in air with a nominal aerodynamic diameter of 10 μm or less.*

*[iii] Fine suspended particulates means suspended particles in air with a nominal aerodynamic diameter of 2.5 μm or less.*

2.2.3 For odour impact assessment, Annex 4 of TM-EIAO stipulates an odour limit of 5 odour units based on an averaging time of 5 seconds at an air sensitive receiver should be met.

Air Pollution Control (Construction Dust) Regulation

2.2.4 Made under Section 43 of the APCO, this Regulation defines notifiable and regulatory works for achieving the purpose of dust control for a number of activities. The Regulation requires that any notifiable work shall give advance notice to EPD, and the Contractors shall ensure that the notifiable and regulatory works are carried out in accordance with the Schedule of the Regulation. Dust control and suppression measures are also provided in the Schedule.

2.2.5 The proposed construction works for the proposed Project are both regulatory and notifiable works due to activities including material stockpiling and dusty material handling as potential sources of fugitive dust emissions as detailed under Parts I to IV of the Schedule on Dust Control Requirements.

Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation

2.2.6 The Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, which aims to control emissions from non-road mobile machinery (NRMMs) to improve air quality, became effective on 1 June 2015. NRMMs include non-road vehicles, as well as mobile machines and equipment (regulated machines) such as crawler cranes, excavators and air compressors.

2.2.7 Under the regulation, regulated machines have to comply with the Stage IIIA emission standards of the European Union (EU). It also requires all regulated machines sold or leased for use in Hong Kong to bear an approval or exemption label issued to them by the EPD, started from 1 September 2015. It restricts specified activities and locations including construction sites, designed waste disposal facilities and specified processes to use only NRMMs that bear an approval or exemption label issued to them by the EPD, with effect from 1 December 2015.

Air Pollution Control (Fuel Restriction) Regulations

2.2.8 The Air Pollution Control (Fuel Restriction) Regulations was enacted in 1990 to impose legal control on the type of fuels allowed for use and their sulphur contents in commercial and industrial processes to reduce sulphur dioxide ($SO_2$) emissions. In April 2025, the Air Pollution Control (Fuel Restriction) Regulations was amended to tighten the control requirements of liquid fuels. The Regulations does not apply to any fuel-using equipment that is used or operated in premises used solely as a dwelling, or is used or operated in or on a vessel, motor vehicle, railway locomotive or aircraft.

Hong Kong Planning Standard and Guidelines (HKPSG)

2.2.9 Potential air quality impacts associated with the surrounding road carriageways and chimney emission from industrial stack shall be evaluated in accordance with the guidelines set out in HKPSG.

2.2.10 **Table 2.2** below is the extract of Table 3.1 in Chapter 9 "Environment" of Hong Kong Planning Standard and Guidelines (HKPSG) stating the recommended minimum horizontal buffer distance against pollution sources generated from road & highways and industrial areas.

**Table 2.2 Guidelines on Usage of Open Space Site**

| Pollution Source | Parameter | Buffer Distance | Permitted Uses |
|---|---|---|---|
| Road and Highways | Type of Road | | |
| | Trunk Road and Primary Distributor | >20 m | Active and passive recreational uses |
| | | 3 – 20 m | Passive recreational uses |
| | | <3 m | Amenity areas |
| | District Distributor | >10 m | Active and passive recreational uses |
| | | <10 m | Passive recreational uses |
| | Local Distributor | >5 m | Active and passive recreational uses |
| | | <5 m | Passive recreational uses |
| | Under Flyovers | | Passive recreational uses |
| Industrial Areas | Difference in Height between Industrial Chimney Exit and the Site | | |
| | <20 m | >200 m | Active and passive recreational uses |
| | | 5 – 200 m | Passive recreational uses |
| | 20 – 30 m (*) | >100 m | Active and passive recreational uses |
| | | 5 – 100 m | Passive recreational uses |
| | 30 – 40 m | >50 m | Active and passive recreational uses |
| | | 5 – 50m | Passive recreational uses |
| | >40 m | >10 m | Active and passive recreational uses |
| Construction and Earth Moving Activities | - | <50 m | Passive recreational uses |
| | | >50 m | Active and passive recreational uses |

*Note:*

(i) *In situations which the height of chimneys is not known, use the set of guidelines marked with an asterisk for preliminary planning purpose and refine as and when more information is available.*

(ii) *The buffer distance is the horizontal, shortest distance from the boundary of the industrial lot, the position of existing chimneys or the edge of road kerb, to the boundary of open space sites.*

(iii) *The guidelines are generally applicable to major industrial areas but NOT individual large industrial establishment which are likely to be significant air pollution sources. Consult EPD should be consulted when planning open spaces close to such establishments.*

(iv) *Amenity areas are permitted in any situation.*

## 2.3 Construction Phase

Impact Brought during Construction Phase

2.3.1 Construction activities will bring potential temporary air quality impact to the surrounding area. Significant emissions are not anticipated from air pollutants other than dust - NO2, SO2, and CO, etc. as the number of on-site diesel/petroleum fuelled machinery (1-2 machineries) to be used for construction works is limited owing to the small size of the work site with an area of 1,852 $m^2$. However, electric power supply shall be provided for on-site machinery as far as practicable and diesel generators shall be avoided to minimize the gaseous and PM emissions. Travelling of the dump trucks is another potential source of construction dust. At this planning application stage, there is no detailed information on the construction program; however, with reference to other similar scale projects, there is likely to be around 2 dump trucks per hour during the site formation stage of the Proposed Development. Watering the haul road

and the site once per hour would be implemented to minimize the potential dust emission during the traveling of the dump trucks within the site.

2.3.2 Furthermore, there is a potential concurrent project "Proposed Public Housing Development at Wu Shan Road" within the 500m study area from the site boundary which would contribute to the cumulative impact during the construction phase. According to the available public information, the tentative completion year of the potential concurrent project would be 2025/26. Nevertheless, with the adoption of good practices, it is expected that emission of construction fugitive dust can be kept to an acceptable level. In addition, the applicant will liaise with the relevant parties of the concurrent project, if any, to avoid any heavy dusty activities to be conducted at the same time to minimize the cumulative dust impact at the area. The location of the potential concurrent project is shown in **Figure 2**.

Representative Air Sensitive Receivers

2.3.3 There are a number of village houses, planned public housing development, golf centre, sitting-out area and riding school located within 500m of the Proposed Development. The representative ASRs are tabulated below. The relative location and distance between the representative ASRs and the Subject Site can be referred to **Figure 3**.

**Table 2.3 Representative ASRs during Construction Phase**

| Ref | Descriptions | Type | Use | Distance from the Project Boundary |
|---|---|---|---|---|
| A1 | Tuen Mun Golf Centre | Existing | Recreation | ~212m |
| A2 | Public Housing Development at Wu Shan Road | Planned | Residential | ~302m |
| A3 | Hung Lau Sitting-out Area | Existing | Recreation | ~107m |
| A4 | Tuen Mun Public Riding School | Existing | Education | ~216m |
| A5 | Tsing Shan Tsuen San Shek Wan South | Existing | Residential | ~256m |

2.3.4 It is necessary to adopt a management strategy for controlling the construction dust generated from the construction of the Proposed Development. Air quality control measures for avoiding and minimising the potential impacts shall be carried out.

Control Measures Recommended during Construction Phase

2.3.5 Appropriate dust reduction measures shall be adopted as required under the Air Pollution Control (Construction Dust) Regulation. Essential dust mitigation measures must be implemented to minimize the potential dust impact. Dust impact shall be effectively mitigated by inclusion of appropriate contract clauses for dust minimisation in the work contracts. Mitigation measures shall include:

- dump trucks for material transport should be totally enclosed using impervious sheeting;

- any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading;
- the stockpiled malodorous materials should be removed from Application Site as soon as possible, and they should be covered entirely by plastic tarpaulin sheets;
- dusty materials remaining after a stockpile is removed should be wetted with water;
- the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with e.g. concrete, bituminous materials or hardcore or similar;
- stockpile of dusty materials to be either covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides; or sprayed with water so as to maintain the entire surface wet;
- all dusty materials to be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet;
- vehicle speed to be limited to 10 km/hr except on completed access roads;
- the portion of road leading only to a construction site that is within 30 m of a designated vehicle entrance or exit should be kept clear of dusty materials;
- every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites;
- the load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials would not leak from the vehicle;
- the working area of excavation should be sprayed with water immediately before, during and immediately after (as necessary) the operations so as to maintain the entire surface wet; and
- use of effective dust screens, sheeting or netting to be provided to enclose dry scaffolding which may be provided from the ground floor level of the building or if a canopy is provided at the first floor level, from the first floor level, up to the highest level (maximum four floors for this Project) of the scaffolding where scaffolding is erected around the perimeter of a building under construction.

2.3.6 In addition to the dust control measures described above, dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices listed below shall be carried out to further minimize construction dust impact:

- Plan site layout so that machinery and dust causing activities (e.g. haul roads and stockpiling areas) are located away from receptors as far as possible;
- Consider connecting construction plant and equipment to main electricity supply and avoid use of diesel generators and diesel-powered equipment as far as practicable;
- Provision of not less than 2.4m high hoarding from ground level along site boundary where adjoins a road, streets or other accessible to the public except for a site entrance or exit;
- Implement phasing of the excavation work to avoid large scale excavation at the same time in vicinity of nearby ASRs; and
- Erect solid screens or barriers around dusty activities,etc.

2.3.7 A monitoring programme could also be instigated to monitor the construction process in order to enforce dust controls and modify methods of works to reduce the dust emission down to an acceptable level.

2.3.8 Good site management is important for reducing potential air quality impact down to an acceptable level. As a general guidance, the contractor shall maintain high standard of site management to prevent potential emission of fugitive dust emission. Loading, unloading, handling and storage of fuel, raw materials, products, wastes or by-products should also be carried out in a manner so as to minimise the release of visible dust emission.

2.3.9 A high standard of site management 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 without generating fugitive dust emissions. The material shall be handled properly to prevent fugitive dust emission before cleaning.

2.3.10 "Recommended Pollution Control Clauses for Construction Contracts" is available on EPD website. It contains the recommended air pollution control measures to be implemented by the contractor during the construction stage.

## 2.4 Operation Phase

Review on Odour Impact

2.4.1 All sewage and wastewater generated from the proposed development would be treated by the proposed underground septic tank and treated effluent would be percolated to surrounding subsoil in the soakaway pit. Further sewerage treatment arrangement will be submitted to Environmental Protection Department for approval at the detailed design stage. In view of that the development and effluent volume are small in scale (1 residential unit with flow rate of 0.7$m^3$ per day); with distance of ~31m between the proposed septic tank and proposed development; with distance of >100m between Subject Site and nearby ASRs; no exhaust on the proposed underground septic tank; the system is same as that adopted in the previous approved Holiday Camp application (A/TM/469) and all the requirement as stipulated in ProPECC PN 1/23 would be followed, it is anticipated that the proposed underground septic tank would not cause any adverse odour impact to the proposed development and nearby ASRs.

Review on Industrial Emission Impact

2.4.2 Onsite surveys were conducted on 27 June 2025 to verify the presence of chimneys. There was no chimney identified within 200m from the boundary of Proposed Development. As such, it is anticipated that the Proposed Development would not be subject to adverse industrial emission impact.

Review on Vehicular Emission Impact

2.4.3 In accordance with above table as stipulated in HKPSG, the minimum requirements on the buffer distance from Lung Fu Road and Lung Mun Road is >10m, from San Shek Wan Road and Proposed Access Road is >5m.

**Table 2.4 Buffer Distances between Kerb Side of Concerned Road Links and Proposed Air Sensitive Uses**

| Road Name | Road Type | Recommended Buffer Distance (m) | Shortest Horizontal Distances Between Kerb Side of Concerned Road Links and the Application Site (m) |
|---|---|---|---|
| Lung Fu Road | Primary Distributor | >20m | ~70m |
| Lung Mun Road | District Distributor | >10m | ~211m |
| San Shek Wan Road | Local Distributor | >5m | ~79m |
| Proposed Access Road | Local Distributor | >5m | ~4.7m |

2.4.4 As shown in **Table 2.4** and **Figure 4,** the recommended buffer distance requirement for Lung Fu Road, Lung Mun Road and San Shek Wan Road in the HKPSG would be complied. For the proposed access road, a small portion of the application site is within 5m buffer distance of the access road, however, no air sensitive uses (including fresh air intake, openable window, and open space for recreational use, etc.) would be located within 5m buffer distance, the shortest separation between the proposed access road and existing air sensitive receiver (ASR A1) is about 143m. In conclusion, there would be no air sensitive uses within the above-mentioned 10m and 5m buffer zones. Since the recommended minimum buffer distance of the vehicular emission in the HKPSG can be met, the future residents and occupants of Proposed Development and existing air sensitive receivers will not be subjected to insurmountable vehicular emission impact.

# 3. NOISE IMPACT ASSESSMENT

## 3.1 Introduction

3.1.1 This section assesses the potential industrial noise and road traffic noise impacts on the noise sensitive uses of the Proposed Development. Practical mitigation measures are proposed to mitigate the potential noise impacts, where necessary.

## 3.2 Industrial Noise Impact Assessment

3.2.1 Onsite surveys were conducted on 27 June 2025 to verify the presence of industrial noise sources. There was no industrial noise source identified within 300m from the boundary of Proposed Development. As such, it is anticipated that the Proposed Development would not be subject to adverse industrial noise impact.

## 3.3 Railway Noise Impact Assessment

3.3.1 According to the desktop studies and onsite surveys conducted on 27 June 2025, light rail transit as a potential noise source is identified with distance of ~200m, located to the southeast of the Application Site. However, the direct line of sight between proposed development and identified light rail (e.g. Butterfly Station) is blocked by natural terrain (Approximate 40mPD or higher). In view of the separation distance of 25m is met and existing topographic screening, it is anticipated that the Proposed Development would not be subject to adverse railway noise impact. Location of the light rail transit and separation distance from the Application Site is shown in **Figure 5**.

## 3.4 Road Traffic Noise Impact Assessment

3.4.1 Assessment Criteria

3.4.1.1 Noise standards are recommended in the HKPSG for planning against possible noise impact from road traffic.

3.4.1.2 Domestic dwellings of the Proposed Development will rely on openable window for ventilation. According to the guidelines, the maximum noise level from road traffic, measured in terms of $L_{10}$ (1-hr), is recommended to be 70 dB(A) at typical facades of new domestic dwellings.

3.4.2 Assessment Methodology

3.4.2.1 The methodology involves the prediction of future noise impacts on Noise Sensitive Receivers (NSRs) arising from road traffic of the existing and future road carriageways in the 300m assessment area. The 300m assessment area is shown in **Figure 6**.

3.4.2.2 The U.K. Department of Transport's procedure "Calculation of Road Traffic Noise" was applied to predict the hourly $L_{10}$ noise level generated from road traffic at selected representative facades (NSRs) of the Proposed Development. The predicted noise levels were then compared with the HKPSG noise criterion for assessing the impact.

3.4.2.3 Based on the tentative completion year of Proposed Development (Year 2031), traffic forecast for the Year 2046 (AM Peak) on the road carriageways in the vicinity of the Proposed Development, which has the maximum traffic projection within 15 years from the completion of the Proposed Development, was provided by CKM (the project traffic consultant) for prediction of the worst-case traffic noise impact. The projected traffic flows and vehicle composition are shown in **Appendix 2**.

3.4.3 Road Characteristics

3.4.3.1 All roads surrounding the Application Site are assumed with a speed limit of 50km/hr with an impervious surface.

3.4.4 Noise Sensitive Receivers

3.4.4.1 The representative facades with openable windows/doors were identified as NSRs in the assessment. Locations of proposed NSRs are shown in **Figure 7**. The assessment points are taken at 1.2 m above the floors of the selected storey and 1m away from the facades of openable windows.

3.4.5 Review of Road Traffic Noise Impact for Proposed Development

3.4.5.1 A road traffic noise impact assessment has been prepared to estimate the traffic noise level at all representative NSRs.

3.4.6 The assessment results show that full compliance rate is achieved. Maximum predicted traffic noise level is 70 dB(A), which complies with the 70 dB(A) noise criterion as listed in HKPSG for residential units. Therefore, no adverse road traffic noise impact is anticipated at the proposed NSRs.

3.4.6.1 The predicted road traffic noise result is summarised in **Appendix 3**.

# 4. WATER QUALITY ASSESSMENT

## 4.1 Introduction

4.1.1 This section presents the water quality impact assessment for the construction and operational phases of the Project. Potential impacts have been identified and their significance on the Water Sensitive Receivers (WSRs) evaluated. The location of these WSRs can be referred to **Figure 8**. Appropriate mitigation measures and good site practices are recommended, where necessary, to reduce the potential water quality impacts in order to control the residual impacts to acceptable levels.

## 4.2 Environmental Legislation, Standards and Guidelines on Construction Phase Water Quality Impact

4.2.1 Construction activities may induce potential water quality impact due to the discharge of the effluent generated from the construction site. Effluent discharges from construction site are subject to control under the Water Pollution Control Ordinance and the Technical Memorandum Standards for Effluents Discharged in Drainage and Sewerage Systems, Inland and Coastal Water issued by EPD. Information in the ProPECC PN2/24 Construction Site Drainage will also be considered to provide some basic environmental guidelines for handling and disposal of construction site discharges.

## 4.3 Construction Phase Water Quality Impacts

4.3.1 Site construction activities will inevitably have the potential to generate wastewater. As such works should be carried out in such a manner as to minimize potential impacts on the water quality. Pollution sources could include:

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

Construction Runoff and Drainage

4.3.2 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, concrete washout and drainage from dust suppression sprays, fuel, oil and lubricants from construction vehicles and other equipment.

4.3.3 Sufficient silt removal facilities should be installed to settle out sediment prior to discharge. Such facilities shall be properly designed in accordance with guidelines from the Civil Engineering and Development Department (CEDD) to achieve the desired mitigating effect. Typically, a detention time not less than 5 minutes for maximum design flow of inlet should achieve adequate sediment removal. Channels or earth berm or sand bag barriers should be provided on site to properly direct surface runoff to such silt removal facilities. Sediment traps, channels and manholes should be maintained and the deposited silt and grit should be removed on regular basis so that potential impacts on WSR can be minimized.

Sewage Effluent from Construction Site

4.3.4 Water pollution due to site facilities e.g. toilets could be source of pollution if appropriate measures are not implemented properly in respect of storage and discharge.

4.3.5 In this construction site, portable chemical toilets will be provided. Chemical toilets should be provided at a minimum rate of about 1 per 50 workers. The facility should be serviced and cleaned by a specialist contractor at regular intervals. Sewage generated from the construction workforce will be contained in chemical toilets and be tanked away. Therefore, no adverse water quality impact is anticipated on WSR.

Liquid Spillage

4.3.6 To prevent spillage of fuel oils or other polluting fluids at sources, it is recommended that all the stocks should be stored inside proper containers and sited on sealed areas, preferably surrounded by bunds.

4.3.7 "Recommended Pollution Control Clauses for Construction Contracts" (RPCC) also recommends appropriate wastewater control measures to be implemented at the construction site by the contractor. The RPCC is available on EPD website.

4.3.8 The quality of the discharge wastewater should meet the standards specified in the Technical Memorandum – Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters. The above proposed mitigation measures and control measures should be implemented and an environmental monitoring and audit should be carried out to ensure the effectiveness of the proposed mitigation measures and subsequently ensure the water quality of the nearby water sensitive receivers would not be adversely affected by the construction of the project.

## 4.4 Best Management Practices (BMPs) for Stormwater Discharge

4.4.1 The BMPs given in the ProPECC PN 2/24 shall be implemented in controlling water pollution during the whole construction phase to minimize the impact on WSR. The main practices provided in the above-mentioned document (i.e. ProPECC PN 2/24) are also summarized in the following paragraphs which should be implemented by the contractor during the construction phase, where practicable:

- High loading of suspended solids (SS) in construction site runoff will be prevented through proper site management by the contractor;

- The boundary of critical work areas will be surrounded by ditches or embankment. Accidental release of soil or refuse into the adjoining lands should be prevented by the provision of site hoarding or earth bunds, etc. at the site boundary. These facilities should be constructed in advance of the site formation works and roadworks;

- Consideration will be given to plan construction activities to allow the use of natural topography of the Project Site as a barrier to minimize uncontrolled non-point discharge of construction runoff;

- Temporary ditches, earth bunds should be provided to facilitate controlled discharge of runoff into storm drains via sand/ silt removal facilities such as sand traps and sedimentation basins. Oil and grease removal facilities should also be provided where appropriate, for example, in area near plant workshop/ maintenance areas;

- Sedimentation basins and sand traps designed in accordance with the requirements of ProPECC Note PN 2/24 should be installed at the construction site for collecting surface runoff;

- Sand and silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly by the contractor, and at the onset of and after each rainstorm to ensure that these facilities are functioning properly;

- Slope exposure should be minimized where practicable especially during the wet season. Exposed soil surfaces should be protected from rainfall through covering the temporarily exposed slope surfaces or stockpiles with tarpaulin or the like;

- Haul roads should be protected by crushed rock, gravel or other granular materials (i.e. hard paved) to minimize discharge of contaminated runoff;

- Slow down water run-off flowing across exposed soil surfaces;

- Plant workshop/ maintenance areas should be bonded and constructed on a hard standing. Sediment traps and oil interceptors should be provided at appropriate locations;

- Manholes (including newly constructed ones) should be adequately covered or temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system;

- Construction works should be programmed to operate in dry seasons and minimize soil excavation works where practicable during the rainy days;

- Chemical stores will be contained (bonded) to prevent any spills from contact with water bodies. All fuel tanks and/ or storage areas should be provided with locks and be sited on hard surface;

- Chemical waste arising from the Project Site should be properly stored, handled, treated and disposed of in compliance with the requirements stipulated under the Waste Disposal (Chemical Waste) (General) Regulation;

- Drainage facilities must be adequate for the controlled release of storm flows;

- Vehicle wheel washing facilities should be provided at the site exit such that mud, debris, etc. attached to the vehicle wheels or body can be washed off before the vehicle leaves the work site;

- Section of the road between the wheel washing bay and the public road will be paved to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains; and

- Bentonite slurries, if any to be generated, shall 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 meet the respective applicable effluent standards for discharges into sewers, storm drains or the receiving waters.

## 4.5 Potential Operation Phase Water Quality Impacts

4.5.1 According to the major operation phase activities in the Proposed Development, the key potential water quality impact is due to the surface runoff and treated effluent discharge from the Proposed Development.

4.5.2 The management and mitigation strategy of the potential water quality impact is addressed below, with appropriate environmental control measures recommended.

4.5.3 Best practices as stated in ProPECC PN 1/23 "Drainage Plans Subject to Comment by the Environmental Protection Department" shall be followed. It states out the handling,

treatment and disposal of various effluent discharges to stormwater drains and foul sewers during the operation phase. Some examples of the recommendations listed in the ProPECC PN 1/23 are as below.

- Drainage in covered carparks should be connected to foul sewers via petrol interceptors;
- Disposal of commercial and industrial wastewater by injection into the ground (e.g. by soakaway pits) is normally not allowed; and
- All wastewater collected from a restaurant kitchen, including that from basins, sinks and floor drains, should be discharged via a grease trap capable of providing at least 20 minutes retention during peak flow.

## 4.6 Surface Runoff Discharge/ Stormwater Discharge

4.6.1 During operation, the irrigation runoff and surface runoff during rainfall events, which is known as non-point source of pollution, may be the cause potential water quality impact. Fallen leaves, particles, litter from open areas, which is a source of organic and nutrient pollutants, can be washed into the drainage system during heavy rainfall if it is not properly controlled. Pollutants, contributed by non-point source are often bound or adsorbed onto particles, thus an effective stormwater management system will be required for the removal of pollution sources prior to rainstorm and the provision of degritting/screening facilities will be required for sediment collection. As the particles settle out, the associated pollutants will also settle out and removed from stormwater.

4.6.2 Under normal condition, runoff carrying pollutants will not be generated in low rainfall intensity, but increased runoff may occur during heavy rainfall condition. The first flush flow would carry most of the pollutants and the subsequent overland flow generated from rainstorms is expected to be uncontaminated. Thus, prevention of "first flush" pollution in stormwater runoff will be an effective way in controlling pollution at source and to abate pollutants.

4.6.3 Relevant assessment on the total peak flow of stormwater of the Proposed Development and the capacity of proposed drainage system are provided in a separate Drainage Proposal.

## 4.7 Sewage Effluent from Proposed Development

4.7.1 At present, there is no existing or planned public sewer for connections in the vicinity of the Application Site. Given that the development is small in scale. All sewage and wastewater generated from the proposed development would be treated by the proposed underground septic tank and treated effluent would be percolated to surrounding subsoil in the soakaway pit. This system is same as that adopted in the previous approved Holiday Camp application (A/TM/469) and all the requirement as stipulated in ProPECC PN 1/23 would be followed. It is expected that the operation of the proposed development would not cause operational phase water quality impact. Further sewerage treatment arrangement will be submitted to Environmental Protection Department for approval at the detailed design stage.

4.7.2 There will not be any greywater recycling activities planned due to hygienic considerations.

## 4.8 Implementation of Best Management Practices (BMPs)

4.8.1 Surface runoff can be controlled by good drainage design and implementation of BMPs. The Proposed Development shall adopt the following BMPs.

Runoff Control

4.8.2 Site drainage system of the development shall be reviewed regularly in such way that surface runoff shall be directed towards the internal access road. If necessary, additional paved U-channels with screening facilities shall also be provided along the edge of Proposed Development to avoid uncontrolled spillage of runoff.

Prevention of Pollution at Source

4.8.3 Regular cleaning and sweeping of road surface/ open areas is suggested so as to minimize exposure of pollutants to stormwater. The road surface/ open area cleaning should also be carried out prior to occurrence of rainstorm.

4.8.4 With the above measures, the amount of pollutants at source has been largely reduced/ avoided as far as possible so that the impact on WSR would not be adverse.

Devices for Removal of Pollutants

4.8.5 In addition to the above, screening facilities such as standard gully grating and trash grille, with spacing which is capable of screening off large substances such as fallen leaves and rubbish should be provided at the inlet of drainage system as well as at upstream location of the u-channels. It is expected that most of the large substances in stormwater runoff would be removed with such devices so as to prevent it from entering the drainage system. Road gullies with standard design should be incorporated during the detailed design to remove particles present in stormwater runoff.

4.8.6 In the event of emergency (e.g. car accident) where there is a major spillage of oil, chemical or fuel, dispersants or firefighting foam, etc., a system of contaminant bunding will be implemented as appropriate.

Management Measures

4.8.7 Good management measures such as regular cleaning and sweeping of road surface/ open areas is suggested. The road surface/ open area cleaning should also be carried out prior to occurrence of rainstorm.

4.8.8 Stormwater gullies and ditches provided among the Proposed Development will be regularly inspected and cleaned by the property management company.

4.8.9 With the removal of pollutants, the pollution levels from stormwater would be much reduced, and given the stochastic nature of non-point source pollution and the proposed management measures, there will be no significant impact expected on WSR.

4.8.10 With appropriate management measures in place, the risk of untreated sewage effluent discharge to North Western Control Zone due to emergency events is considered to be negligible.

# 5. WASTE MANGEMENT

## 5.1 Introduction

5.1.1 This section presents an assessment of the potential waste management issues in connection with construction and operation of the Project. The options for waste minimization, reuse, recycling, collection, transport and disposal of wastes arising from the construction and demolition work have been examined. Where appropriate, procedures for waste reduction and management are considered and environmental control measures for avoiding and minimising the potential impacts are recommended.

5.1.2 Recommended Pollution Control Clauses for Construction Contracts published by Environmental Protection Department would be implemented during the construction phase of the proposed development. Waste generated from the Proposed Development would be properly controlled and adverse waste management would not be anticipated.

## 5.2 Relevant Legislation, Standards & Guidelines

5.2.1 In carrying out the assessment, reference has been made to the following relevant Hong Kong legislation governing waste management and disposal. Directly relevant legislation include:

1. The Waste Disposal Ordinance (Cap. 354) and subsidiary legislation such as the Waste Disposal (Chemical Waste) (General) Regulation, and the Waste Disposal (Clinical Waste) (General) Regulation, set out requirements for the storage, handling and transportation of all types of wastes;
2. Land (Miscellaneous Provisions) Ordinance (Cap 28); and
3. Public Health and Municipal Services Ordinance (Cap 132) – Public Cleansing and Prevention of Nuisance Regulation – control of disposal of general refuse.

5.2.2 Other relevant documents and guidelines that are applicable to waste management and disposal include:

4. PNAP 243 ADV-19 - Construction and Demolition Waste;
5. Development Bureau Technical Circular (Works) No. 8/2010 - Enhanced Specification for Site Cleanliness and Tidiness;
6. ETWB TCW No. 22/2003A - Additional Measures to Improve Site Cleanliness and Control Mosquito Breeding on Construction Sites;
7. Development Bureau Technical Circular (Works) No. 6/2010 - Trip-ticket System for Disposal of Construction and Demolition Materials;
8. WBTC No. 19/2001 - Metallic Site Hoardings and Signboards;
9. Works Bureau Technical Circular No. 12/2000 - Fill Management;
10. Works Branch Technical Circular No. 2/93 - Public Dumps;
11. Works Branch Technical Circular No. 2/93B - Public Filling Facilities; and
12. Project Administration Handbook for Civil Engineering concerning Management of Construction and Demolition Materials Including Rock.

## 5.3 Identification and Evaluation of Potential Waste Impact during Construction Phase

5.3.1 The construction activities to be carried out for the proposed Project would generate a variety of wastes that can be divided into distinct categories based on their composition and ultimate method of disposal. The identified waste types include:

- Construction and Demolition (C&D) materials;
- Chemical waste; and
- General refuse.

C&D Materials

5.3.2 C&D materials comprise mainly of unwanted materials, including surplus materials arising from excavations that are generated from the works (e.g. site clearance, site formation works, excavation work for basement). Inert soft C&D materials comprise of soil, sand, clay, slurry, etc., while hard C&D materials comprise of crushed concrete, asphalt, rock, etc. The amount of non-inert C&D materials generated during site clearance would be minor (as there is little vegetation at the Subject Site). C&D materials may comprise different types of materials, including:

- Non-inert C&D materials (e.g. bamboo, paper, metal, glass, plastic, packaging wastes, etc.) decompose and are not suitable for land reclamation. Non-inert C&D materials should be reused or recycled as far as possible. For those non-inert C&D materials that cannot be reused or recycled should be disposed of at landfill as last resort;
- Inert C&D materials do not decompose (e.g. soil, rock debris, rubble earth, concrete, etc.) and is suitable to reuse as filling materials for land reclamation and site formation. Inert C&D materials could be reused on-site as filling materials. For those inert C&D materials that cannot be reused should be disposed at a Public Fill Reception Facilities.

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

5.3.4 Inert C&D materials should be re-used on-site (e.g for backfilling) if it is practical and/or disposed of at public filling area or other CEDD designated public fill reception facilities. Non-inert C&D materials (i.e. C&D waste) should be re-used or recycled. For those that cannot be reused or recycled, they should be disposed of at designated landfill sites as last resort.

5.3.5 The Contractor(s) should be responsible for ensuring that all on-site wastes will be collected by approved waste collectors and appropriate measures should be undertaken to minimise adverse impacts to the surrounding environment, such as dust generation. The Contractor(s) must also ensure that all necessary waste disposal permits have been obtained before actions.

5.3.6 Prior to disposal of non-inert C&D materials, it is recommended that wood, steel, glass and other metals will be collected separately for re-use and/or recycling and inert C&D materials utilized as fill materials to minimize the quantity of waste to be disposed of at the Public Fill Reception Facilities and landfill.

Chemical Waste

5.3.7 Construction plant and equipment will require regular maintenance and servicing, which would generate waste such as solvents, lubrication oil and fuel, etc. Chemical wastes arising during the construction phase may pose serious environmental, health and safety hazards if not stored and disposed of in an appropriate manner.

5.3.8 It is difficult to quantify the amount of chemical wastes as it will solely depend on the contractor's on-site maintenance practice and the quantities of plant and vehicles utilized at the construction site. Nevertheless, it is anticipated that the quantity of chemical waste such as lubrication oil and solvent produced from equipment maintenance would be less than hundred litres per month.

5.3.9 The contractor is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.

5.3.10 Storage, handling, transport and disposal of chemical waste should be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste published by the EPD. Chemical wastes such as wasted solvents, lubrication oil and fuel, etc. will need special handling and storage arrangements and should be collected by licensed collectors for subsequent disposal and appropriate treatment at licensed waste disposal facilities, for example the Chemical Waste Treatment Centre (CWTC) in Tsing Yi. Mitigation and control requirements for chemical waste are provided in the "Recommended Pollution Control Clauses for Construction Contracts" available in EPD website mentioned the handling, storage and disposal of chemical wastes. With good management and site particles, adverse environmental impacts should not result.

General Refuse

5.3.11 Throughout the construction stage, the workforce would generate general refuse comprising food scraps, waste paper, empty containers, etc. Release of general refuse into watercourses or marine waters should not be permitted as introduction of these wastes is likely to have detrimental effects on water quality in the area. Effective collection of site wastes would be required to prevent waste materials being blown around by wind, flushed or leached into the marine environment, and odour nuisance. The work sites may also attract pests and vermin if the waste storage area is not well maintained and cleaned regularly. Disposal of refuse at sites other than approved waste transfer or disposal facilities can also result in similar impacts. The number of work force to be employed for the Project is around 10. Based on the generation rate of 0.65kg/person/day, the estimated total refuse generated per day (maximum) would be about 6.5kg/day.

5.3.12 Recyclable materials (i.e. paper, plastic bottles and aluminium cans) will be collected separately for recycling, in order to reduce the amount of general refuse to be disposed into the landfill. Adequate number of enclosed waste containers will be provided to avoid over-spillage of waste. The non-recyclable refuse will be placed in bags and stored in enclosed containers, and disposed of on a daily basis to the designated landfill. Given that the quantity of general refuse to be disposed is 6.5kg per day, no adverse impact on the operation of these waste disposal facilities is anticipated. With the implementation of the recommended waste management practices at the site, adverse environmental impacts would not arise from the storage, handling and transportation of refuse.

5.3.13 Preliminary quantity estimation of construction waste involved and disposal method is summarised in the **Table 5.1** below.

**Table 5.1 Summary of Estimated Construction Waste and Disposal Method**

| Waste Material Type | | Estimated Quantity Generated | Disposal Method |
|---|---|---|---|
| Inert C&D Materials | Excavation | ~6500 $m^3$ | To be reused or recycled on site or in other projects; and delivered to Public Fill Reception Facilities for other beneficial reuse |
| | Construction of New Buildings/Structures | ~500 $m^3$ | |
| Non-inert C&D Materials | Excavation | ~500 $m^3$ | To be reused, recycled or disposed of at landfill as the last resort |
| | Construction of New Buildings/Structures | ~80 $m^3$ | |
| Chemical Waste | - | Less than hundred litres /month (preliminary estimate) | For treatment at licensed facilities |
| General Refuse | - | 6.5kg/day (preliminary estimate, assuming there are 10 workers at any one time with generation rate of 0.65kg per worker per day) | Disposal to landfill |

## 5.4 Waste Disposal and Mitigation Measures

5.4.1 Waste generated by construction activities should be properly sorted and certain waste management requirements must be followed to minimize the impacts arising because of the generation, storage, handling, transport and disposal of wastes. Good site management and control can reduce the generation of "mixed waste". For unavoidable wastes, reuse, recycling and optimal disposal are most practical when segregation occurs on the construction site, categorized as follows:

- Inert C&D materials for reuse on-site or delivering to Public Fill Reception Facilities for beneficial reuse at other projects;
- Non-inert C&D materials for reuse or recycle or disposal at landfill as last resort;
- Chemical waste for treatment at licensed facilities; and
- General refuse for disposal at landfill.

C&D Material

5.4.2 Proper storage and site practices should be adopted to minimize the damage to, or contamination of, C&D materials that may reduce their recyclability and suitability for disposal in public fill reception facilities. The inert C&D materials shall be reused in earth filling, reclamation or site formation works. The non-inert C&D materials shall be reused or recycled and, as the last resort, disposed of at landfills.

5.4.3 Appropriate measures should also be employed to minimize windblown litter and dust during transportation by either covering trucks with tarpaulin or transporting wastes in enclosed containers. Waste should only be disposed at licensed sites. Resident site staff and the contractors should develop procedures to ensure that illegal disposal of waste does not occur. In addition, waste storage areas within the Project should be well maintained and cleaned regularly to prevent cross-contamination. The disposal of inert C&D materials and non-inert C&D materials to public fill reception facilities/sorting

facilities respectively through a trip-ticket system, while general refuse will be disposed of at landfill.

Chemical Waste

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

General Refuse

5.4.5 For general refuse, mitigation measures should include provision of a collection area where waste can be sorted, stored and loaded prior to removal from the site during construction phase.

5.4.6 In additional, with the implementation of the recommended mitigation measures in the "Recommended Pollution Control Clauses for Construction Contracts" available in EPD website, the potential environmental impacts resulting from the storage, handling and transportation of inert C&D materials, non-inert C&D materials, chemical wastes and general site wastes would not be anticipated. Below are the examples of the relevant measures:-

Waste Minimisation

- The Contractor shall submit to the Architect/Engineer for approval a waste management plan with appropriate mitigation measures including the allocation of an area for waste segregation, as part of the Environmental Management Plan to the Architect/Engineer for approval in accordance with ADV-19 and shall ensure that the day-to-day site operations comply with the approved waste management plan.
- The Contractor shall minimise the generation of waste from his work. Avoidance and minimisation of waste generation can be achieved through changing or improving design and practices, careful planning and good site management.
- The Contractor shall ensure that different types of wastes are segregated on-site and stored in different containers, skips or stockpiles to facilitate reuse/recycling of waste and, as the last resort, disposal at different outlets as appropriate.
- The reuse and recycling of waste shall be practised as far as possible.
- The Contractor shall record the amount of wastes generated, recycled and disposed of (including the disposal sites).
- The Contractor shall use a trip ticket system for the disposal of C&D materials to any designated public filling facility and/or landfill.

Waste Nuisance Control

5.4.7 The Contractor shall not permit any sewage, waste water or effluent containing sand, cement, silt or any other suspended or dissolved material to flow from the Site onto any adjoining land or allow any waste matter (or refuse) which is not part of the final product from waste processing plants to be deposited anywhere within the Site (or onto any adjoining land). He shall arrange removal of such matter from the site (or any building erected or to be erected thereon) in a proper manner to the satisfaction of the Engineer in consultation with the Director of Environmental Protection.

Chemical Waste Control

- The Contractor shall observe and comply with the Waste Disposal (Chemical Waste) (General) Regulation.
- The Contractor shall apply for registration as chemical waste producer under the Waste Disposal (Chemical Waste) (General) Regulation when chemical waste is

produced. All chemical waste shall be properly stored, labelled, packaged and collected in accordance with the Regulation.

## 5.5 Identification and Evaluation of Potential Impact during Operational Phase

5.5.1 During operational phase of the proposed development, since the proposed use is residential only, disposal of chemical, livestock and clinical waste are not anticipated. Instead, general waste is anticipated to be the major type of waste generated during the operation of the proposed development.

5.5.2 Release of general refuse into watercourses or marine waters should not be permitted as introduction of these wastes is likely to have detrimental effects on water quality in the area. Effective collection of site wastes is suggested to prevent waste materials being blown around by wind, flushed or leached into the marine environment, and odour nuisance.

General Refuse

5.5.3 During operational phase of the Proposed Development, general refuse is anticipated to be the major type of waste generated by the occupants of Proposed Development. With reference to the latest data from "Monitoring of Solid Waste in Hong Kong 2023" by EPD, the per capita disposal rate of domestic waste is 0.89 kg/person/day (Plate 2.7 of Waste Statistics for 2023) and the recovery rate for domestic waste is 21% (Plate 3.2 of Waste Statistics for 2023). The Proposed Development consists of about around 3 residential population. By applying this figure to the projected population from the site after full occupation, the estimated daily waste generation will be around 3.38 kg/day (i.e. 0.89 / (1-21%) x 3), in which approximately 2.67 kg/day of waste (i.e. 0.89 x 3) would be disposed, and 0.71 kg/day of waste (i.e. 3.38-2.67) would be recovered.

5.5.4 For general waste such as metal, paper, plastic and glass, recycling bins for each type of wastes will be placed at prominent locations such as areas near main entrance to reduce waste disposal amount. Also, the waste collection frequency is recommended to be at least once a day to reduce chances of hygiene issue.

5.5.5 For wastes such as leftover, an adequate number of enclosed waste containers will be provided to avoid over-spillage of waste. Also, leftover will be placed in bags and stored in enclosed containers, and disposed of on a daily basis to the designated landfill. In addition, the project proponent is recommended to deliver leftover generated to Organic Resources Recovery Centre (ORRC) or installation of food waste recycling machines for composting treatment, etc. Therefore, the chances of odour nuisance and hygiene issue are reduced.

5.5.6 As the generation rate of the general refuse at the proposed development is anticipated to be similar to those of the domestic use in Hong Kong, with the implementation of the above measures, the adverse impact from the waste disposal of the operational phase is not anticipated.

## 5.6 Environmental Monitoring & Audit Requirements

5.6.1 The foregoing assessment has concluded that proper handling, storage, collection, transportation and disposal of waste materials generated during construction of the Project will not give rise to adverse impacts to nearby sensitive receivers.

5.6.2 Whilst no specific environmental monitoring requirements are considered necessary, it is recommended that during the construction phase, site inspections and supervisions of waste management procedures and auditing of the effectiveness of implemented mitigation measures should be undertaken on a regular basis.

5.6.3 These tasks shall be scheduled in a Waste Management Plan ("WMP") to be prepared by the contractor and updated regularly. The WMP shall be submitted to the

Architect/Engineer for approval. A summary of the site audits shall be presented in the monthly EM&A reports.

## 5.7 Conclusion and Recommendation

5.7.1 The potential impacts of wastes arising from the construction and operation of the Proposed Development have been assessed. The construction activities will generate a variety of wastes including materials from site clearance, excavated materials, construction wastes, chemical and general refuse.

5.7.2 The generation rate of the general refuse at the proposed development is anticipated to be similar to those of the domestic use in Hong Kong, with the implementation of the above measures, the adverse impact from the waste disposal of the operational phase is not anticipated.

5.7.1 Recommended Pollution Control Clauses for Construction Contracts published by Environmental Protection Department would be implemented during the construction phase of the proposed development.

5.7.2 With the recommended waste management practices put in place, no unacceptable impacts associated with waste management during the construction and operation phase are envisaged.

# 6. LAND CONTAMINATION

## 6.1 Scope of Work

6.1.1 The aim of this study is to assess the potential land contamination impact under the Proposed Development due to the previous land uses and/ or the existing operations.

## 6.2 Assessment Criteria

6.2.1 The following guidelines published by EPD have been followed:

- Guidance Manual for Use of Risk-based Remediation Goals (RBRGs) for Contaminated Land Management (Guidance Manual), EPD, Revised in April 2023;
- Guidance Note for Contaminated Land Assessment and Remediation (Guidance Note), EPD, Revised in April 2023; and
- Practice Guide for Investigation and Remediation of Contaminated Land (Practice Guide), EPD, Revised in April 2023.

6.2.2 As the RBRGs and the Practice Guide are the latest guidelines promulgated for use in April 2023, the RBRGs criteria and the requirements stated in the Practice Guide will be adopted in this Land Contamination Review.

## 6.3 Review of Historical and Current Available Information

6.3.1 The Application Site is a natural terrain and currently zoned as "Recreation" under the approved Tuen Mun Outline Zoning Plan No. S/TM/41.

6.3.2 Historical aerial photos of the Application Site have been reviewed to identify if any possible land contamination related activities or uses have been carried out. **Table 6.1** shows the description of each aerial photos. Besides, the original version of each aerial photo is presented in **Appendix 4**.

**Table 6.1 Landuse Summary of Proposed Development**

| Period/ Year | Description |
|---|---|
| 1949 | The whole Application Site was a natural terrain. |
| 1961 | The land use of the whole Application Site remained unchanged. |
| 1980 | The land use of the whole Application Site remained unchanged. |
| 2001 | The land use of the whole Application Site remained unchanged. |
| 2021 | The land use of the whole Application Site remained unchanged. |
| 2024 | The land use of the whole Application Site remained unchanged. |

6.3.3 From the landuse summary and aerial photos, the Application Site has been a natural terrain since 1949 and no landuse change related to potential contamination works and activities is observed. Therefore, land contamination issue within the Application Site is not anticipated. Further site investigation is not required.

# 7. CONCLUSION

7.1.1 The key environmental issues associated with both operation and construction phase of the Application Site are qualitatively discusses in this report.

Air Quality

7.1.2 With sufficient buffer distance from the surrounding road network and Proposed New Access Road, and there would be no air sensitive uses within the buffer zones, the future occupants of the Proposed Development will not be subject to adverse vehicular emission impact.

7.1.3 There was no chimney identified within 200m from the site boundary of Application Site. As such, it is anticipated that Proposed Development would not be subject to adverse industrial emission impact.

7.1.4 All sewage and wastewater generated from the proposed development would be treated by the proposed underground septic tank and treated effluent would be percolated to surrounding subsoil in the soakaway pit. Further sewerage treatment arrangement will be submitted to Environmental Protection Department for approval at the detailed design stage. In view of that the development and effluent volume are small in scale(1 residential unit with flow rate of 0.7$m^3$ per day); with distance of ~31m between the proposed septic tank and proposed development; with distance of >100m between Subject Site and nearby ASRs; no exhaust on the proposed underground septic tank; the system is same as that adopted in the previous approved Holiday Camp application (A/TM/469) and all the requirement as stipulated in ProPECC PN 1/23 would be followed, it is anticipated that the proposed underground septic tank would not cause any adverse odour impact to the proposed development and nearby ASRs.

Noise

7.1.5 There was no industrial noise source identified within 300m from the boundary of Proposed Development. As such, it is anticipated that the Proposed Development would not be subject to adverse industrial noise impact.

7.1.6 According to the desktop studies and onsite surveys conducted in June 2025, light rail transit as a potential noise source is identified with distance of ~200m, located to the southeast of the Application Site. However, the direct line of sight between proposed development and identified light rail (e.g. Butterfly Station) is blocked by natural terrain (Approximate 40mPD or higher). In view of the separation distance of 25m is met and existing topographic screening, it is anticipated that the Proposed Development would not be subject to adverse railway noise impact.

7.1.7 A road traffic noise impact assessment has been carried out for the Proposed Development and existing NSRs. According to the result of base scenario at Proposed Development, the predicted noise level of all selected NSRs would comply with the relevant Noise Control Ordinance standard. Therefore, no adverse road traffic noise impact is anticipated on the Proposed Development.

Water Quality

7.1.8 With proper implementation of the recommended mitigation measures, good construction site practices as recommended in relevant regulatory guidelines, adverse water quality impacts are not expected at the identified WSRs.

7.1.9 An underground septic tank is proposed to handle the sewage generation by the Proposed Development during the operation phase. With appropriate management measures in place, it is anticipated that the Proposed Development would not pose significant impact on the water quality of identified WSRs.

Waste Management

7.1.10 With the recommended waste management practices put in place, no unacceptable impacts associated with waste management during the construction and operation phases are envisaged.

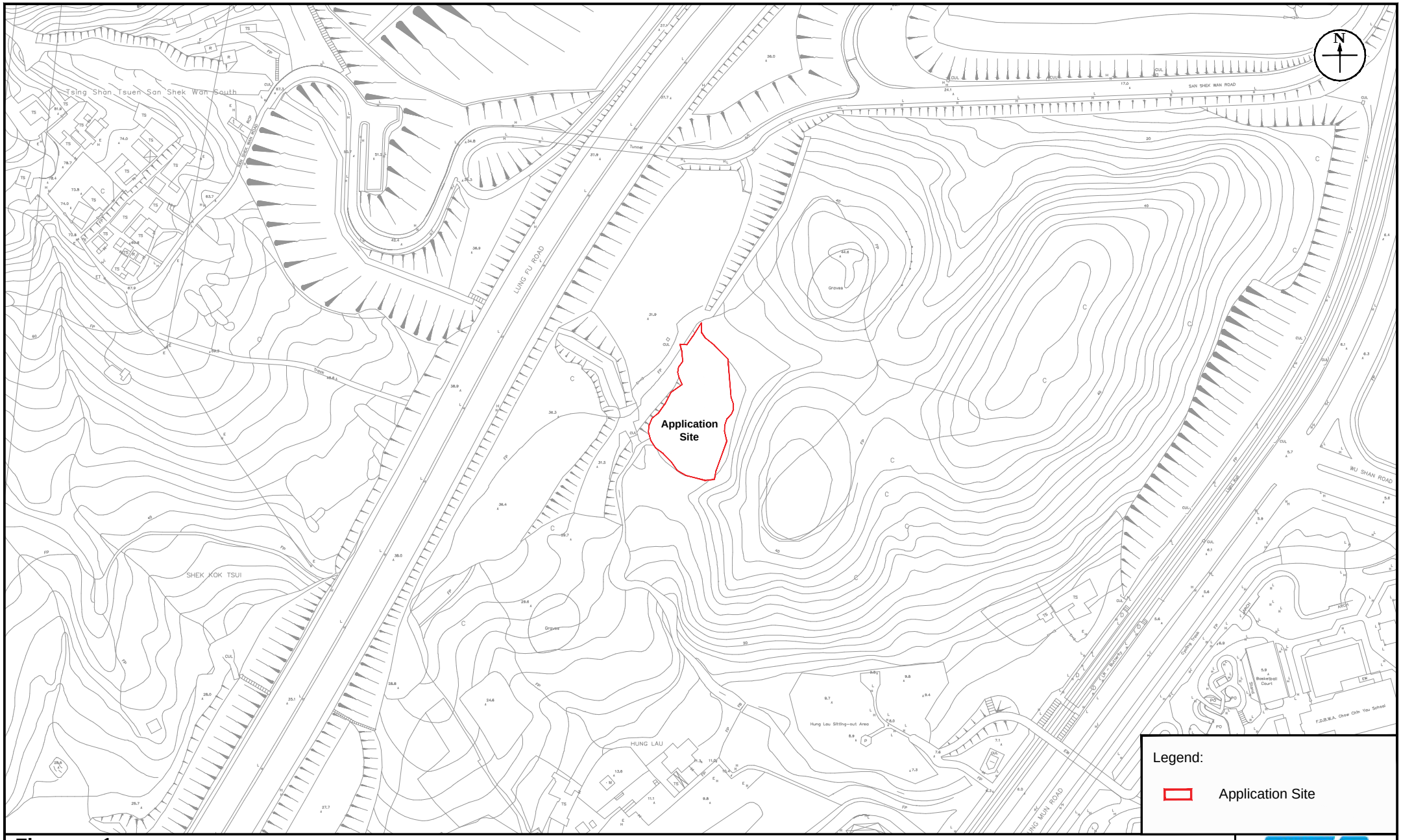
7.1.11 The generation rate of the general refuse at the proposed development is anticipated to be similar to those of the domestic use in Hong Kong, with the implementation of the above measures, the adverse impact from the waste disposal of the operational phase is not anticipated

Land Contamination

7.1.12 The Application Site has been a natural terrain since 1949 and no landuse change related to potential contamination works and activities is observed. Therefore, land contamination issue within the Application Site is not anticipated.

7.1.13 The environmental assessment study confirms the acceptability of Proposed Development from environmental point of view.

**Figures**




| | |
|---|---|
| **Figure:** 1 | RAMBOLL |
| **Title:** Location of the Application Site and its Environs | Drawn by: TL<br>Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.0<br>Date: Aug 2025 |

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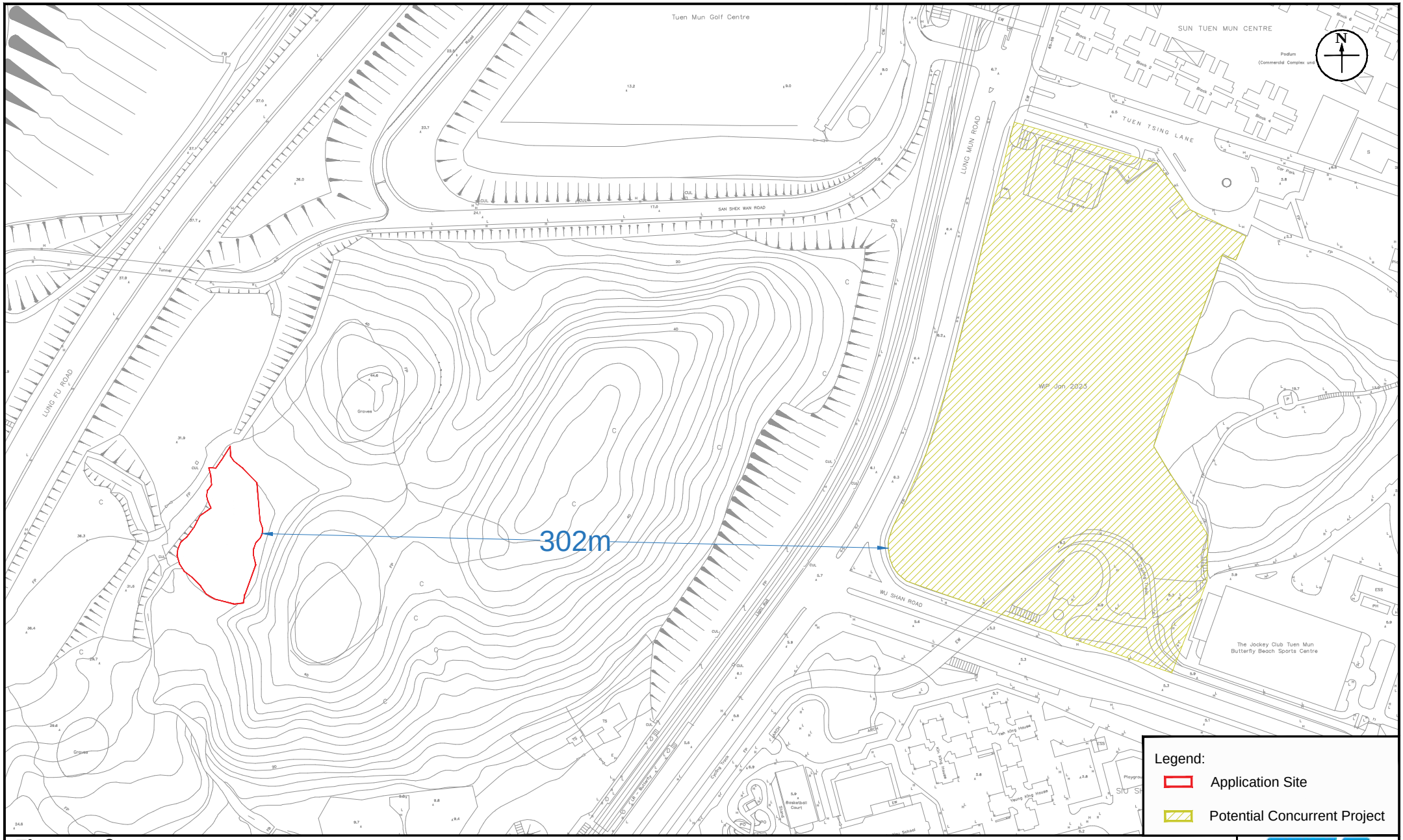


**Figure:** 2

**Title:** Location of the Potential Concurrent Project

**Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories

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| Rev.: | 2.0 |
| Date: | Aug 2025 |

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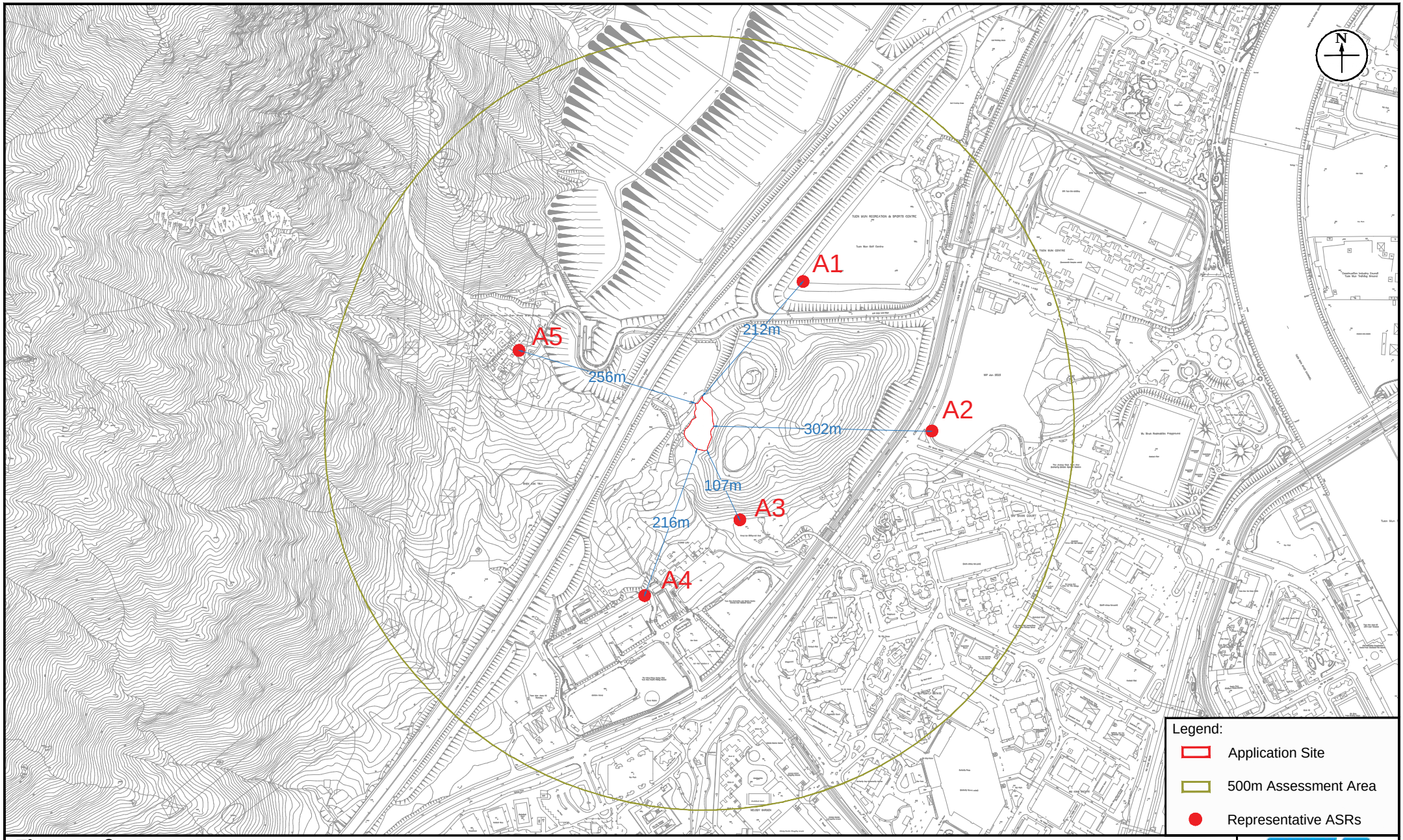


**Figure:** 3

**Title:** Location of the Representative Air Sensitive Receivers

**Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories

RAMBOLL

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| Drawn by: | TL |
| Checked by: | TC |
| Rev.: | 2.0 |
| Date: | Aug 2025 |

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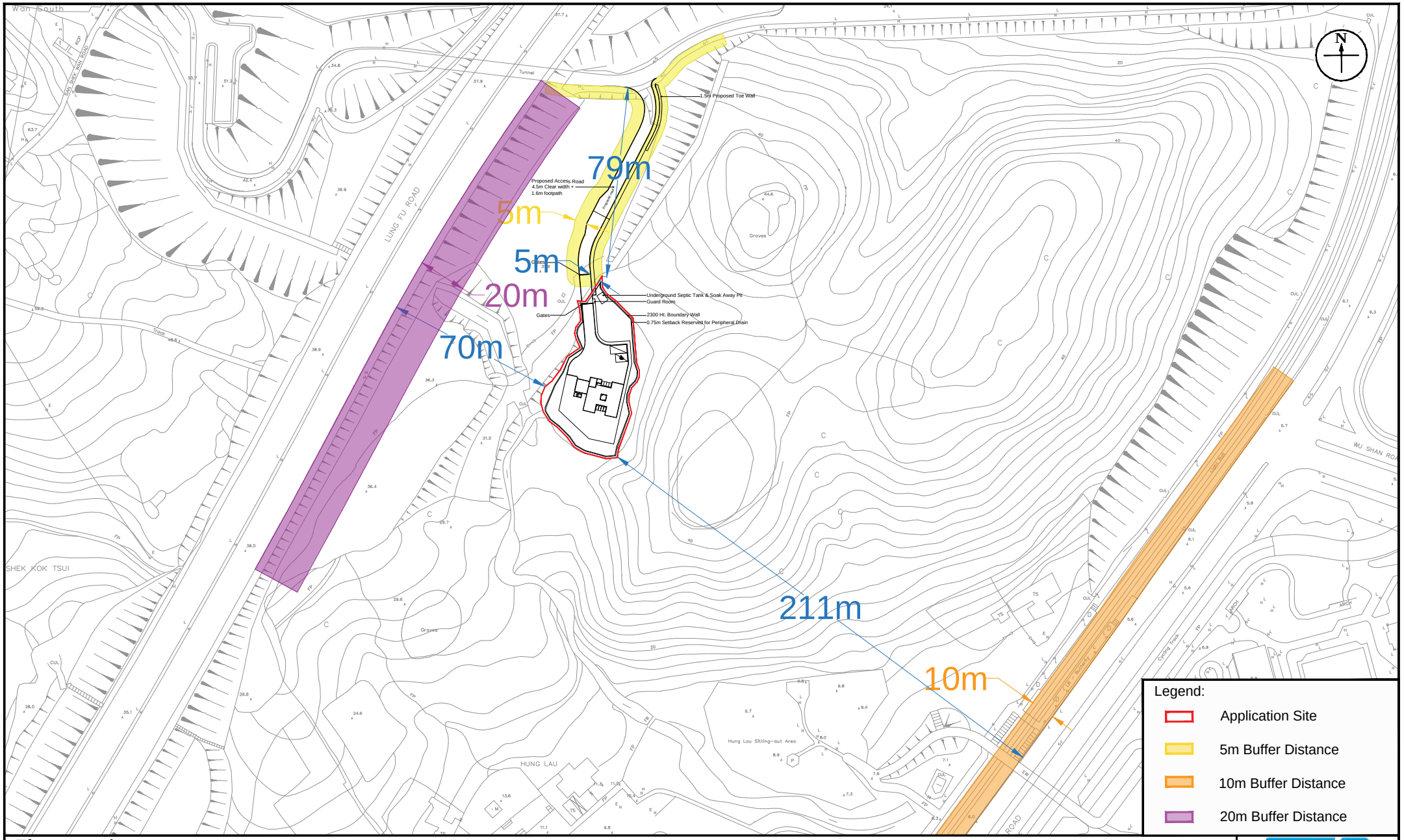


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| **Figure:** 4 | RAMBOLL |
| **Title:** Buffer Distance between the Proposed Development and the Kerb Side of the Nearest Carriageway | Drawn by: TL<br>Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.1<br>Date: Nov 2025 |

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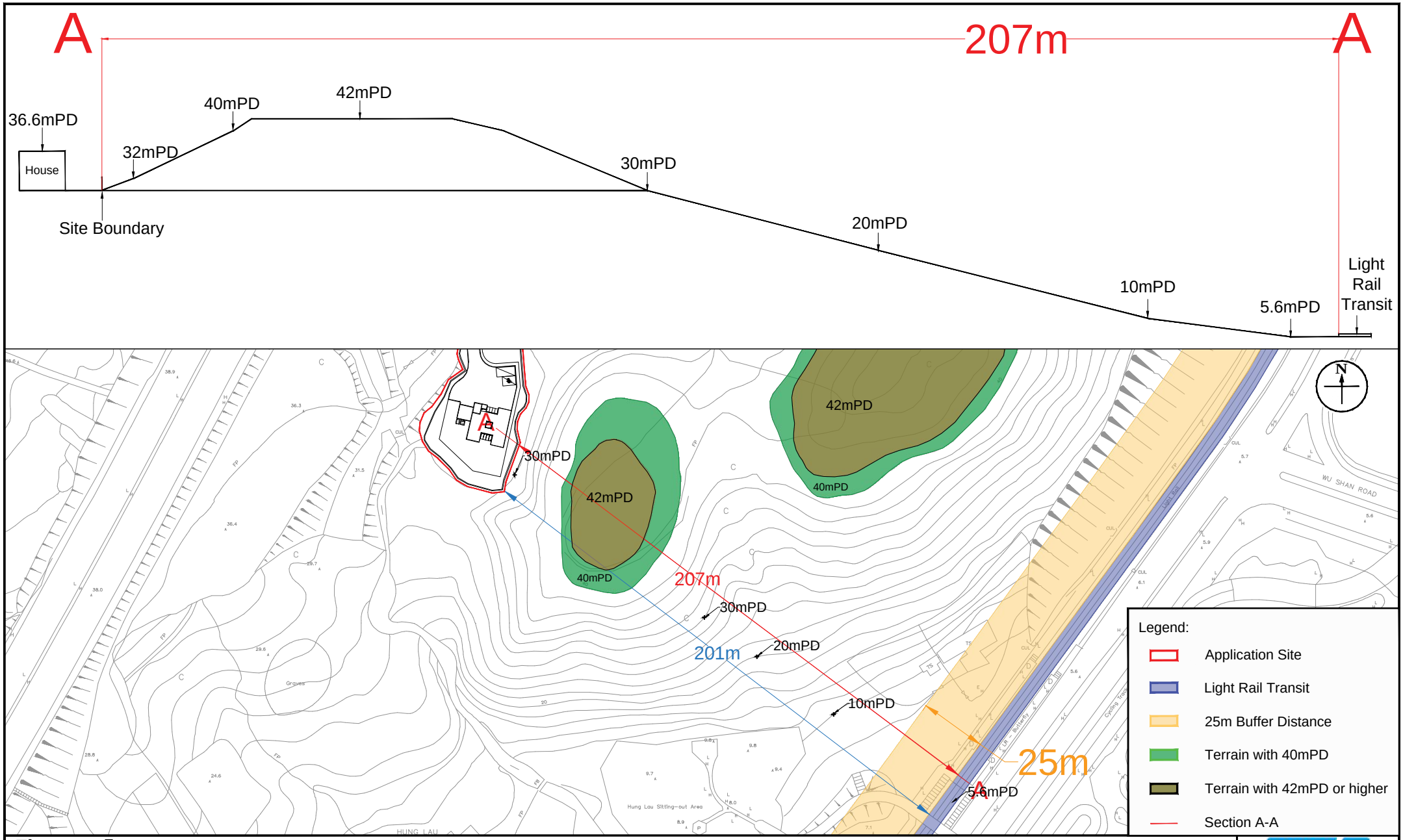


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| **Figure:** 5 | RAMBOLL |
| **Title:** Location of Light Rail Transit and Separation Distance from the Application Site | Drawn by: TL<br>Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.0<br>Date: Aug 2025 |

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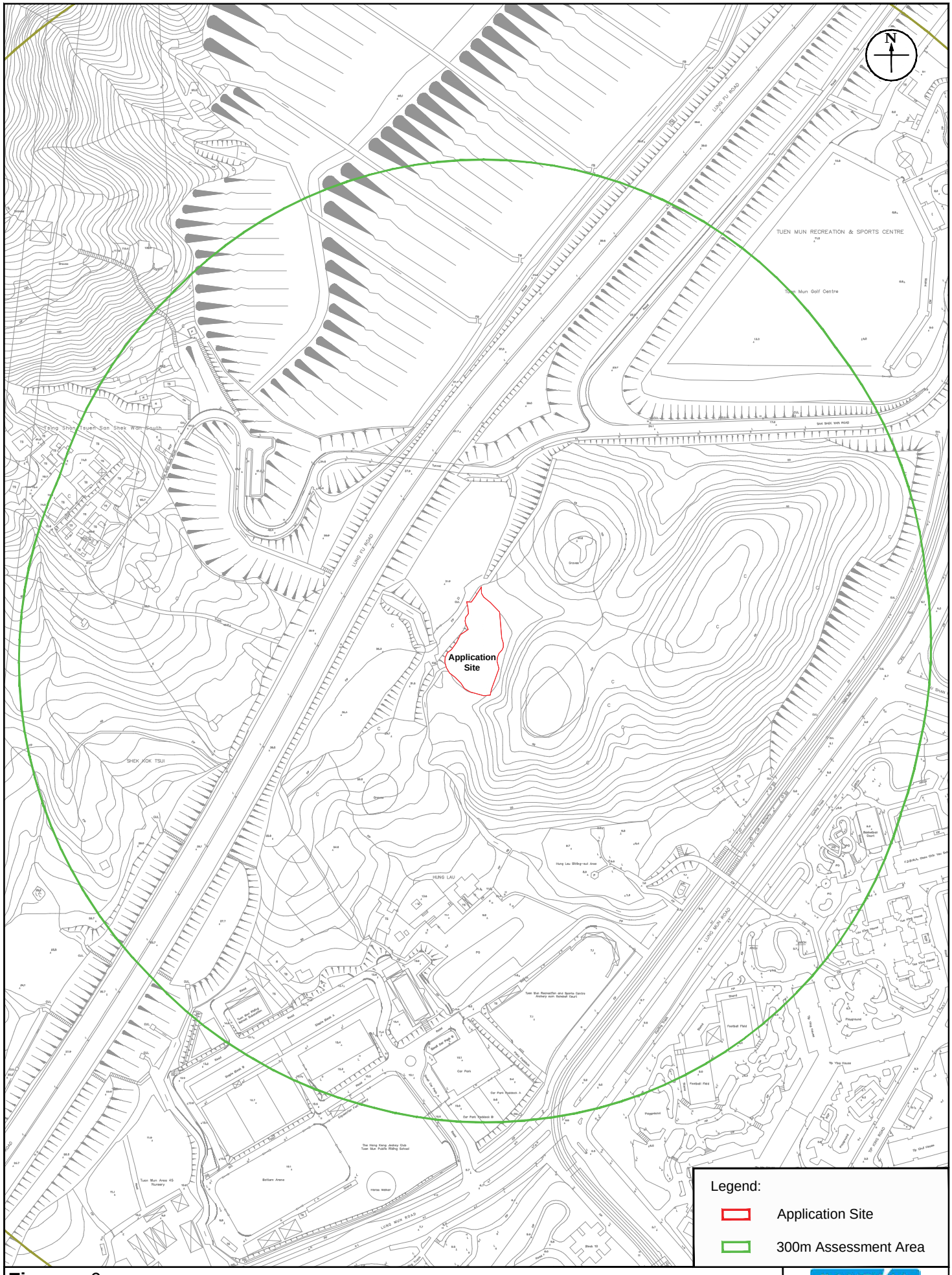


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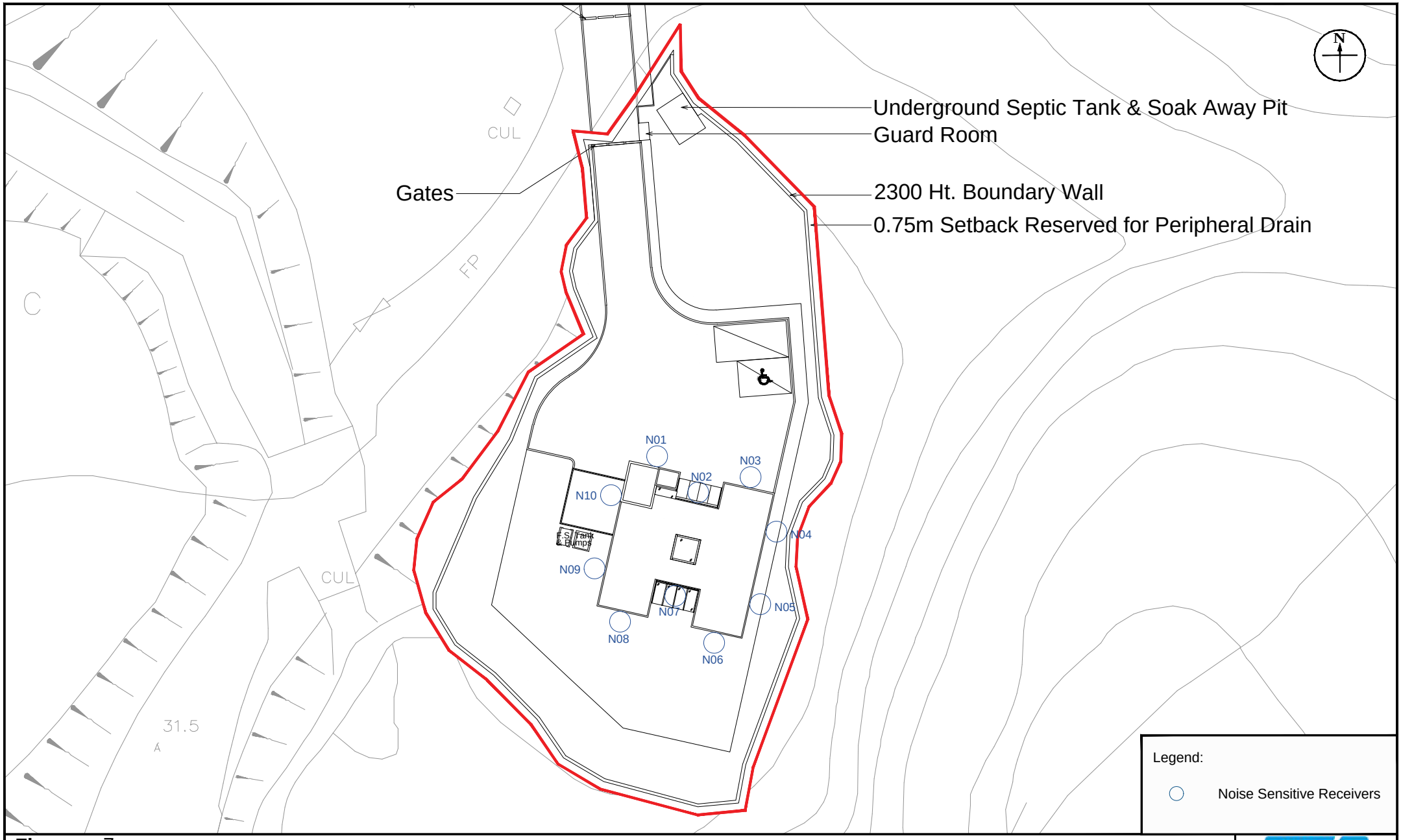
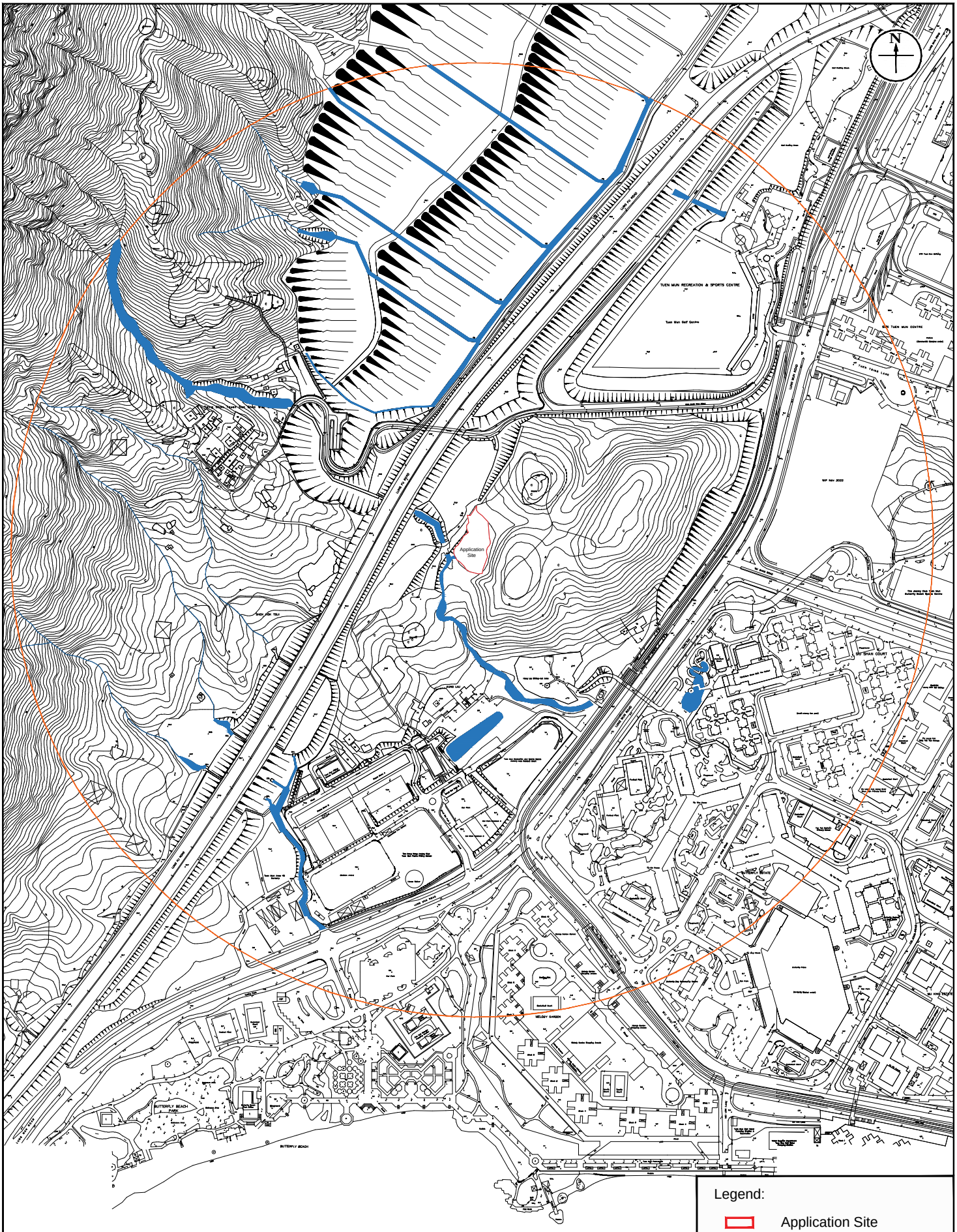
|---|---|
| **Figure:** 6 | RAMBOLL |
| **Title:** 300m Assessment Area from the Application Site | Drawn by: TL |
| | Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.0 |
| | Date: Aug 2025 |

Q:\Projects\RILTM550EI00\05 Assessments\02 Noise\02 Traffic\MLP 20250707\TM550_250707.dwg




| | |
|---|---|
| **Figure:** 7 | RAMBOLL |
| **Title:** Location of Proposed Noise Sensitive Receivers | Drawn by: TL<br>Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.0<br>Date: Aug 2025 |

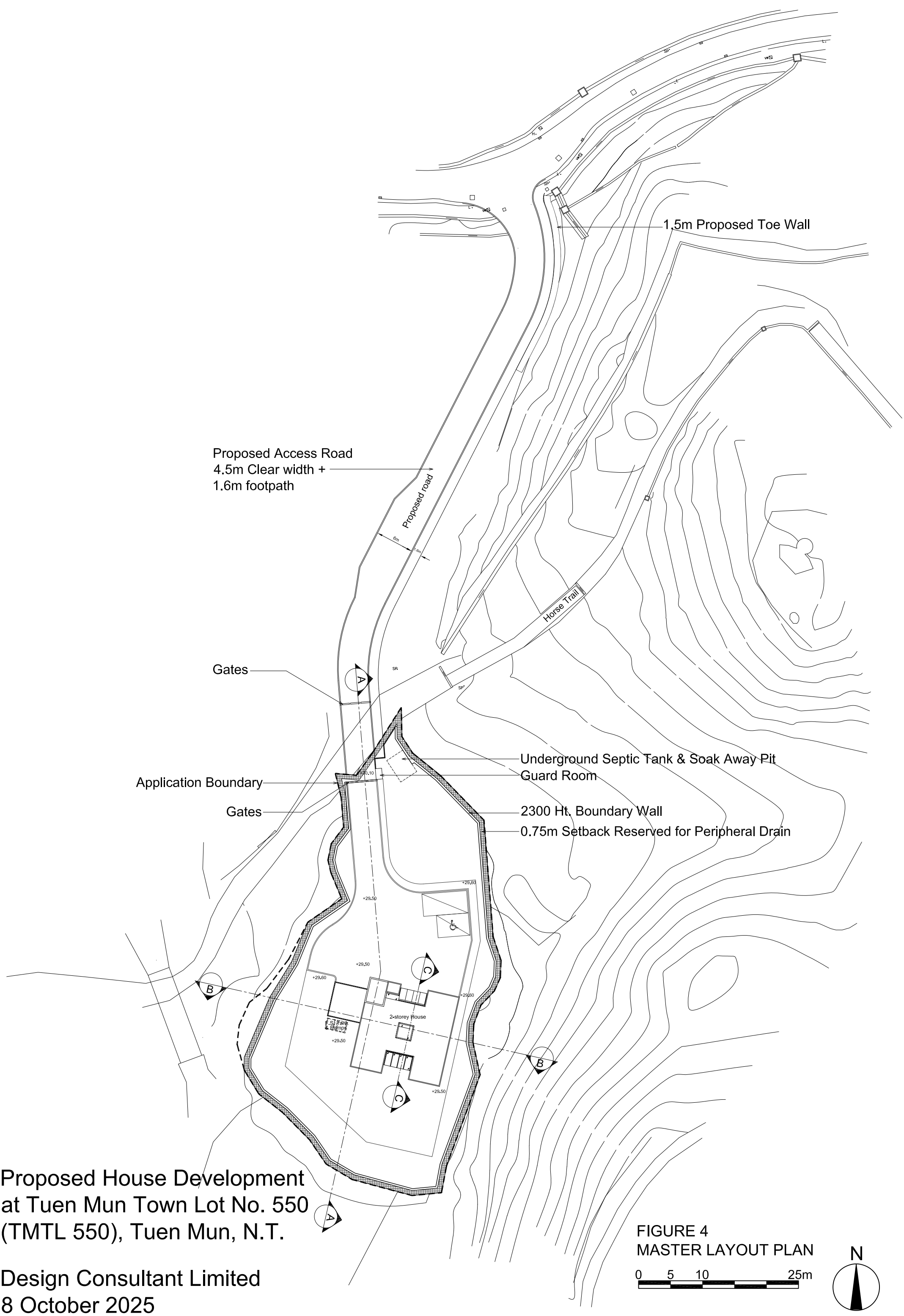
Q:\Projects\RILTM550EI00\05 Assessments\02 Noise\02 Traffic\MLP 20250707\TM550_250707.dwg

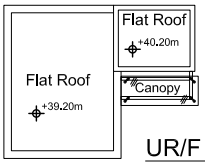



| | |
|---|---|
| **Figure:** 8 | RAMBOLL |
| **Title:** Locations of Representative Water Sensitive Receivers | Drawn by: TL |
| | Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.0 |
| | Date: Aug 2025 |

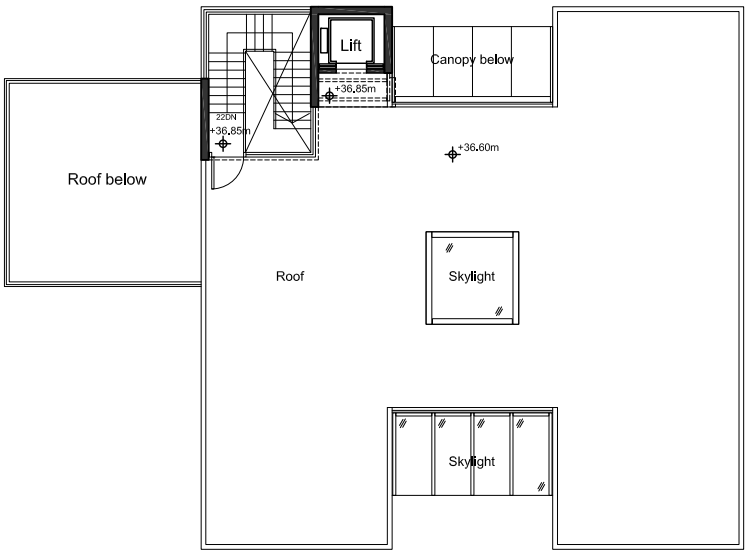
Q:\Projects\RILTM550EI00\05 Assessments\03 Water\WQIA.dwg

**Appendix 1 Master Layout Plan and Section**


1.5m Proposed Toe Wall
Proposed Access Road
4.5m Clear width +
1.6m footpath
Proposed road
6m
1.6m
Horse Trail
Gates
A
SR
SR*
Underground Septic Tank & Soak Away Pit
Guard Room
Application Boundary
Gates
2300 Ht. Boundary Wall
0.75m Setback Reserved for Peripheral Drain
+29.60
+29.50
+29.60
+29.50
+29.60
+29.50
C
B
2-storey House
F.S. Tank & Pumps
B
C
A
Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.
Design Consultant Limited
8 October 2025
FIGURE 4
MASTER LAYOUT PLAN
0 5 10 25m
N




UR/F Plan



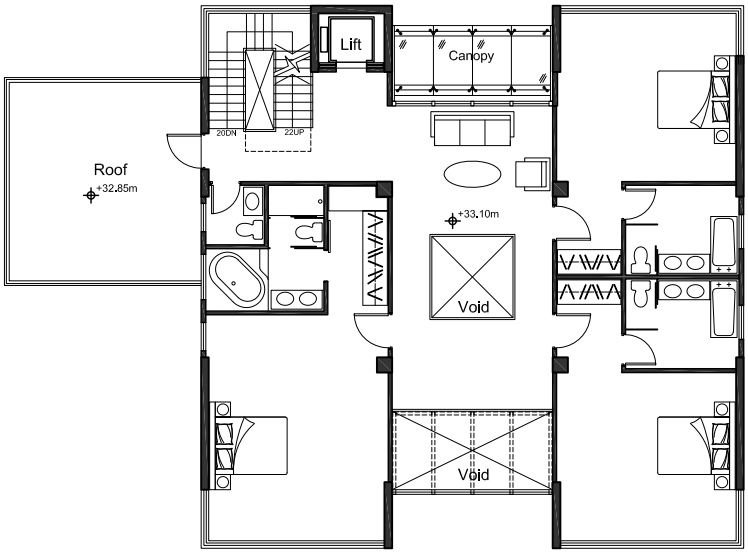

R/F Plan

## GFA & Plot Ratio Calculation

Total GFA
= G/F 189.135 + 0.949 (Guardroom)
[Exemption for F.S. Tank & Pumps Enclosure, Carport (28.60), and area covered by canopy (8.181) to be applied to BD and LD]
+ 1/F 180.316
[Exemption for 1/F Void near South Elevation (8.819) & R/F Stair Hood and Lift (17.723) to be applied to BD and LD]
= 370.400 m2

Site Area
= 1852 m2

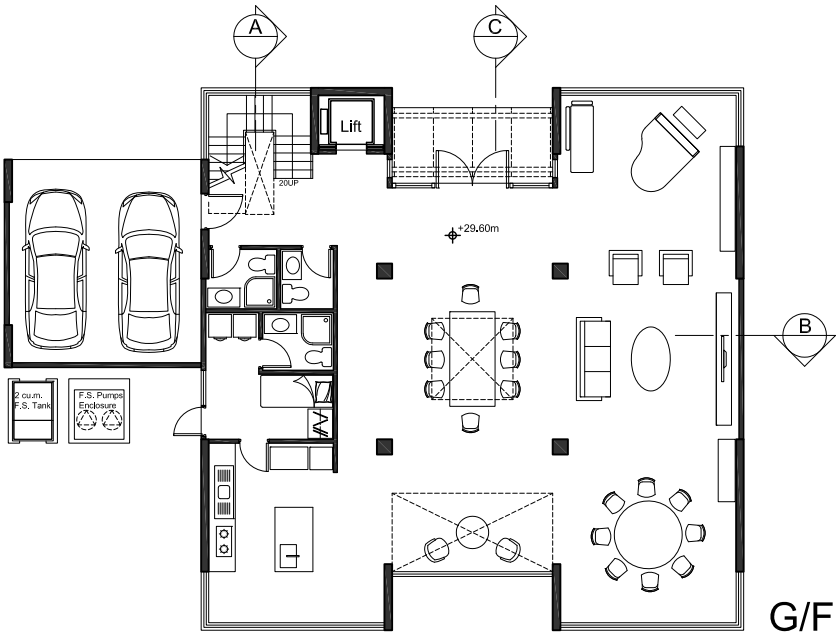
Plot Ratio
= 370.400 / 1852
= 0.2000




1/F Plan

## Site Coverage Calculation

Site Coverage
= (217.735 + 0.949)
[Exemption for area covered by canopy (8.181) to be applied]
/ 1852 x 100%
= 11.808% < 20%




G/F Plan

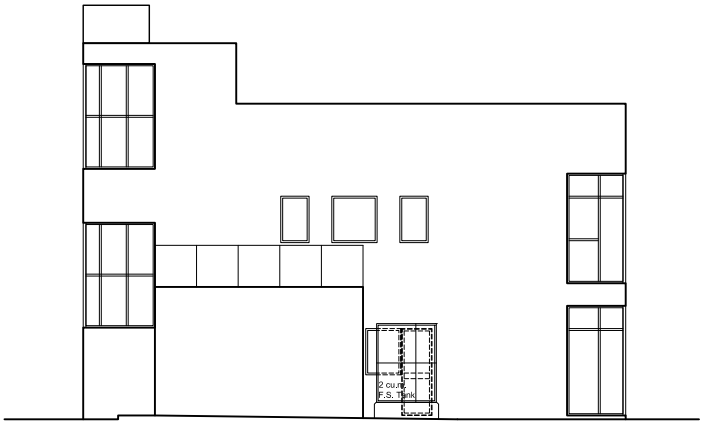
Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.

Design Consultant Limited
8 October 2025

FIGURE 5
FLOOR PLAN

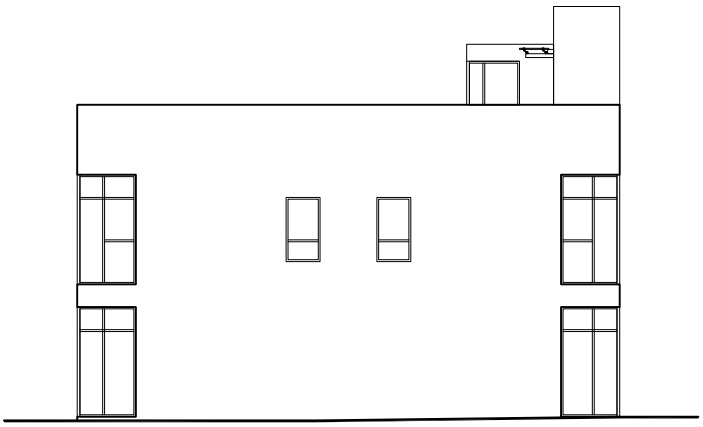
0 2 4 6 8 10m

N




West Elevation

South Elevation



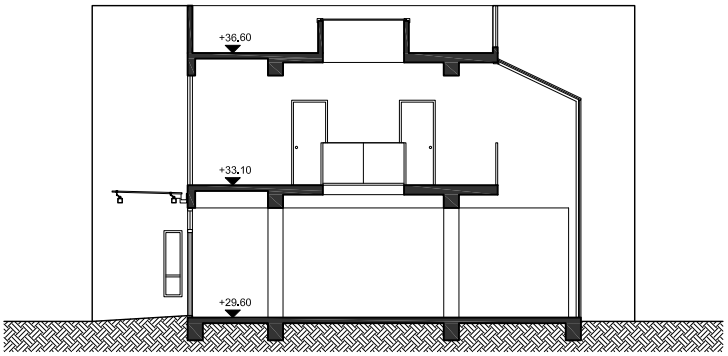
East Elevation

North Elevation

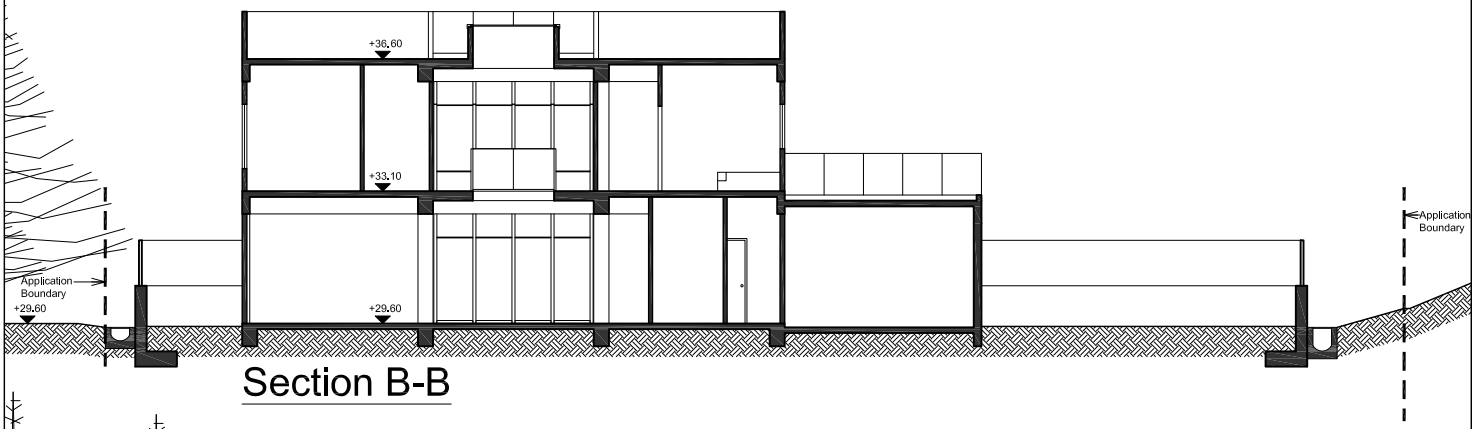
Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.

Design Consultant Limited
7 July 2025

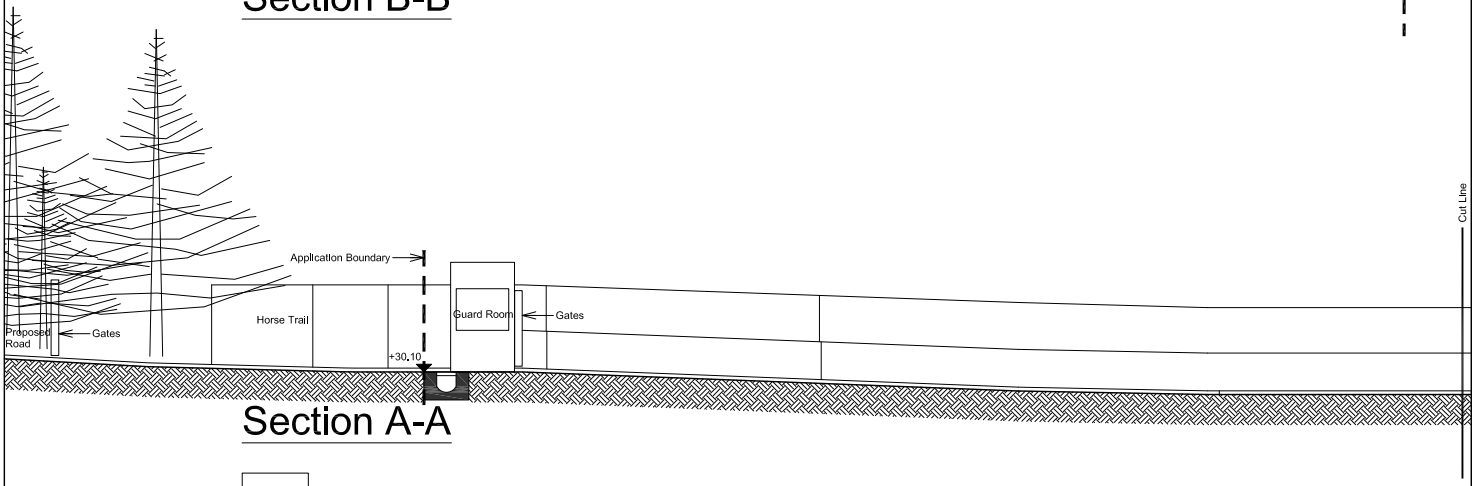
0 2 4 6 8 10m



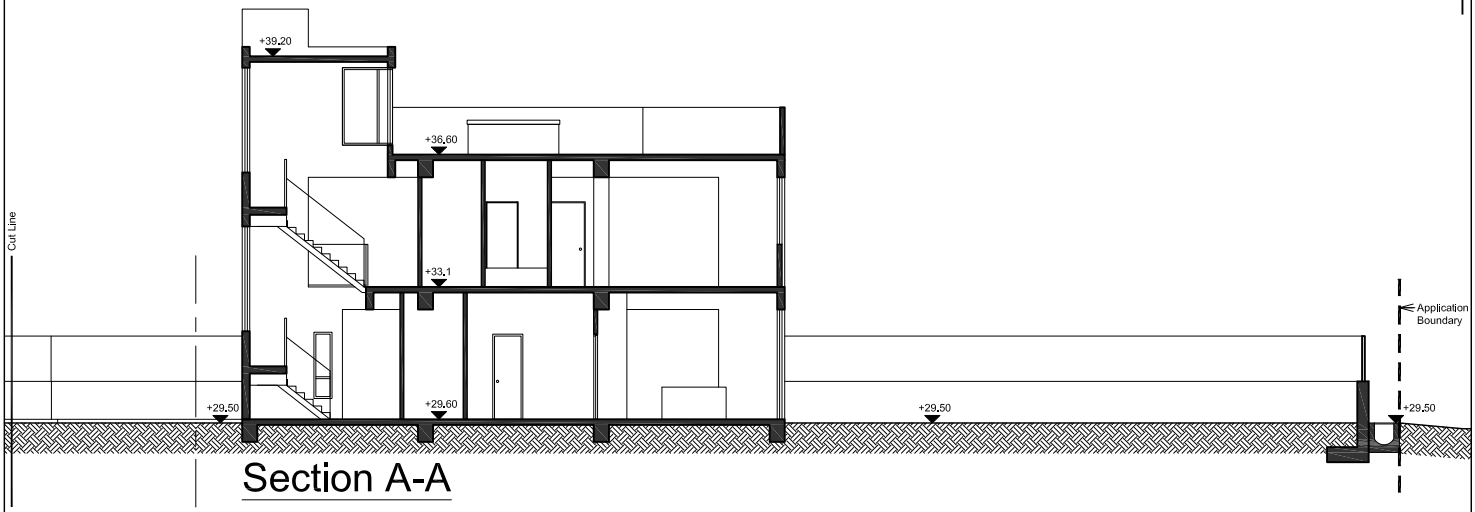

Section C-C




Section B-B




Section A-A



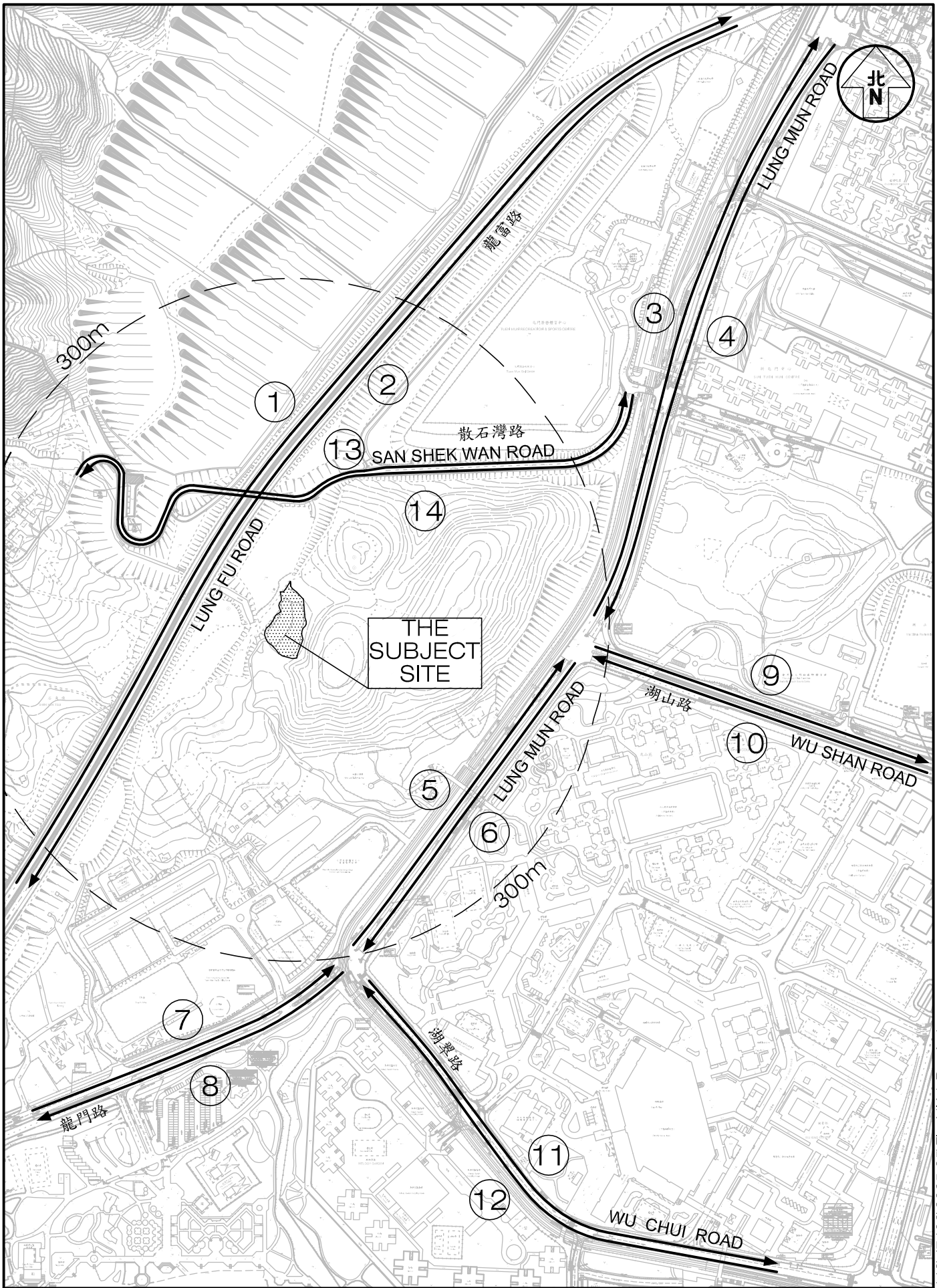

Section A-A

Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.

Design Consultant Limited
7 July 2025

0 2 4 6 8 10m

**Appendix 2 Traffic Forecast**




| | | | | | |
|---|---|---|---|---|---|
| Project Title: SECTION 16 PLANNING APPLICATION FOR HOUSE DEVELOPMENT AT T.M.T.L. 550, TUEN MUN, NEW TERRITORIES | Job No. J7406 | Figure No. NIA1 | | | Scale in A4 1 : 5000 |
| | Designed by L C H | Drawn by N C M | Checked by K C | Revision A | Date 15 AUG 2025 |
| Figure Title: LOCATION OF TRAFFIC DATA | CKM Asia Limited Traffic and Transportation Planning Consultants | | | | |

T:\JOBs\J7400-J7449\J7406\2025 05\Fig NIA1 RevA.dwg

**YEAR 2046 TRAFFIC FORECAST** **Date: 31 JULY 2025** **Job No.: J7406**

| No. | Road | From | To | 2046 AM Peak Hour Traffic Flows | | | |
|---|---|---|---|---|---|---|---|
| | | | | Veh/hr | Vehicle Type for Noise Assessment (%) | | |
| | | | | | PV | HV | Total |
| L001 | Lung Fu Road NB | Wong Chu Road | Lung Mun Road | 1100 | 66% | 34% | 100% |
| L002 | Lung Fu Road SB | Wong Chu Road | Lung Mun Road | 1250 | 63% | 37% | 100% |
| L003 | Lung Mun Road NB | Tuen Tsing Lane | Wu Shan Road | 1000 | 74% | 26% | 100% |
| L004 | Lung Mun Road SB | Tuen Tsing Lane | Wu Shan Road | 1050 | 64% | 36% | 100% |
| L005 | Lung Mun Road NB | Wu Shan Road | Wu Chui Road | 700 | 77% | 23% | 100% |
| L006 | Lung Mun Road SB | Wu Shan Road | Wu Chui Road | 1150 | 63% | 37% | 100% |
| L007 | Lung Mun Road NB | Wu Chui Road | Lung Fu Road | 450 | 83% | 17% | 100% |
| L008 | Lung Mun Road SB | Wu Chui Road | Lung Fu Road | 750 | 62% | 38% | 100% |
| L009 | Wu Shan Road EB | Lung Mun Road | Wu King Road | 400 | 78% | 22% | 100% |
| L010 | Wu Shan Road WB | Lung Mun Road | Wu King Road | 800 | 72% | 28% | 100% |
| L011 | Wu Chui Road EB | Lung Mun Road | Tip King Road | 400 | 66% | 34% | 100% |
| L012 | Wu Chui Road WB | Lung Mun Road | Tip King Road | 300 | 67% | 33% | 100% |
| L013 | San Shek Wan Road EB | San Shek Wan San Tsuen | Lung Mun Road | 50 | 86% | 14% | 100% |
| L014 | San Shek Wan Road WB | Lung Mun Road | San Shek Wan San Tsuen | 50 | 83% | 17% | 100% |

Note: "LV" includes motorcycle, private car and taxi
"HV" includes light / medium / heavy goods vehicle, public / private light bus, non-franchised bus and franchised bus

**YEAR 2046 TRAFFIC FORECAST** **Date: 31 JULY 2025** **Job No.: J7406**

| No. | Road | From | To | 2046 PM Peak Hour Traffic Flows | | | |
|---|---|---|---|---|---|---|---|
| | | | | Veh/hr | Vehicle Type for Noise Assessment (%) | | |
| | | | | | PV | HV | Total |
| L001 | Lung Fu Road NB | Wong Chu Road | Lung Mun Road | 1400 | 63% | 37% | 100% |
| L002 | Lung Fu Road SB | Wong Chu Road | Lung Mun Road | 1100 | 63% | 37% | 100% |
| L003 | Lung Mun Road NB | Tuen Tsing Lane | Wu Shan Road | 950 | 59% | 41% | 100% |
| L004 | Lung Mun Road SB | Tuen Tsing Lane | Wu Shan Road | 950 | 71% | 29% | 100% |
| L005 | Lung Mun Road NB | Wu Shan Road | Wu Chui Road | 1100 | 65% | 35% | 100% |
| L006 | Lung Mun Road SB | Wu Shan Road | Wu Chui Road | 800 | 69% | 31% | 100% |
| L007 | Lung Mun Road NB | Wu Chui Road | Lung Fu Road | 850 | 65% | 35% | 100% |
| L008 | Lung Mun Road SB | Wu Chui Road | Lung Fu Road | 250 | 65% | 35% | 100% |
| L009 | Wu Shan Road EB | Lung Mun Road | Wu King Road | 600 | 80% | 20% | 100% |
| L010 | Wu Shan Road WB | Lung Mun Road | Wu King Road | 350 | 69% | 31% | 100% |
| L011 | Wu Chui Road EB | Lung Mun Road | Tip King Road | 550 | 71% | 29% | 100% |
| L012 | Wu Chui Road WB | Lung Mun Road | Tip King Road | 250 | 63% | 37% | 100% |
| L013 | San Shek Wan Road EB | San Shek Wan San Tsuen | Lung Mun Road | 50 | 91% | 9% | 100% |
| L014 | San Shek Wan Road WB | Lung Mun Road | San Shek Wan San Tsuen | 50 | 80% | 20% | 100% |

Note: "LV" includes motorcycle, private car and taxi
"HV" includes light / medium / heavy goods vehicle, public / private light bus, non-franchised bus and franchised bus

**Appendix 3 Traffic Noise Impact Assessment Result for the Proposed NSRs**

**Proposed House Development at T.M.T.L. 550,Tuen Mun, New Territories**

**Predicted Road Traffic Noise Level at Proposed Representative Noise Sensitive Receivers**

**1. Base Case (AM)**

| Floor | mPD | House 1 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N01 | N02 | N03 | N04 | N05 | N06 | N07 | N08 | N09 | N10 |
| G/F | 29.60 | 66 | 63 | 65 | 59 | 57 | 62 | 53 | 63 | 66 | 66 |
| 1/F | 33.10 | 67 | 64 | 66 | 61 | 59 | 63 | 57 | 65 | 68 | 68 |
| Max. Noise Level | | 67 | 64 | 66 | 61 | 59 | 63 | 57 | 65 | 68 | 68 |
| No. of Exceedance | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| No. of Exceedance Unit | | 0 | | | | | | | | | |
| No. of Unit | | 1 | | | | | | | | | |

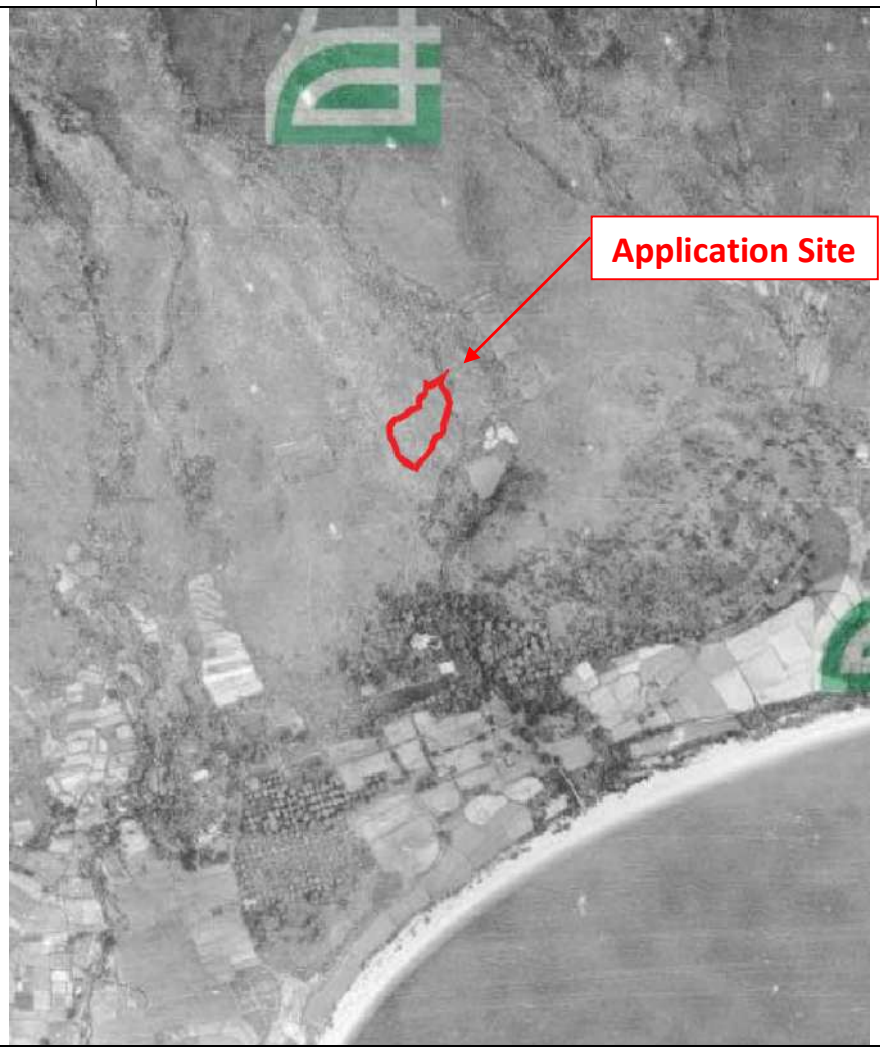
| | |
|---|---|
| Max. Noise Level | 68 |
| Compliance Rate | 100% |

Remarks:

Shaded cell denotes noise level exceeding the limit of 70 dB(A)

**Appendix 4 Aerial Photos for Land Contamination Assessment**

# Aerial Photos for Land Contamination Assessment

| Year | Aerial Photo |
|---|---|
| **1949**<br>Photo No.: 81A_125-5070 |  |

**1961**

Photo No.: F43_625-0147

**1980**

Photo No.: 30633

**2001**

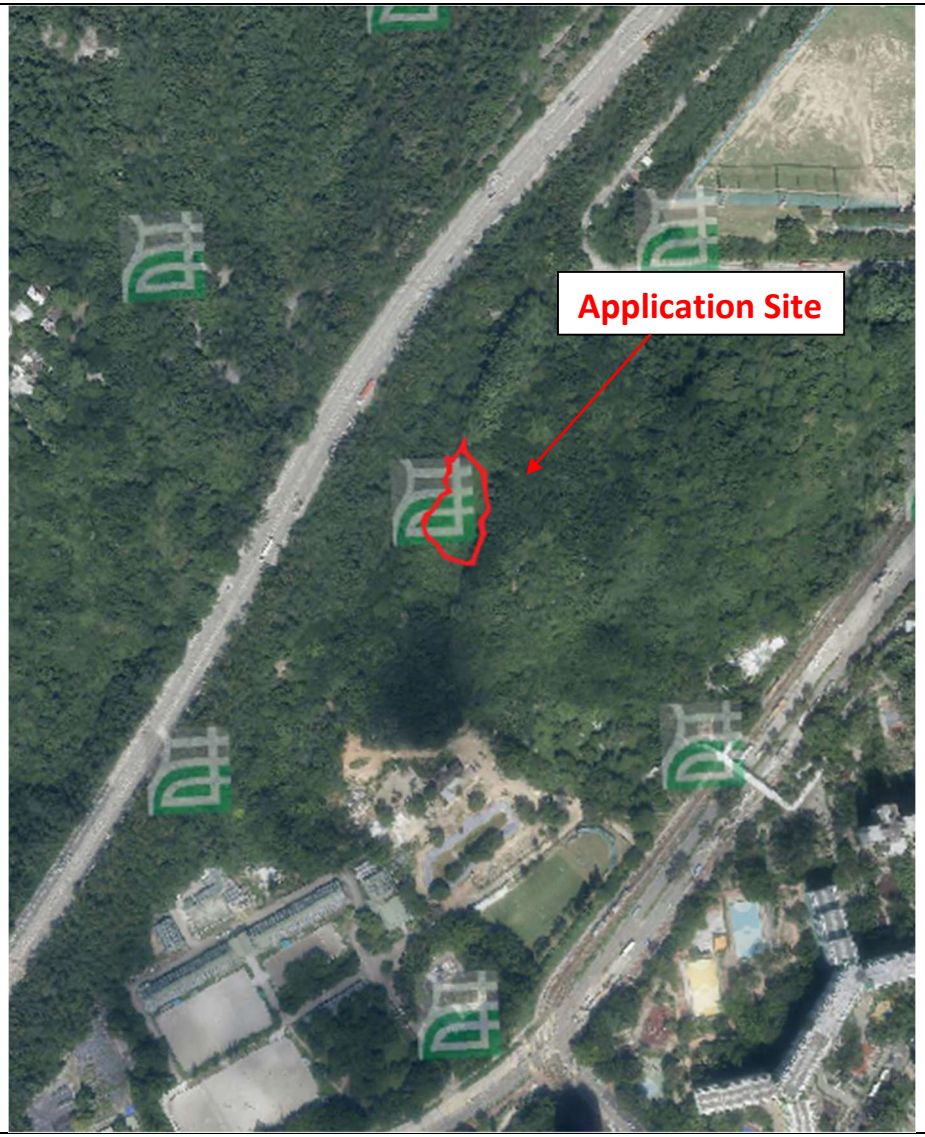
Photo No.: CW31699

**2021**

Photo No.: E129466C

**2024**

Photo No.: E228839C



# Annex C

Revised Figure 7 and Figure 14 of the
Geotechnical Planning Review Report

826800 N

826700 N

813900 E

NATURAL TERRAIN HAZARD
STUDY (NTHS) AREA

PROPOSED
DEVELOPMENT
OF THE SITE

PROPOSED
ACCESS ROAD

Proposed road

LEGEND :

DEVELOPMENT SITE BOUNDARY

NATURAL TERRAIN HAZARD
STUDY (NTHS) BOUNDARY

# PLAN

SCALE 1 : 500

Checked by :

Drawn by :

Compiled by :

FUGRO (HONG KONG) LIMITED

[redacted]

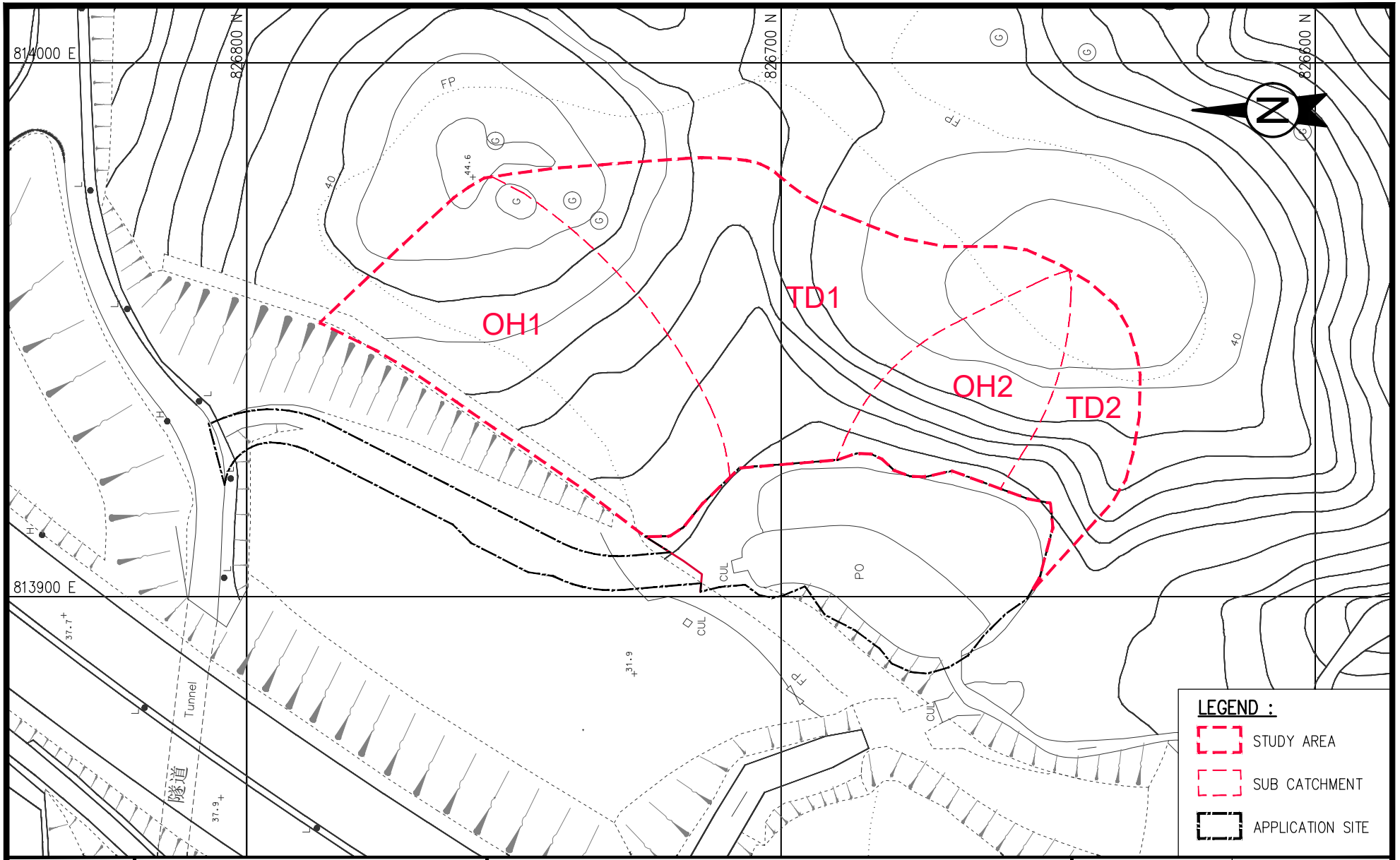
Project
PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. (TMTL 550), TUEN MUN, N.T. - SECTION 16 PLANNING APPLICATION

Drawing Title
SITE PLAN

| Job No. | Figure |
|---|---|
| 090691 | 7 |
| Scale | Date |
| 1:500 | JUL-2025 |

CAD Reference : X:\WORKING\090691\GENERAL\090691-FIG07&09_P11-G.DWG Date & Time : 09-10-25 (9:52:47AM) Plotted By : HK.COMMUSER3

Compiled by : Drawn by : Checked by :

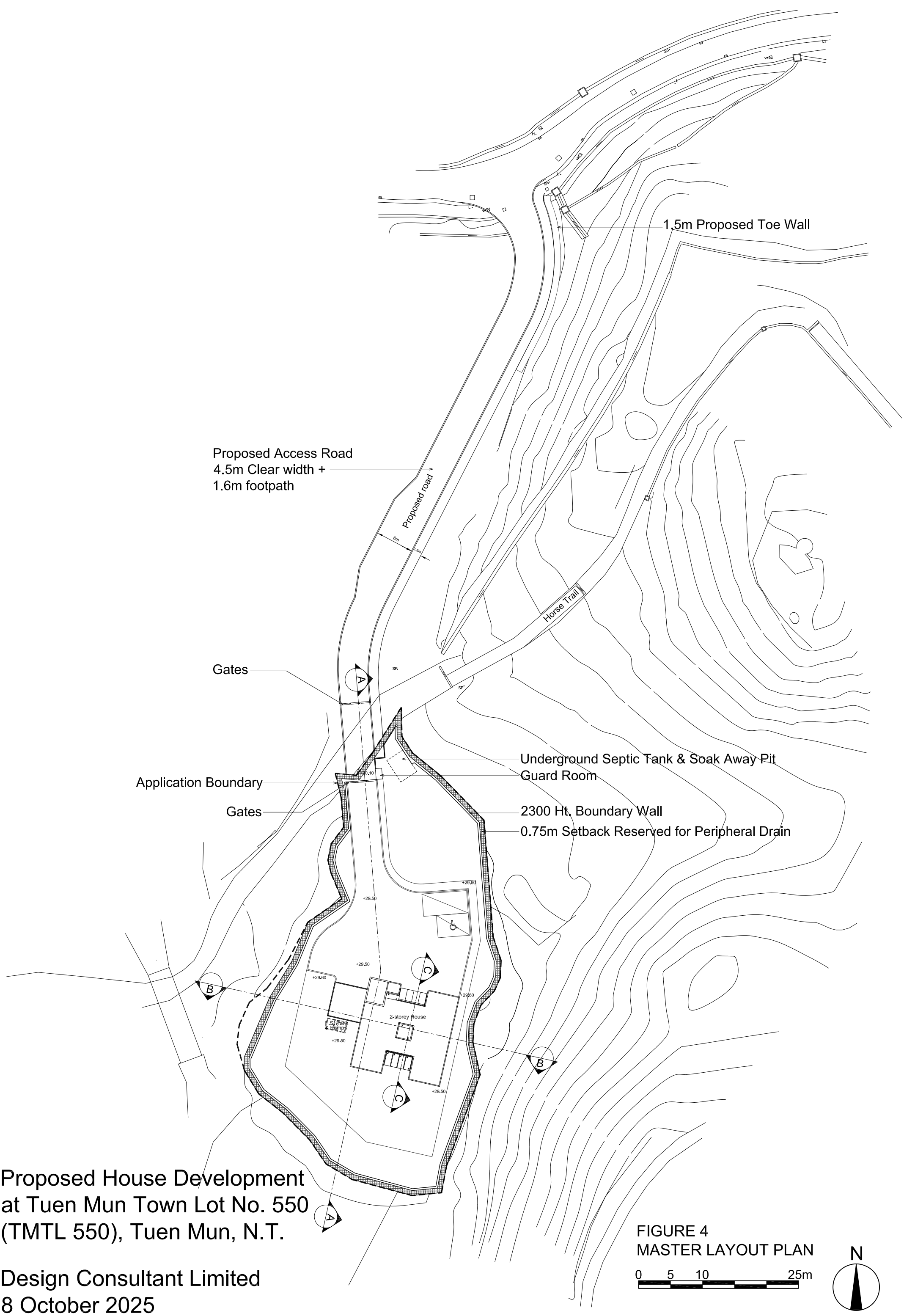


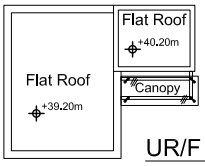

| | | | | |
|---|---|---|---|---|
| FUGRO | Project<br>PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO. (TMTL 550), TUEN MUN, N.T. - SECTION 16 PLANNING APPLICATION | Drawing Title<br>CATCHMENT CLASSIFICATION MAP | Job No.<br>090691<br>Scale<br>1:1000 | Figure No.<br>14<br>Date<br>JUL-2025 |

CAD Reference : X:\WORKING\090691\GENERAL\090691-FIG14_P03-G.DWG Date & Time : 09-10-25 (9:54:00AM) Plotted By : HK.COMMUSER3

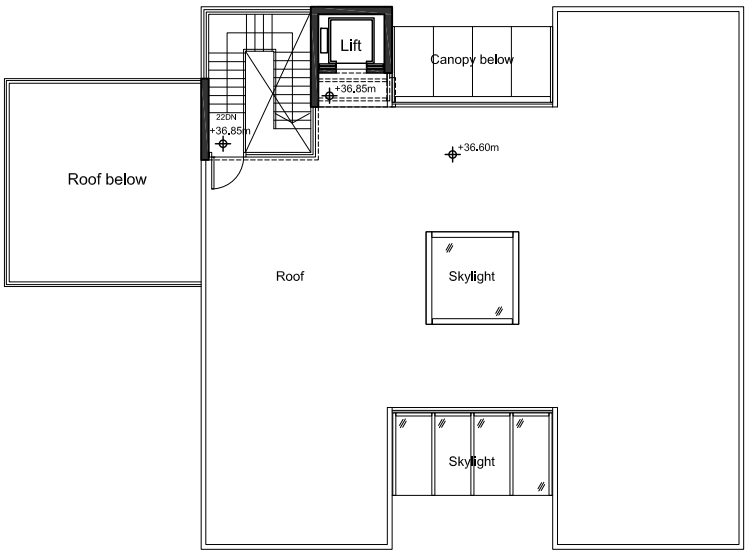
# Annex D

Revised Figures 4 and 5 and
Replacement Page (Page 6) of the Planning Statement


1.5m Proposed Toe Wall
Proposed Access Road
4.5m Clear width +
1.6m footpath
Proposed road
6m
1.6m
Horse Trail
Gates
A
SR
SR*
Underground Septic Tank & Soak Away Pit
Guard Room
Application Boundary
Gates
2300 Ht. Boundary Wall
0.75m Setback Reserved for Peripheral Drain
+29.60
+29.50
+29.60
+29.50
+29.60
+29.50
C
B
2-storey House
F.S. Tank & Pumps
B
C
A
Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.
Design Consultant Limited
8 October 2025
FIGURE 4
MASTER LAYOUT PLAN
0 5 10 25m
N




UR/F Plan



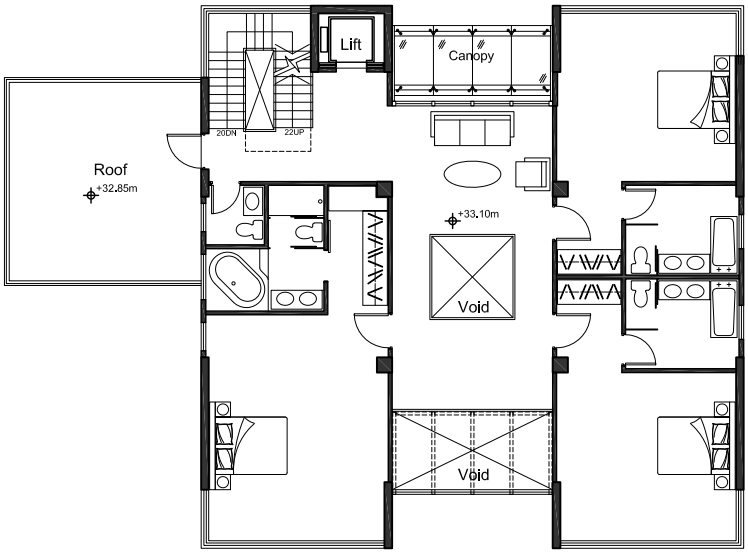

R/F Plan

## GFA & Plot Ratio Calculation

Total GFA
= G/F 189.135 + 0.949 (Guardroom)
[Exemption for F.S. Tank & Pumps Enclosure, Carport (28.60), and area covered by canopy (8.181) to be applied to BD and LD]
+ 1/F 180.316
[Exemption for 1/F Void near South Elevation (8.819) & R/F Stair Hood and Lift (17.723) to be applied to BD and LD]
= 370.400 m2

Site Area
= 1852 m2

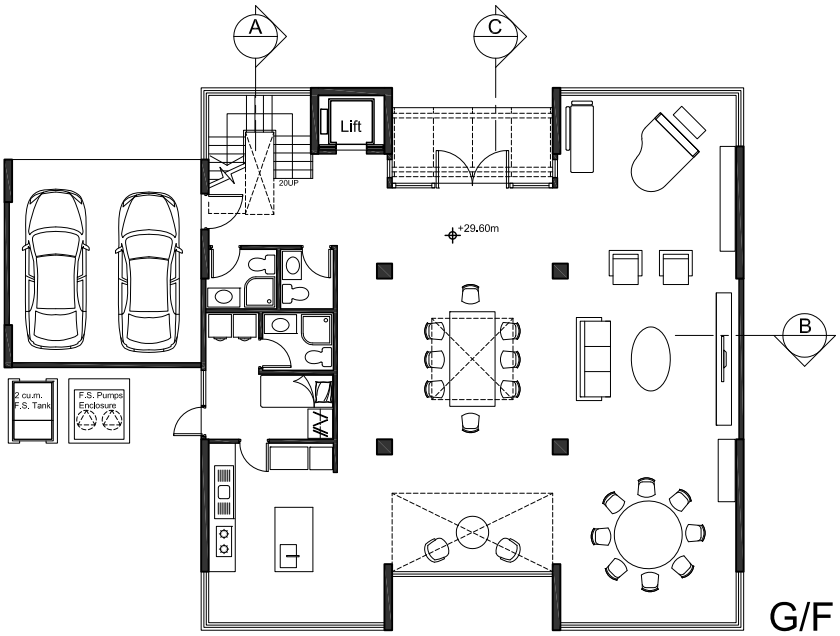
Plot Ratio
= 370.400 / 1852
= 0.2000




1/F Plan

## Site Coverage Calculation

Site Coverage
= (217.735 + 0.949)
[Exemption for area covered by canopy (8.181) to be applied]
/ 1852 x 100%
= 11.808% < 20%




G/F Plan

Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.

Design Consultant Limited
8 October 2025

FIGURE 5
FLOOR PLAN

0 2 4 6 8 10m

N

impact on horse riders and horses, electronic gates will be installed on both sides of the intersecting points so that the drivers must stop and check the traffic condition before entering the horsing trail. Besides, warning signs will also be erected for drivers and horse riders to alert them to pay attention at the road intersection point. Safety measures will also be adopted during the road widening / improvement works of the proposed access road. The Applicant is also committed to arrange ongoing communication and meetings with relevant parties/departments to address their concerns and implement respective measures to handle any further potential issues.

4.7 The car parking spaces provided for the proposed development will comply with the requirement under the HKPSG. The proposed house will provide two proposed parking spaces for private vehicles (2.5m x 5m) for residents / visitors located at the carport at the G/F of the proposed house. One disabled parking space (3.5m x 5m) and 1 loading/unloading space (3.5m x 7m) for light goods vehicle (LGV) will be provided to the north of the proposed house. A security guard will be present at the guard room to manage the traffic flow.

## 5. TECHNICAL ASSESSMENTS

### Tree Survey, Landscape and Tree Preservation Proposal

5.1 A Landscape Proposal and Tree Survey Report (see **Appendix 1**) is prepared by ADI Limited to assess the potential landscape impact on the Application Site and to provide landscape design of the proposed residential development.

Tree Survey

5.2 The Application Site has been vacant for years with no tree exactly located within the site. However, 5 existing trees, a weedy tree Leucaena leucocephala, a Macaranga tanarius and three Artocarpus heterohpyllus, are located on / very close to the site boundary and seriously leaning into the site, which would be affected by the roadworks or site formation works for the proposed development. Besides, the proposed access road from San Shek Wan Road to the Application Site would affect another 20 trees outside the Application Site. All of the affected trees are not registered old and valuable trees and with generally fair to poor health conditions. Having considered the species and condition of these affected trees, they are not suitable candidates for tree transplanting, therefore, felling of the above 23 trees is recommended.

5.3 The new tree planting proposal intends to create a good quality of green environment for future residents with proper and good quality planting establishment. A total of 17 new trees of heavy standard stocks would be planted with 1:1 replanting ratio (17 trees felled: 17 new trees planted), with exclusion of the removal of 6 nos. of weedy trees, Leucaena leucocephala.

Landscape Design Proposal

5.4 The landscape design concept for the proposed residential development provides a synthesis between the contemporary design philosophy and sustainable design principle responding to both site context and the proposed nature of the development, and respects the surrounding landscape features. The proposed scheme aims to provide a high-quality living environment for the future residents. The landscape area will be designed with contemporary design language and sustainable principles which will provide private relaxing and recreational space for the residents. A leisure lawn with benches and embraced with trees is set at the front court creating share and comfortable environment for relaxing as well as an intimate garden courtyard for the residents. Upon full establishment of greening measures in the landscape design proposal, the proposed greenery coverage within the development will not be less than 555.6 sq.m. (about 30% of the total site area of 1,852 sq.m.), which complies with the 30% OZP greenery requirement under the subject “REC” zone.

# Annex E

Revised Pages of Landscape Proposal with Tree Survey Report

# Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

## Landscape Proposal with Tree Survey Report

**(Revised pages)**

**November 2025**

Prepared By:

**ADI Limited**

# ADI

| | |
|---|---|
| **Project Title** | Proposed House Development at<br>Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. |
| **Report Title** | Landscape Proposal with Tree Survey Report |
| **Date of Issue** | 4th November 2025 |

| | **Name** | **Signature** | **Date** |
|---|---|---|---|
| **Compiled by** | Elsa Kwong | | 4th November 2025 |
| **Checked by** | Barry Lo | | 4th November 2025 |
| **Approved by** | Alison Lee | | 4th November 2025 |

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### Appendix

Appendix A Tree Survey Report

## 1.0 Introduction

1.1 This Landscape Proposal forms part of the planning statement in support the S16 planning application for proposed house development at Tuen Mun Town Lot No. 550 (TMTL550), Tuen Mun, New Territories. The Application Site (hereafter the site) locates in "Recreation" zone in the Approved Tuen Mun Outline Zoning Plan No. S/TM/41. The Landscape Plans **Figures 1.1 - 1.2** and Landscape Sections **Figures 2.1 and 2.2**, demonstrate the quality and the character of the future exterior environment of the development, its structure and its relationship to the existing landscape context of adjacent horse trail. **Figures 3.0 and 4.0** show the greenery coverage and open space framework of the development site. Typical landscape details are illustrated in **Figure 5.1**. The Tree Survey Report is presented in **Appendix A** in this Report.

## 2.0 Existing Site Condition

2.1 The site is situated approximate 2km to the southwest of Tuen Mun Town Centre. It is bounded by Lung Fu Road (elevated road, +38.9mPD) to the northwest and vegetated knolls to the southeast along Lung Mun Road in a wider context. On the other side of Lung Mun Road, the area is highly developed and dominated by high-rise residential developments including Sun Tuen Mun Centre, Siu Shan Court, Butterfly Estate and Melody Garden. In the local context, the site is surrounding by a vacant government land to the north and the west, another piece of small private land to the south, vegetated knolls to the east. Proposed development covers the TMTL550. The site has an approximate area of 1,852m$^2$, it is a flat vacant land which was utilised for agricultural purposes many years ago. A vacant well and an unused culvert are observed in the east and the north of the site.

2.2 There is an existing footpath connecting the site and San Shek Wan Road to the north of the site. There is a horse trail, operating by the Public Riding School running alongside the west and north outside of the site.

***Landscape Context & Resources***

2.3 The site is located at about +29 to 30mPD lower than the surrounding topography, knolls located to its east and south at varies height from +42 to 44mPD, with over 10m high mature tree plantation on top, which formed a natural green buffer to developments on the other side of Lung Mun Road. The plantation along the horse trail and Lung Fu Road forms another landscape buffer along the west and the north periphery of the site. Given to this setting, the site is relatively enclosed.

2.4 The site is currently vacant for years pending for development and mostly covered by soil and weeds.

2.5 Having considered the retention of exiting trees surrounding the site, the access road alignment, the boundary wall/ retaining wall treatment and drainage proposal of the proposed development have been carefully planned to minimise the effect on the existing trees in particular those on vegetated slope, given that the proposed scheme has been maximised the tree preservation opportunities.

2.6 Proposed house development and associated landscape proposal would enhance the local landscape quality though planting of new trees which would create a seamless transition from the house development to surrounding green context. Given the scale of development is very small, responsive site planning for tree preservation, the local landscape context and character will largely remain unchanged upon full establishment of the planting proposal. The proposed development will be compatible with the sub-urban landscape context.

***Existing Trees***

2.7 The site is vacant. Refers to the recent topographical survey update of existing tree location, there is no tree (base level) exactly located within the site. However, there are 5 nos. of existing trees, A136, A147, A149, A150 and A162 which located on/very close to the site boundary, and which have been contained in the previous and the recent tree survey. The main trunk of these existing trees and majority of their crown spread are seriously leaning into the site, which will be affected by the roadworks or site formation works for proposed boundary wall/ retaining wall and/or periphery drainage system which are required by the proposed development. Besides, another 20 trees (including Tree A136 and A147) are observed along the existing track connecting San Shek Wan Road and the site which will be affected by the proposed EVA/new access road to the site.

2.8 No registered Old and Valuable Trees (DEVB TC(W) No. 5/2020 Registration and Preservation of Old and Valuable Trees) and no protected specimen under Endangered Species of Animals and Plants Ordinance Cap. 586, the Rare and Precious Plants of Hong Kong (Status in China), and under China Plant Red Data Book exists on site or being affected.

2.9 Existing trees condition and their treatment as result of proposed development refer to **Appendix A Tree Survey Report.**

2.10 Having considered the tree species, which are weedy trees, poor condition of these affected trees, trees have unrecoverable defects, the affected trees are not suitable candidate for tree transplanting, and therefore tree felling is recommended. According to the tree survey findings, unrecoverable defects are frequently found in many existing trees. Defects include seriously leaning, epicormic sprouts, unbalanced crown/form, exposed and restricted rooting area that are unfavourable and not recommended to be retained. The proposal concludes that 17 trees are required of tree felling plus the removal of 6 weedy trees, *Leucaena leucocephala*. Trees of low amenity value and/or having defects will be replaced by a combination of high-quality broadleaf and ornamental trees in the proposed development.

2.11 The new tree planting proposal intends to create a good quality of green environment for future residents with proper and good quality planting establishment. A total of 17 new trees of heavy standard stocks would be planted with 1:1 replanting ratio (17 trees felled: 17 new trees planted) with excluding the removal of 6 no. of *Leucaena leucocephala*.

2.12 The selection of good quality species will enhance the visual amenity of the site, improves bio-diversity in the local landscape context and provides a high-quality living environment for the future residents. Tree planting opportunities have been maximised within the proposed development in balance with the provision of other facilities, utilities and traffic layout arrangement necessarily required for the residents. Implementation of planting proposal will create a high-quality living environment, and will establish the character and identity for the future development. With the full establishment of the planting proposal, the local landscape context and visual amenity would be enhanced.

## 3.0 Project Description

3.1 The site is proposed for a house development comprises of a 2-storey house, a guard room, an underground septic tank, car parking spaces and associated landscape areas. The development also involves an EVA/new access road connecting to San Shek Wan Road.

## 4.0 Landscape Design Proposal

4.1 The concept underpinning the landscape design of proposed development is to provide a synthesis between the contemporary design philosophy and sustainable development

principle responding to both site context and the proposed nature of the development and respects the surrounding landscape features.

4.2 Proposed scheme aims to provide a high-quality living environment for the future residents. The landscape area will be designed with contemporary design language and sustainable principles which will provide private relaxing and recreational space for the residents.

4.3 The landscape design proposal is described in terms of the main design objectives followed by a description of the key landscape components, and finally the landscape elements including the proposed hard and soft landscape, which form the palette of materials.

## 5.0 Landscape Design Objectives

5.1 The following design objectives are taken into account in the formulation of development scheme and landscape proposal:

- Integrate the proposed development from a landscape and visual perspective with the surrounding landscape context.
- Provide a quality and sustainable living environment for the future residents.
- Provide adequate open space for the future residents.
- Respond to the character of the architectural scheme and its suburban landscape context with an aesthetically appropriate treatment.
- Provide a landscape framework for the development for softening of the built form to the surrounding vegetated knolls;
- Maximise opportunities for the planting of new trees and shrubs within the development to enhance the amenity value of local landscape context; and
- Maximise opportunities for the greenery within the development.

## 6.0 Greenery Coverage

6.1 Upon full establishment of greening measures in the above landscape design proposal, greenery coverage within the development will not be less than 30% of the total site area of 1,852m$^2$ (not less than 555.6m$^2$), which is complied with the OZP greenery requirement for this “Recreation” zone. The greenery coverage is shown in **Figure 3.0** Greenery Coverage.

## 7.0 Open Space Proposals

7.1 Adequate open space will be provided in accordance with the requirements of HKPSG for the provision of local open space with the objective of providing high quality passive recreational space that will satisfy the needs of the residents. **Figure 4.0** shows the open space framework of proposed development which is designed for the enjoyment of the residents only i.e. for the single house family. It will be managed and maintained by the owner of the house. The proposed scheme is designed to meet the requirement providing minimum 1m$^2$ per person of local open space as required by the HKPSG i.e. not less than 3m$^2$.

## 8.0 Landscape Design Components

***Residential Landscape***

8.1 Planting with broadleaf native trees (*Bischofia javanica*) at the entrance of the site will integrate with the character of surrounding vegetated slopes, highlights the entrance threshold of the development and establishes the identity for the development. This tree planting proposal extends continuously at the site periphery to visually soften the

development edge and provides screening for the privacy of the proposed development.

8.2 A leisure lawn with benches is embraced by trees is set at the front court creating shade and comfortable environment for relaxing as well as an intimate garden courtyard for residents to appreciate different form and texture of greenery linking to the surrounding vegetated slopes. Planting of broadleaf trees/ flowering trees with fragrance, such as *Bischofia javanica* and *Osmanthus fragrans,* would provide shade and enrich the senses of the users. A paved courtyard is set at the back of the house provides flexible gathering space for the residents.

## 9.0 Landscape Design Elements

***Soft Landscape***

9.1 The landscape design has been maximised the opportunities for tree and shrub planting to enhance the character of the development and the local landscape context. The basis for the proposed planting scheme would provide a green and comfortable environment for the residents. Shade trees with dense canopy and flowering shrubs would be used to emphasise the character of landscaped areas described above. The use of well combination of evergreen, broadleaf and/or ornamental trees and/or flowering shrubs will also screen and visually soften the appearance of the development. Using native or locally adopted trees and shrubs to fill in planting areas would improve biodiversity and ecological health, creates a more harmonious aesthetic with the surrounding landscape.

9.2 Whilst the landscape design is subject to review during the detailed design stage of the project, the following description seeks to establish some guiding principles that are important for implementing the landscape as part of the overall scheme and in ensuring its feasibility. All proposed species are commonly found in Mainland China nurseries.

9.3 The plant species for the landscaped areas will be selected to provide colour throughout the year with seasonal variation. This will be achieved through the selection of species with an interesting form, colour and texture of their foliage and through the use of flowering species to provide an architectural highlight. Shade tolerant species will be considered in the planting area with less exposure of sunlight.

9.4 In order to achieve the landscape character at this initial stage, new trees will be specified with larger sized tree stock. The following species in **Table 9.1** will form the basis of the planting design proposals and subject to develop at detailed design stage.

***Table 9.1: Proposed Planting Mix***

| Botanical Name | Heavy Standard Tree Size for reference only DBH (mm) x Height (mm) x Spread (mm) | Spacing (mm) | Indicative number of tree to be planted |
|---|---|---|---|
| **Tree** | | | |
| **Bischofia javanica* | 100 x 5500 x 4000 | 5000 | 13 |
| *Osmanthus fragrans* | 100 x 4000 x 3500 | 4000 | 4 |

Note:* denotes native tree species.

| Botanical Name | Height x Spread (mm) | Spacing (mm) |
|---|---|---|
| **Shrub** | | |
| *Allamanda cathartica* | 500H x 500S | 400 |
| *Artemisia argyi* | 400H x 400S | 300 |
| *Bougainvillea spectabilis* | 600H x 500S | 500 |
| **Camellia japonica* | 600H x 500S | 400 |
| **Dillenia indica* | 500H x 400S | 300 |
| *Duranta repens* 'Golden Leave' | 300H x 300S | 200 |
| *Fagraea ceilanica 'Variegata'* | 500H x 500S | 400 |
| **Gardenia jasminoides* | | |
| **Ligustrum sinense* | 700H x 500S | 500 |
| *Aglaia odorata* | 700H x 500S | 300 |
| *Pittosporum tobira* | 500H x 400S | 400 |
| **Melastoma candidum* | 300H x 300S | 200 |
| *Michelia figo* | 300H x 300S | 250 |
| **Nephrolepis auriculata* | 300H x 300S | 250 |
| *Phyllanthus myrtifolius* | 200H x 300S | 200 |
| **Rhododendron simiarum* Hance | 600H x 400S | 350 |

| Botanical Name | Height x Spread (mm) | Spacing (mm) |
|---|---|---|
| **Ground Cover** | | |
| *Alternanthera dentata* | 200H x 200S | 300 |
| *Cuphea hyssopifolia* | 150H x 150S | 200 |
| *Lantana mista* | 200H x 300S | 500 |
| *Ophiopogon japonicus 'variegatum'* | 100H x 150S | 250 |

.

| Botanical Name | Height x Spread (mm) | Spacing (mm) |
|---|---|---|
| **Lawn** | | |
| *Zoysia japonia* | 300 x 300 Turf | even density |

Note:* denotes native plant species.

***Soil Depth for Planting Areas***

9.5 In order to ensure that these planting proposals are feasible, it is proposed that an adequate planting medium be incorporated into the design of the soft landscape areas. For example, the tree planting in planter or planting area will utilise a minimum 1200mm depth of planting medium, 600mm depth of soil will be required for shrub areas and a minimum soil depth of 300mm for lawn. These are minimum soil depths required in planting areas and planters with exclusion of structural and drainage layers to ensure healthy plant establishment. Planting spacing and soiling requirement follow the guidelines for tree planting published by DEVB GLTM and have considered the mature size of proposed species to ensure enough space is reserved for healthy establishment of the new planted trees.

***Irrigation and Drainage***

9.6 The proposed irrigation system will be via manual water point operation, covering the entire planting area within the site. The proposed source of water supply is subject to final approval from the Water Supplies Department. Sub-soil drainage shall be provided for all planting areas.

***Paving***

9.7 The paving will be an important element of the landscape design, both in aesthetic terms and in producing a hardwearing landscape for usage by the future residents. These surfaces would be constructed of high-quality materials. Granite tile/paving block will be used in the garden area associated with the house.

9.8 Non-slip and durable paving materials will be selected. Concrete paving blocks will be utilised on EVA / driveway. Recycled paving blocks will be used on footpath alongside of access road to HyD standards.

***Lighting***

9.9 The lighting design concept for the landscaped areas will be designed to contribute to the quality of the development in nocturnal views providing an aesthetically pleasing environment through the creation of mood and highlighting of the landscape elements. Open spaces will be provided with sufficient illumination to meet the required lighting standards. Lighting designed for all open space will be carefully designed to avoid glare and shall be effective in energy saving. A timer switch control system shall be provided and where possible the lighting will be designed to avoid spillage and potential glare impacts.

***Treatment of Slopes and Retaining Walls***

9.10 Engineering structures will be aesthetically enhanced through the use of soft landscape works to give man-made slopes a more natural appearance blending into surrounding landscape setting such as (1) Shade tolerant species will be planted under understory of trees, and/or (2) Tree/shrub plantings alongside of the wall to disguise its functional appearance.

## 10.0 Landscape Management and Maintenance

10.1 Upon completion of the construction works, a 12-months defect liability period will be implemented which applies to both hard and soft landscaping works. The soft landscape specialist contractor will be responsible for the maintenance of planting during this first year following practical completion to ensure proper establishment of planting works. Ultimately the property management team of proposed development will employ maintenance staff to take care of all landscape areas including hard and soft landscape works as described below:

***Hard Landscape Elements***

**I - Routine Maintenance (Daily –Weekly)**

a. Rubbish and litter removal;
b. Sweeping and cleaning;
c. Water feature cleaning; and
d. Damage inspection and repair for site furniture and light bulb replacement.

**II – Annual / Long Term Maintenance**

a. Repainting;
b. Resurfacing of worn pavements;
c. Replacing worn parts site furniture, lighting fixture and other facilities;

d. Replacement of worn landscape furniture; and
e. Landscape hard elements.

***Soft Landscape Elements***

10.2 The softworks contractor will be responsible for a 12-month establishment period of plants after practical completion of the planting works. It allows a period of time for proper establishment of the plants.

10.3 Upon the end of the 12-months establishment period, the developer will employ maintenance staff to take care of all landscape areas within the development.

# Figures

## Legend

- Application Site Boundary
- Lawn
- Shrub
- Bench
- New Tree Planting 17nos.
- EVA/Access Road/ Carparking Area
- Hard Paved Garden Area/ Footpath
- +4.50 Proposed Level
- Pedestrian Entrance/Exit
- Vehicular Entrance/Exit

1. Tree planting highlights the entrance threshold of the development.
2. Leisure Lawn is embraced with trees and benches which provides shaded and comfortable area for relaxing.
3. Continuous edge plantings to soften the development edge.
4. Proposed access road aligns in areas with less tree impact.

**Development Site : 1,852m²**
**Private Open Space for Residents: Total not less than 3m²**
(For estimated population of 3 people)

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Landscape Plan - Sheet 1 of 2

| | | | |
|---|---|---|---|
| SCALE | AS SHOWN | DATE | November 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | Figure 1.1 | REV | - |

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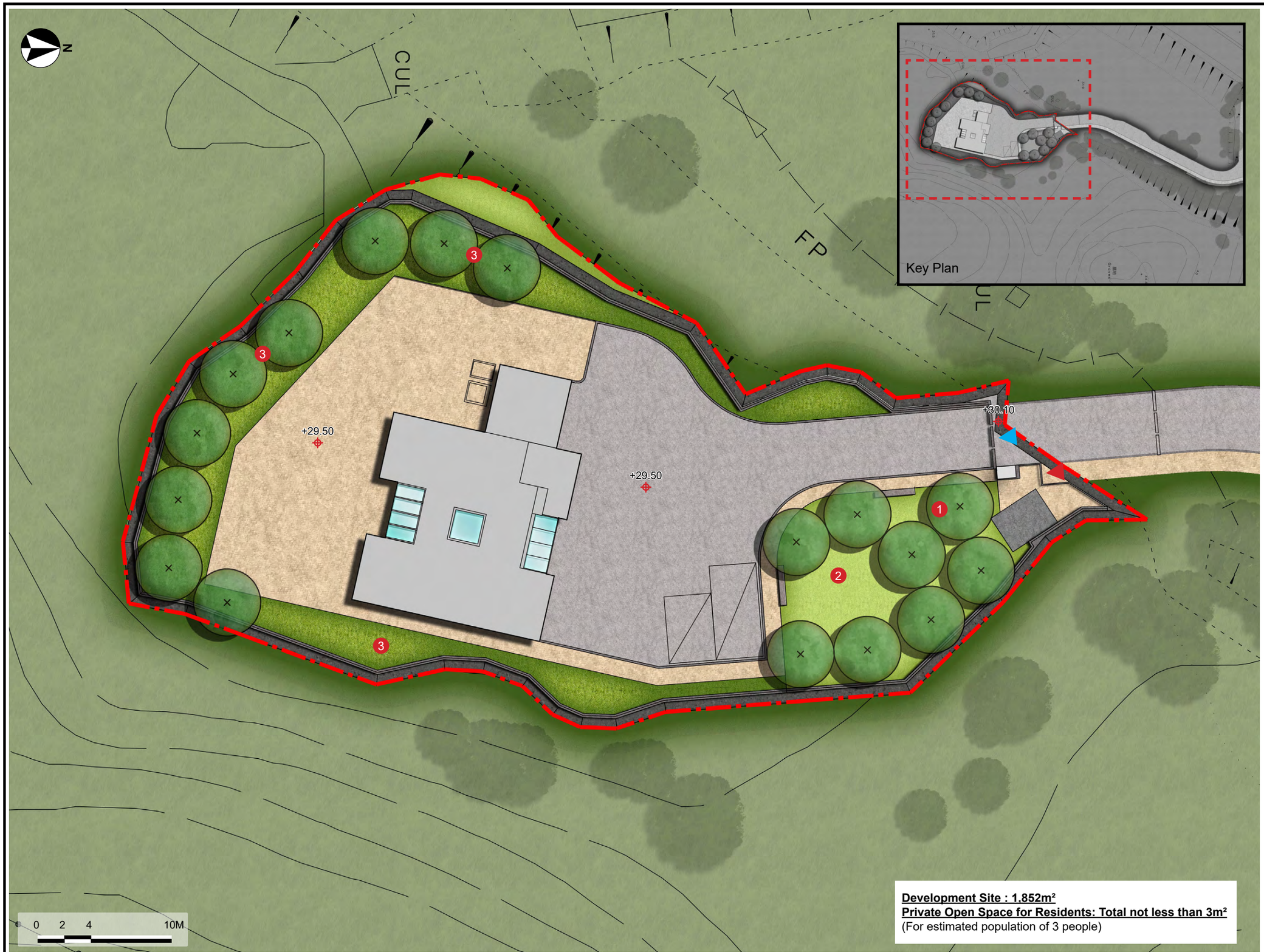


Legend

- Application Site Boundary
- Lawn
- Shrub
- Bench
- New Tree Planting 17nos.
- EVA/Access Road/ Carparking Area
- Hard Paved Garden Area/ Footpath
- +4.50 Proposed Level
- Pedestrian Entrance/Exit
- Vehicular Entrance/Exit

**Development Site : 1,852m²**
**Private Open Space for Residents: Total not less than 3m²**
(For estimated population of 3 people)

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Landscape Plan - Sheet 2 of 2

| | | | |
|---|---|---|---|
| SCALE | AS SHOWN | DATE | November 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | Figure 1.2 | REV | - |

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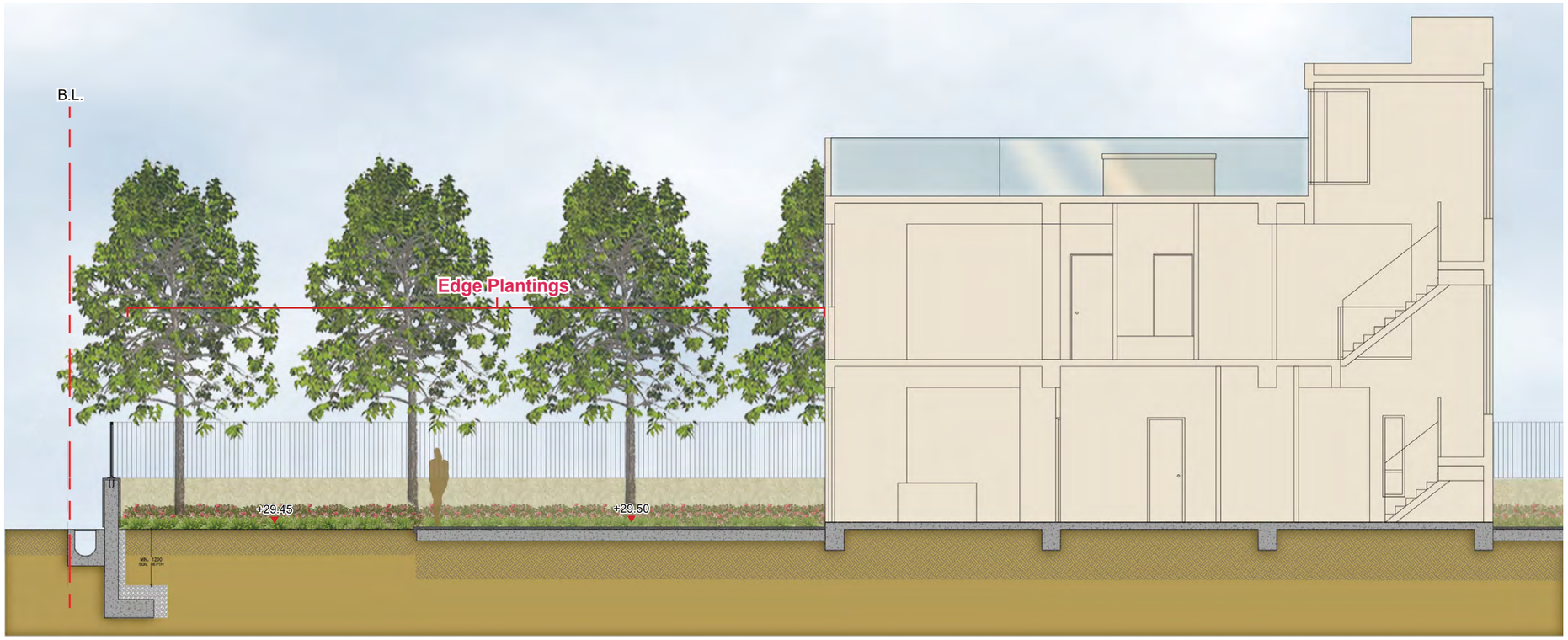
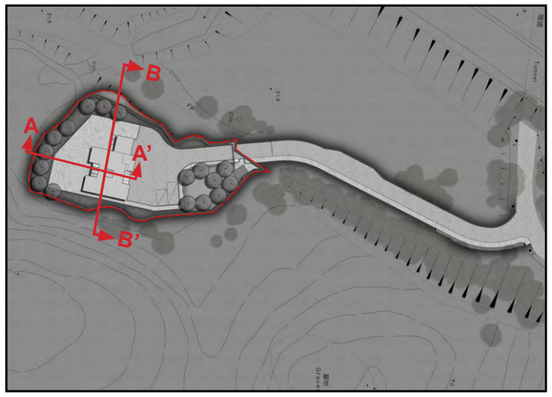



A

A'

0 1 2 5M




KEY PLAN




B

B'

0 1 2 5M

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Landscape Section A-A' and B-B'

| | | | |
|---|---|---|---|
| SCALE | AS SHOWN | DATE | November 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | Figure 2.1 | REV | - |

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## Legend

- Application Site Boundary
- +4.50 Proposed Level
- Greenery Coverage (Uncovered)

Note:
Greenery Provision
Total not less than 555.6m²
30% of the Site Area (1,852m²)
complied with ozp requirement.

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Greenery Coverage

| | | | | |
|---|---|---|---|---|
| SCALE | AS SHOWN | DATE | November 2025 | |
| CHECKED | ELK | DRAWN | TEAM | |
| FIGURE NO. | Figure 3.0 | | | REV |
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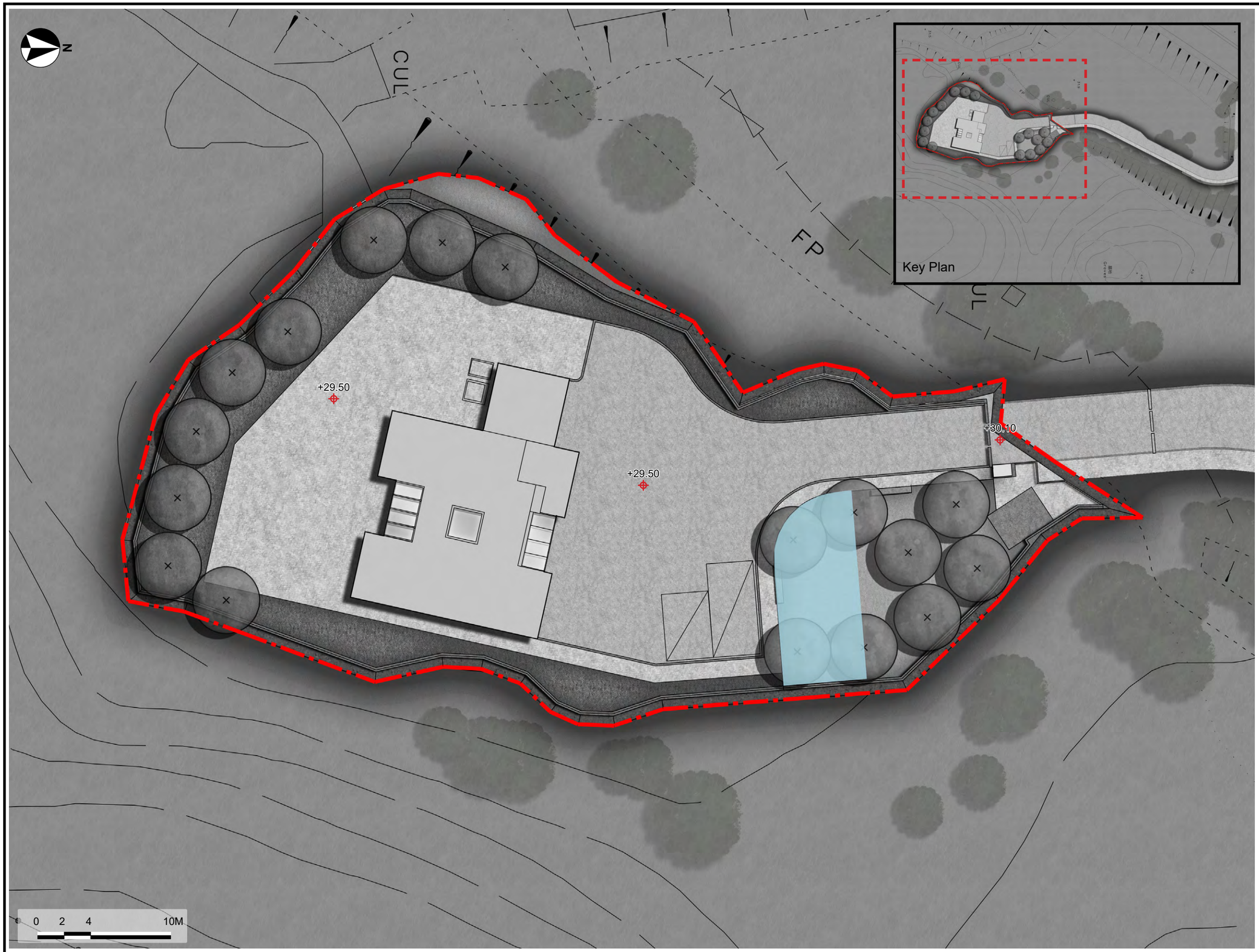


## Legend

- Application Site Boundary
- +4.50 — Proposed Level
- Private Open Space (for Passive Recreation)

Note: Total Not less than 3m²
Following HKPSG requirement (1m²/person) for estimated population of 3

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

Open Space Framework

| | | | |
|---|---|---|---|
| SCALE | AS SHOWN | DATE | November 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | Figure 4.0 | REV | - |

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# Appendix A

Tree Survey Report

## Appendix A

## Tree Survey Report

1.0 Introduction

2.0 Existing Site Condition

3.0 Existing Vegetation

4.0 Recommendations

5.0 New Tree Planting Proposal

6.0 Conclusion

### Tables

Table A2.1 Summary of Existing Tree Species

Table A2.2 Summary of Existing Tree Condition

Table A4.1 Tree Planting Mix

### Annexes

Annex I Tree Survey Methodology

Annex II Tree Treatment Schedule

Annex III Tree Treatment Plan

Annex IV Photographic Record of Existing Trees

Annex V New Tree Planting Proposal

## 1.0 Introduction

1.1 ADI Limited has been commissioned by the Applicant to carry out an individual tree survey to support the S16 planning application for proposed house development at Tuen Mun Town Lot No. 550 (TMTL550), Tuen Mun, New Territories. The objective of this tree survey report is to provide a picture of the existing trees within and adjacent to the lot boundary and make recommendations to their treatment aiming for minimal disturbance to existing trees and creating eventual high quality landscape setting. This report should be read in conjunction with the landscape proposal.

1.2 The tree survey has been completed in broad accordance with Practice Note for Professional Persons No. 1/2019 Processing and Compliance Checking of Landscape Submissions related to Planning Applications. This report outlines the approach and findings of the tree survey, the type and extent of vegetation that will be affected by the proposed development and the proposed treatment of the vegetation. A formal Tree Preservation and Removal Proposal (TPRP) according to LAO Practice Note Issue No. 6/2023 Tree Preservation and Tree Removal Application for Building Development in Private Projects will be prepared during the detailed design stage of the project and submitted to the relevant government departments for approval at that time. The survey approach is presented as **Appendix I – Tree Survey Methodology.**

1.3 The tree survey was undertaken in June 2025 to reflect the current condition of existing trees within and adjacent to the application site, and to reflect any potential impact caused on existing trees due to the proposed house development and associated vehicular access/EVA from San Shek Wan Road.

1.4 The application site is proposed for a house development comprises of a 2-storey house, a guard room, an underground septic tank, car parking spaces and associated landscape areas. The development also involves an EVA/new access road connecting to San Shek Wan Road. Detail of existing trees within the site/ close to the site being affecting, and their treatment are presented in **Annex II – Tree Treatment Schedule, Annex III – Tree Treatment Plan, Annex IV – Photographic Record of Existing Trees**.

## 2.0 Existing Condition

2.1 The Application Site (hereafter the site) is situated approximate 2km to the southwest of Tuen Mun Town Centre. It is bounded by Lung Fu Road (elevated road, +38.9mPD) to the northwest and vegetated knolls to the southeast along Lung Mun Road in a wider context. On the other side of Lung Mun Road, the area is highly developed and dominated by high-rise residential developments including Sun Tuen Mun Centre, Siu Shan Court, Butterfly Estate and Melody Garden. In the local context, the site is surrounding by a vacant government land to the north and the west, another piece of small private land to the south, vegetated knolls to the east. Proposed development covers the TMTL550. The site has an approximate area of 1,852m$^2$, it is a flat vacant land which was utilised for agricultural purposes many years ago. A vacant well and an unused culvert are observed in the east and the north of the site.

2.2 There is an existing footpath connecting the site and San Shek Wan Road to the north of the site. There is a horse trail, operating by the Public Riding School running alongside the west and north outside of the site.

2.3 The site is located at about +29 to 30mPD lower than the surrounding topography, knolls located to its east and south at varies height from +42 to 44mPD, with over 10m high mature tree plantation on top, which formed a natural green buffer to developments on the other side of Lung Mun Road. The plantation along the horse trail and Lung Fu Road forms another landscape buffer along the west and the north periphery of the site. Given to this setting, the site is relatively enclosed.

## 3.0 Existing Vegetation

3.1 The site is vacant. Refers to the recent topographical survey update of existing tree location, there is no tree (base level) exactly located within the site. However, there are 5 nos. of existing trees, A136, A147, A149, A150 and A162 which located on/very close to the site boundary, and which have been contained in the previous and the recent tree survey. The main trunk of these existing trees and majority of their crown spread are seriously leaning into the site, which are potentially affected by the roadworks or site formation works for proposed boundary wall/ retaining wall and/or periphery drainage system which are required by the proposed development. Besides, another 20 trees (including Tree A136 and a147) are observed along the existing track connecting San Shek Wan Road and the site which are potentially affected by the proposed EVA/new access road to the site.

3.2 A total of 7 tree species were identified in the survey. About 26% of existing trees are self-seeded weedy trees, *Leucaena leucocephala.* Another 43% are also self-seeded trees with prolific nature, such as *Bauhinia variegata and Macaranga tanarius* var. tomentosa. The remaining are fruit trees, native/ exotic plantation species that are commonly found in Hong Kong and are few in numbers. **Table A2.1** below listed the tree species surveyed and their relative abundance. Tree composition contains 3 native species and the other 4 are exotic species which accounts for 21% and 79% of total tree number respectively.

3.3 No registered Old and Valuable Trees (DEVB TC(W) No. 5/2020 Registration and Preservation of Old and Valuable Trees) and no protected specimen under Endangered Species of Animals and Plants Ordinance Cap. 586, the Rare and Precious Plants of Hong Kong (Status in China), and under China Plant Red Data Book exists on site or being affected.

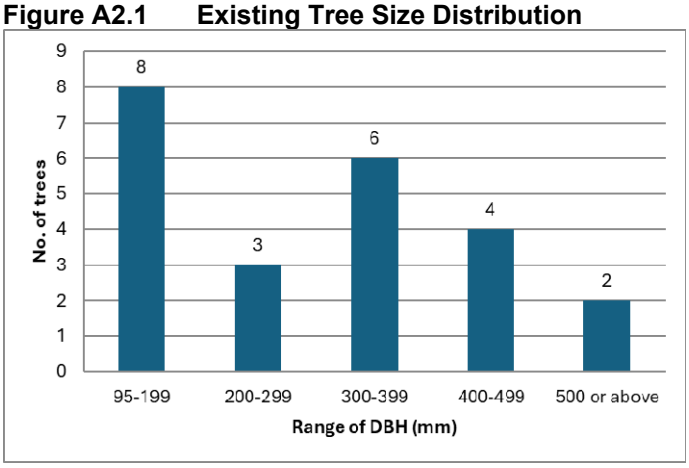
3.3 The existing tree locations are illustrated on **Annex III – Tree Treatment Plan**. Identification of tree species, form and health condition of these trees are reviewed in the following paragraphs and listed in **Annex II - Tree Treatment Schedule**. A **Photographic Record of Existing Trees** is enclosed in **Annex IV.**

**Table A2.1 Summary of Existing Tree Species**

| Botanical Name | Chinese Name | No. of Trees | % | Native (N)/ Exotic (E) |
|---|---|---|---|---|
| *Artocarpus heterohpyllus* | 波蘿蜜 | 4 | 18% | E |
| *Bauhinia variegata* | 宮粉羊蹄甲 | 7 | 31% | E |
| *Eucalyptus torelliana* | 毛葉桉 | 1 | 4% | E |
| *Leucaena leucocephala* | 銀合歡 | 6 | 26% | E |
| *Macaranga tanarius* var. tomentosa | 血桐 | 3 | 13% | N |
| *Mallotus paniculatus* | 白楸 | 1 | 4% | N |
| *Sterculia lanceolata* | 假蘋婆 | 1 | 4% | N |
| **Total** | | **23** | **100%** | |

3.4 The average DBH of the surveyed trees is about 295mm, with average height of 8.3m and average crown spread of 6.4m which indicates their fast growing nature of weedy trees or fruit trees. **Figure A2.1 Existing Tree Size Distribution** below shows that about half of existing trees have a DBH less than 300mm which indicates that they are relatively young and are trees recently self-seeded in the area. The fruit tree/ weedy tree, such as *Artocarpus heterohpyllus* and *Leucaena leucocephala,* have larger DBH over 500mm regarding their fast growing nature. Given the dense growing condition, the average crown spread of the plantation species on slope is relatively small while their tree growth is constrained by adjacent trees, low live crown ratio and “lion tail”/ “poor taper” are common evidence observed on these trees.

**Figure A2.1 Existing Tree Size Distribution**




3.5 In general, a high percentage of these trees have a poor form, their structural and health condition are generally fair to poor. Defects on these trees are observed including leaning, contorted trunk, poor taper, epicormic sprout on branch, broken branch with dead wood, restricted and exposed root, and codominant trunk. **Table A2.2** below shows the summary of tree condition.

**Table A2.2 Summary of Tree Condition**

| Assessment Criteria | Status of Trees | % Trees |
|---|---|---|
| **Form** | Good | 0% |
| | Fair | 22% |
| | Poor | 78% |
| | | |
| **Health Condition** | Good | 0% |
| | Fair | 65% |
| | Poor | 35% |
| | | |
| **Structural Condition** | Good | 0% |
| | Fair | 52% |
| | Poor | 48% |
| | | |
| **Anticipated Survival Rate after Transplanting** | High | 0% |
| | Medium | 13% |
| | Low | 87% |

## 4.0 Recommendations

4.1 The proposed development considered the spatial constraints of the site, proposed house, proposed access road/EVA, car parking facilities, utilities, and necessary ancillary facilities for the development, boundary wall/retaining wall and site formation, drainage system and flooding prevention works etc., therefore existing tree surveyed and mentioned above would be inevitability being affected. The recommendation for the treatment of existing trees and new tree planting concept are illustrated in **Annex II – Tree Treatment Schedule**, **Annex III – Tree Treatment Plan**, **Annex IV – Photographic Record of Existing Trees** and **Annex V – New Tree Planting Proposal**.

***Tree Retention***

4.2 Having considered the retention of exiting trees surrounding the site, the access road alignment, the boundary wall/ retaining wall treatment and drainage proposal, have been carefully planned to minimise the effect on the existing trees in particular those on vegetated

slope, given that the proposed scheme has been maximised the tree preservation opportunities.

***Tree Felling***

3.4 The site is vacant for years, there is no tree (base level) exactly located within the site. However, there are 5 nos. of existing trees, A136, A147, A149, A150 and A162 which located on/very close to the site boundary, and which have been contained in the previous and the recent tree survey. The main trunk of these existing trees and majority of their crown spread are seriously leaning into the site, which are inevitably affected by the roadworks or site formation works for proposed boundary wall/ retaining wall and/or periphery drainage system which are required by the proposed development. Besides, another 20 trees (including Trees A136 and A147) are observed along the existing track connecting San Shek Wan Road and the site which will be affected by the proposed EVA/new access road to the site.

4.3 Having considered the tree species, which are weedy trees, poor condition of these affected trees, trees have unrecoverable defects, the affected trees are not suitable candidate for tree transplanting, and therefore tree felling is recommended.

4.4 According to the tree survey findings, unrecoverable defects are frequently found in the majority of existing trees. Defects include seriously leaning, epicormic sprouts, unbalanced crown/form, exposed and restricted rooting area that are unfavourable and not recommended to be retained. The proposal concludes that 17 trees are required of tree felling plus the removal of 6 weedy trees, *Leucaena leucocephala.*

4.5 The removal of trees will be compensated and replaced by high quality broadleaf/evergreen/ornamental trees and suitable greening treatment in proposed development by maximising the landscape and greening opportunities. Upon full establishment of proposed planting, the local landscape context will be enhanced.

## 5.0 New Tree Planting Concept

5.1 As described above, the loss of existing trees will be replaced by broadleaf/evergreen/ ornamental trees creating a good quality residential landscape that would enhance the visual amenity of the local context, benefiting both the future residents, pedestrians and their neighbourhoods. The New Tree Planting Concept is presented in **Appendix V**. The planting proposal has sought to:

- Provide physical and visual integration with the surrounding neighbourhoods.
- Provide screening of the built-form and softening the development edge.
- Provide quality and sustainable residential environment for the future residents.
- Provide compensation for felling of existing trees.
- Maximise opportunities for the planting of new tree as well as other forms of greening measures; and
- Using native or locally adopted trees and shrubs to fill in planting areas would improve biodiversity and ecological health, creates a more harmonious aesthetic with the surrounding landscape.

5.2 The planting proposal provides a green environment, good quality communal spaces, and good quality planting establishment for the proposed development. A total of 17 new trees will be planted within the site for compensate the tree loss with excluding the removal of 6 nos. of *Leucaena leucocephala*. A replanting ratio in term of quantity of minimum 1:1 would be achieved (17 trees felled: 17 new planted). Heavy standard size tree stock will be utilised to create an instant greening effect. This proposal has been maximised the opportunity of greening within the development.

5.4 The selection of good quality species will enhance the local landscape context upon full establishment. These trees form part of the overall landscape design proposal which will be further developed during the detailed design stage of the project. A summary of the new tree planting proposal is provided in **Table A5.1** below.

**Table A5.1 Tree Planting Mix**

| Botanical Name | Heavy Standard Tree Size for reference only DBH (mm) x Height (mm) x Spread (mm) | Spacing (mm) | Indicative number of tree to be planted |
|---|---|---|---|
| **Tree** | | | |
| **Bischofia javanica* | 100 x 5500 x 4000 | 5000 | 13 |
| *Osmanthus fragrans* | 100 x 4000 x 3500 | 4000 | 4 |

Note:* denotes native tree species.

5.5 Trees with Heavy Standard are defined as follow:

**Heavy Standard:**

- A sturdy straight stem at least 2000mm high from the root collar to the lowest branch;
- Total height above the root collar exceeding 3500mm but not exceeding 6000mm;
- Stem diameter exceeding 75mm but not exceeding 150mm measured at a height of 1300mm from the root collar;
- According to the species, either a well-balanced branching head, or a well-defined straight and upright leader with branches growing out from the stem with good symmetry, and a minimum length of 800mm;
- A rootball not less than 750mm in diameter and 400mm in depth;
- Grown in a container not less than 750mm in diameter and 600mm in depth; and
- Free from any kind of pest, fungi, disease and parasitic plants.

5.6 The height of all trees shall be measured above the root collar, and the diameter of all stems to be measured at a height of 1300m above ground level.

## 6.0 Conclusion

6.2 The site is vacant. Refers to the recent topographical survey update of existing tree location, there is no tree (base level) exactly located within the site. However, there are 5 nos. of existing trees, A136, A147, A149, A150 and A162 which located on/very close to the site boundary, and which have been contained in the previous and the recent tree survey. The main trunk of these existing trees and majority of their crown spread is seriously leaning into the site, which will be affected by the roadworks or site formation works for proposed boundary wall/ retaining wall and/or periphery drainage system which are required by the proposed development. Besides, another 20 trees (including Tree A136 and A147) are observed along the existing track connecting San Shek Wan Road and the site which will be affected by the proposed EVA/new access road to the site.

6.3 No rare or protected tree species (Cap 96 refers) is found to exist in the site. No registered Old and Valuable Trees (DEVB TC(W) No. 5/2020 Registration of Old and Valuable Trees, and Guidelines for their Preservation) is found in the survey.

6.4 Having considered the retention of exiting trees surrounding the site, the access road alignment, the boundary wall/ retaining wall treatment and drainage proposal, have been carefully planned to minimise the effect on the existing trees in particular those on vegetated slope, given that the proposed scheme has been maximised the tree preservation opportunities.

6.5 Having considered the tree species, which are weedy trees, poor condition of these affected trees, trees have unrecoverable defects, the affected trees are not suitable candidate for tree transplanting, and therefore tree felling is recommended. According to the tree survey findings, unrecoverable defects are frequently found in many existing trees. Defects include

seriously leaning, epicormic sprouts, unbalanced crown/form, exposed and restricted rooting area that are unfavourable and not recommended to be retained. The proposal concludes that 17 trees are required of tree felling plus the removal of 6 weedy trees, *Leucaena leucocephala*. Trees of low amenity value and/or having defects will be replaced by a combination of high-quality broadleaf and ornamental trees in the proposed development.

6.6 The new tree planting proposal intends to create a good quality of green environment for future residents with proper and good quality planting establishment. A total of 16 new trees of heavy standard stocks would be planted with 1:1 replanting ratio (17 trees felled: 17 new trees planted) with excluding the removal of 6 no. of *Leucaena leucocephala*.

6.7 The selection of good quality species will enhance the visual amenity of the site, improves biodiversity in the local landscape context and provides a high-quality living environment for the future residents. Tree planting opportunities have been maximised within the proposed development in balance with the provision of other facilities, utilities and traffic layout arrangement necessarily required for the residents. Implementation of planting proposal will create a high-quality living environment and will establish the character and identity for the future development. With the full establishment of the planting proposal, the local landscape context and visual amenity would be enhanced.

# Annexes

# Annex II

## Tree Treatment Schedule

**Tree Treatment Schedule**
Address: TMTL 550, Tuen Mun, N.T
Prepared by Pang Shun Chin, Howard Pang (Certified ISA No. HK-0520A)
Field Survey conducted in 20 June, 2025
To be read in conjunction with drawing numbers: LDSS03A -TT01 to TT03

| Tree ID | Photo No. | Tree Species | | Trunk diameter (mm) | Overall Height (m) | Average Crown Spread (m) | Top of soil level above root collar (mPD) | Form | | | Health Condition | | | Structural Condition | | | Anticipated Survival Rate after Transplanting | | | Location | | Conservation Status | Proposed Treatment | | | Justification | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Scientific Name | Chinese Name | | | | | Good | Fair | Poor | Good | Fair | Poor | Good | Fair | Poor | High | Med | Low | Flat | Slope | | Retain | Transplant | Fell | | |
| A035 | A035 | *Leucaena leucocephala* | 銀合歡 | 600 | 15 | 8 | 31.35 | | | 1 | | 1 | | | 1 | | | | 1 | 1 | | Not listed | | | 1 | B,E | Included bark, sparse leaves, codorminant trunk,leaning 10° |
| A036 | A036 | *Bauhinia variegata* | 宮粉羊蹄甲 | 335 | 10 | 7 | 30.62 | | | 1 | | 1 | | | 1 | | | | 1 | 1 | | Not listed | | | 1 | B,E | Multi-stem, codominant trunk, crooked branch,sucker |
| A037 | A037 | *Macaranga tanarius* var. tomentosa | 血桐 | 300 | 7 | 6 | 31.34 | | | 1 | | 1 | | | | 1 | | | 1 | | 1 | Not listed | | | 1 | B,E | Root exposed, leaning 15°, attached to concrete structure, broken branch with dead wood |
| A061 | A061 | *Bauhinia variegata* | 宮粉羊蹄甲 | 360 | 7 | 6 | 30.77 | | | 1 | | 1 | | | | 1 | | | 1 | 1 | | Not listed | | | 1 | B,E | Codominant trunk forked at base, sucker at base, one trunk broken |
| A115 | A115 | *Eucalyptus torelliana* | 毛葉桉 | 450 | 10 | 7 | 29.95 | | | 1 | | 1 | | | 1 | | | | 1 | 1 | | Not listed | | | 1 | B,E | Contorted trunk, bending trunk 5°, codominant trunk, one broken & decay trunk |
| A135 | A135 | *Artocarpus heterohpyllus* | 波蘿蜜 | 500 | 10 | 7 | 29.96 | | | 1 | | 1 | | | 1 | | | | 1 | 1 | | Not listed | | | 1 | B,E | Imbalance crown, wounds on trunk |
| A136 | A136 | *Leucaena leucocephala* | 銀合歡 | 300 | 5 | 5 | 31.12 | | | 1 | | | 1 | | | 1 | | | 1 | 1 | | Not listed | | | 1 | B,E | main trunk broken, imbalance form, epicormics on trunk, bending |
| A147 | A147 | *Macaranga tanarius* var. tomentosa | 血桐 | 130 | 7 | 6 | 30.05 | | | 1 | | 1 | | | | 1 | | | 1 | 1 | | Not listed | | | 1 | B,E | Imbalacne crown, bending trunk, Leaning 15°, wound on trunk |
| A149 | A149 | *Artocarpus heterohpyllus* | 波蘿蜜 | 400 | 9 | 6 | 29.92 | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | Not listed | | | 1 | B,E | Imbalance crown, leaning 15° |
| A150 | A150 | *Artocarpus heterohpyllus* | 波蘿蜜 | 430 | 12 | 7 | 29.26 | | 1 | | | 1 | | | 1 | | | 1 | | | 1 | | Not listed | | | 1 | B,E | Imbalance crown, leaning 10° |
| A162 | A162 | *Artocarpus heterohpyllus* | 波蘿蜜 | 450 | 8 | 7 | 29.59 | | | 1 | | 1 | | | | 1 | | | 1 | | 1 | Not listed | | | 1 | B,E | Imbalance crown, leaning 20° |
| B002 | B002 | *Leucaena leucocephala* | 銀合歡 | 170 | 8 | 6 | 30.27 | | | 1 | | 1 | | | | 1 | | | 1 | | 1 | Not listed | | | 1 | B,E | Forked at base. 2 contorted trunks |
| B003 | B003 | *Mallotus paniculatus* | 白楸 | 100 | 6 | 3 | 31.21 | | 1 | | | 1 | | | 1 | | | | 1 | 1 | | Not listed | | | 1 | B | |
| B014 | B014 | *Macaranga tanarius* var. tomentosa | 血桐 | 250 | 9 | 9 | 30.88 | | | 1 | | | 1 | | 1 | | | | 1 | | 1 | Not listed | | | 1 | B,E | Sprase foliage, leaning, suppressed by adjacent trees |
| B015 | B015 | *Bauhinia variegata* | 宮粉羊蹄甲 | 160 | 7 | 6 | 30.51 | | | 1 | | | 1 | | 1 | | | | 1 | 1 | | Not listed | | | 1 | B,E | Fork at base, sprase foliage, leaning 5°, suppressed by adjacent trees |
| B016 | B016 | *Leucaena leucocephala* | 銀合歡 | 290 | 6 | 7 | 31.51 | | | 1 | | | 1 | | | 1 | | | 1 | 1 | | Not listed | | | 1 | B,E | Fork at base, heavy leaning 45° |
| B017 | B017 | *Leucaena leucocephala* | 銀合歡 | 230 | 8 | 10 | 31.67 | | | 1 | | | 1 | | | 1 | | | 1 | 1 | | Not listed | | | 1 | B,E | Fork at base, heavy leaning 45° |
| B018 | B018 | *Leucaena leucocephala* | 銀合歡 | 390 | 11 | 12 | 31.59 | | | 1 | | | 1 | | | 1 | | | 1 | 1 | | Not listed | | | 1 | B,E | Heavy leaning 45° |
| B018A | B018A | *Bauhinia variegata* | 宮粉羊蹄甲 | 300 | 9 | 8 | 31.82 | | 1 | | | 1 | | | 1 | | | | 1 | 1 | | Not listed | | | 1 | B,E | Imbalance crown, sparse foliage, suppressed by adjacent tree |
| B018B | B018B | *Sterculia lanceolata* | 假蘋婆 | 110 | 6 | 3 | 31.82 | | 1 | | | 1 | | | 1 | | | 1 | | 1 | | Not listed | | | 1 | B | |
| B019 | B019 | *Bauhinia variegata* | 宮粉羊蹄甲 | 160 | 9 | 5 | 30.64 | | | 1 | | 1 | | | 1 | | | | 1 | 1 | | Not listed | | | 1 | B,E | Taper, contorted trunk, developed from collapsed trunk |
| B022 | B022 | *Bauhinia variegata* | 宮粉羊蹄甲 | 180 | 7 | 3 | 30.54 | | | 1 | | | 1 | | | 1 | | | 1 | 1 | | Not listed | | | 1 | B,E | Developed from collapsed tree, exposed root, contorted trunk, taper |
| B023 | B023 | *Bauhinia variegata* | 宮粉羊蹄甲 | 190 | 5 | 3 | 30.35 | | | 1 | | | 1 | | | 1 | | | 1 | 1 | | Not listed | | | 1 | B,E | Developed from collapsed tree, exposed root, one trunk collapsed, suppressed by adjacent tree |
| | | | | | | | | 0 | 5 | 18 | 0 | 15 | 8 | 0 | 12 | 11 | 0 | 3 | 20 | 19 | 4 | | 0 | 0 | 23 | | **23** |
| | | | | | | | | 0% | 22% | 78% | 0% | 65% | 35% | 0% | 52% | 48% | 0% | 13% | 87% | 83% | 17% | | 0% | 0% | 100% | | **Total of existing trees surveyed** |
| | | | | | | | | **Good** | **Fair** | **Poor** | **Good** | **Fair** | **Poor** | **Good** | **Fair** | **Poor** | **High** | **Med** | **Low** | **Flat** | **Slope** | | **Retain** | **Trans** | **Fell** | | |

**Summary Table**

| | Number of Tree(s) within TMTL550 | Number of Tree(s) affected boudnary wall works | Number of Tree(s) affected by roadworks |
|---|---|---|---|
| **Tree to be Retained** | **0** | **0** | **0** |
| **Tree to be Transplanted** | **0** | **0** | **0** |
| **Tree to be Felled** | **0** | **3** | **14** |
| ***Leucaena leucocephala* to be Removed** | **0** | **0** | **6** |
| **Total Number of Existing Tree(s)** | **0** | **3** | **20** |

**Legend**

**Tree Species**

Guidance on proper use of scientific name of plants is give in the AFCD's Nature Conservation Practice Note (NCPN) No. 3 "The Use of Plant Names"

**DBH**

DBH of a tree refers to its diameter at breast height (i.e. measured at 1.3m above ground level).
"mm" stands for millimetre and "m" stands for metre.

**Top of soil level above root collar**

This figure provides the existing soil level; when trees retained in-situ, the soil level should be maintained and not cover the root collar.

**Tree Form/ Health Condition/ Structural Condition**

- **G** Good
- **F** Fair
- **P** Poor

Form of a tree will take account of the overall tree size, shape and any special feature.

**Anticipated Survival Rate after Transplanting**

- High Very likely to survive after transplant
- Medium >50% possibility of survival after transplantation
- Low Unlikely to survive due to poor health/form; or tree species has little tolerance to the effects of transplanting; or difficult to transplant

**Location**

Location of tree if it is growing on flat or sloping location.

**Conservation Status**

Indicated rarity and protection status under relevant ordinances of a species in Hong Kong/ in Mainland China/ of nationally importance

**Justification for Tree Recommendation**

- A Tree retention recommended
- B Felling recommended as tree is directly in conflict with the building and/or site formation works and/or access road works
- C Tree transplanting recommended as tree is affected by the building and/or site formation works
- D Dead tree to be removed
- E Weedy species or tree has unrecoverable defect

**Remarks**

The tree status whether the registered OVT, the TPI, the Precious or rare or endangered species; amenity or ecological value; anticipated root-ball size to be preserved (with Ø. x depth in mm); historical significance and any other on-site conditions, etc. within and/or adjacent to the site is likely to be affected by the proposed developmer
Special characteristics of tree form and health condition, any evidence of broken trunk/ leaning trunk/ trunk decay or water sprouts will be recorded in the remarks of the Tree Survey Schedule.

# Appendix V

## New Tree Planting Proposal

## Legend

- Application Site Boundary
- +4.50 — Proposed Level
- New Tree Planting 17 nos.

Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.

New Tree Planting Proposal

| | | | |
|---|---|---|---|
| SCALE | AS SHOWN | DATE | November 2025 |
| CHECKED | ELK | DRAWN | TEAM |
| FIGURE NO. | Annex V | REV | - |

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國際環境管理、城市規劃及設計、園景建築顧問服務
[redacted]

# Annex F

Revised Traffic Impact Assessment

# Proposed House Development
# At Tuen Mun Town Lot No.550
# (TMTL 550), Tuen Mun, N.T.

## Traffic Impact Assessment
## Final Report
## October 2025

Prepared by: CKM Asia Limited

# Proposed House Development at Tuen Mun Town Lot No.550 (TMTL 550), Tuen Mun, N.T.

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# Proposed House Development at Tuen Mun Town Lot No.550 (TMTL 550), Tuen Mun, N.T.

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# Proposed House Development at Tuen Mun Town Lot No.550 (TMTL 550), Tuen Mun, N.T.

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5.2 Year 2034 pedestrian flows with the Proposed Development

# 1.0 INTRODUCTION

## Background

1.1 The Subject Site is located at T.M.T.L. 550 near San Shek Wan Road in Tuen Mun. The Owner has the intention to build one 2-storey house with some 370m$^2$ GFA, at the Subject Site (the "Proposed Development"). The location of the Subject Site is shown in Figure 1.1.

1.2 Against this background, CKM Asia Limited, a traffic and transportation planning consultancy firm, was commissioned to conduct a Traffic Impact Assessment ("TIA") in support of the Proposed Development. The report presents the findings of the traffic impact assessment for the Proposed Development.

## Scope of the Assessment

1.3 The main objectives of this TIA are as follows:

- To assess the existing traffic issues in the vicinity of the Subject Site;
- To quantify the amount of traffic generated by the Proposed Development; and
- To examine the traffic impact on the local road network in the vicinity of the Subject Site.

## Contents of the Report

1.4 After this introduction, the remaining chapters contain the following:

| | | |
|---|---|---|
| Chapter Two | - | describes the existing situation; |
| Chapter Three | - | outlines the development proposal; |
| Chapter Four | - | presents the traffic impact analysis; and |
| Chapter Five | - | summarises the overall conclusion |

# 2.0 THE EXISTING SITUATION

The Subject Site

2.1 The Subject Site is located some 100m to the south of San Shek Wan Road. At present, there is no vehicular access connecting San Shek Wan Road and the Subject Site.

Existing Road Network

2.2 San Shek Wan Road is a local distributor, and it is of single carriageway 2 lane standard. It connects with Lung Mun Road to the east. The portion of San Shek Wan Road fronting the Subject Site is single track access road which connects with the San Shek Wan San Tsuen to the west.

2.3 Lung Mun Road is district distributor and is of dual carriageway 2/3-lane standard. It connects with Tsing Wun Road to the north and Wu Shan Road to the south.

Traffic Survey

2.4 To quantify the traffic flows at junctions selected for the capacity analysis, manual classified count was conducted on Tuesday, 13th May 2025 during the AM and PM peak periods. The locations of the surveyed junctions are presented in Figure 2.1 and their layouts are shown in Figures 2.2 to 2.4.

2.5 The surveyed junctions include the following:

- J1: Signalised Junction of Lung Mun Road / Light Rail Transit Depot Access;
- J2: Signalised Junction of Lung Mun Road / Tuen Tsing Lane; and
- J3: Signalised Junction of Lung Mun Road / Wu Shan Road

2.6 The counts were classified by vehicle type to enable traffic flows in passenger car units ("pcu") to be calculated. From the survey, the AM and PM peak hours were found to be between 0730 – 0830 and 1745 – 1845 hours respectively, and the existing AM and PM peak hour traffic flows are presented in Figure 2.5.

Operational Performance of the Surveyed Junctions

2.7 The existing operational performance of the surveyed junctions is calculated based on the observed traffic counts and the analysis is undertaken using the methods outlined in Volume 2 of Transport Planning and Design Manual. The existing operational performance of the junctions are summarised in Table 2.1 and the detailed calculations are found in Appendix 1.

TABLE 2.1 EXISTING JUNCTION OPERATIONAL PERFORMANCE

| Ref. | Junction | Type of Junction | Parameter(1) | AM Peak Hour | PM Peak Hour |
|---|---|---|---|---|---|
| J1 | Lung Mun Road / Light Rail Transit Depot Access | Signalised | RC | > 100% | > 100% |
| J2 | Lung Mun Road / Tuen Tsing Lane | Signalised | RC | 62% | 75% |
| J3 | Lung Mun Road / Wu Shan Road | Signalised | RC | 84% | > 100% |

Notes: (1) RC – reserve capacity

Public Transport Facilities

2.8 The Subject Site is served by various public transport services, including Light Rail Transit ("LRT"), franchised bus and green minibus ("GMB") which is some

600 metres or around 10 minutes' walk away. Details of the public transport services operating in the vicinity of the Subject Site are presented in Figure 2.6 and Table 2.2.

TABLE 2.2 FRANCHISED BUS AND GMB SERVICES OPERATING CLOSE TO THE SUBJECT SITE

| Route | Routing | Frequency (minutes) |
|---|---|---|
| KMB 259B | Tuen Mun Pier Head – Tsim Sha Tsui | AM Peak |
| KMB 259C | Sun Tuen Mun Centre – Tsim Sha Tsui | AM Peak |
| KMB 259D | Tuen Mun (Lung Mun Oasis) – Lei Yue Mun Estate | 7 – 25 |
| KMB 259E | Tuen Mun ( Lung Mun Oasis) – Tsuen Wan Station | AM Peak |
| KMB 259X | Tuen Mun (Lung Mun Oasis) – Kwun Tong Ferry | AM, PM Peak |
| KMB 59A(1) | Tuen Mun Pier Head – Kwai Fong (Kwai Tsui Estate) | 6 – 60 |
| KMB 59M | Tuen Mun Pier Head – Tsuen Wan Station | 6 – 20 |
| KMB 59X | Tuen Mun Pier Head – Mong Kok East Station | 3 – 15 |
| KMB N260 | Tuen Mun Pier Head –Mei Foo | Overnight |
| CTB 962 | Tuen Mun (Lung Mun Oasis) – Causeway Bay (Moreton Terrace) | AM, PM Peak |
| CTB 962C(1) | Tuen Mun (Lung Mun Oasis) – Tai Koo (Kornhill Plaza) | AM, PM Peak |
| CTB 962G(1) | Admiralty (West) → Tuen Mun (Wu King Road) | PM Peak |
| CTB 962P | Lung Mun Oasis → Causeway Bay (Moreton Terrace) | AM Peak |
| CTB 962X | Lung Mun Oasis – Causeway Bay (Moreton Terrace) | 11 – 25 |
| CTB B3 | Tuen Mun Ferry Pier – Shenzhen Bay Port | 15 – 30 |
| CTB N962 | Tuen Mun (Lung Mun Oasis) – Causeway Bay (Moreton Terrace) | Overnight |
| CTB X962(1) | Admiralty (West) → Tuen Mun (Lung Mun Oasis) | PM Peak |
| LWB A33 | Tuen Mun Road Interchange – Airport (Ground Transportation Centre) | 20 – 60 |
| LWB A34 | Hung Shui Kiu (Hung Yuen Road) – Airport (Ground Transportation Centre) | 20 – 60 |
| LWB E33 | Tuen Mun Central – Airport (Ground Transportation Centre) | 6 – 25 |
| LWB E33P | Siu Hong Station (South) – Airport (Ground Transportation Centre) | 12 – 45 |
| LWB E36C | Yuen Long (Tak Yip Street) to Aircraft Maintenance Area | AM, PM Peak |
| LWB R33 | Tuen Mun Station – Disneyland | AM, PM Peak |
| LWB NA33 | Tuen Mun (Fu Tai Estate) –Cathay Pacific City | Overnight |
| MTRB 506 | Tuen Mun Ferry Pier – Siu Lun | 4 – 10 |
| MTRB K52 | Tuen Mun Station – Lung Kwu Tan | 9 – 20 |
| MTRB K52A | Tuen Mun Station – Tsang Tsui | 20 – 60 |
| MTRB K52P | Lung Kwu Tan – Tuen Mun Station | AM Peak |
| GMB 41 | Tuen Mun Town Centre (Tuen Fat Road) – Lung Mun Oasis | 10 – 20 |
| GMB 44 | Tuen Mun Ferry Pier (Public Light Bus (Scheduled Services) Terminus on Wu Shan Road – Sheung Shui Station | 2 – 8 |
| GMB 44B1 | Lok Ma Chau (San Tin) Public Transport Interchange – Tuen Mun Ferry Pier (Public Light Bus Terminus on Wu Shan Road) | 15 – 20 |
| GMB 47S | Tuen Mun Pier-Head – Mong Kok | 15 – 20 |
| GMB 48S | Leung King Estate – Mong Kok | 15 – 20 |
| GMB N44B | Lok Ma Chau Control Point – Tuen Mun Ferry Pier (Public Light Bus Terminus on Wu Shan Road) | Overnight |

Note: KMB – Kowloon Motor Bus CTB – City Bus LWB – Long Win Bus
MTRB – MTR Bus GMB – Green Minibus
(1) Mondays – Fridays only (2) Sunday and Public Holiday

## Pedestrian Survey

2.11 To quantify the existing pedestrian flows using the footpaths presented in Figure 2.7, pedestrian counts were conducted during the AM and PM peak periods on Tuesday, 13th May 2025. The existing peak 15-minute two-way pedestrian flows are presented in Figure 2.8.

Level-of-Service

2.12 The level-of-service (LOS) of a pedestrian facility is dependent on its width and the number of pedestrians using the facility. Description of the LOS is obtained from the Transport Planning and Design Manual, and is given in Table 2.3.

TABLE 2.3 DESCRIPTION OF PEDESTRIAN FACILITY LOS

| LOS | Maximum Pedestrian Flow Rate - ped/min/m | Description |
|---|---|---|
| A | < = 16 | Pedestrians basically move in desired paths without altering their movements in response to other pedestrians. Walking speeds are freely selected and conflicts between pedestrians are unlikely. |
| B | > 16 - 23 | Sufficient space is provided for pedestrians to freely select walking speeds, to bypass other pedestrians and to avoid crossing conflicts with others. At this level, pedestrians begin to be aware of other pedestrians and to respond to their presence in the selection of walking paths. |
| C | > 23 – 33 | Sufficient space is available to select normal walking speeds and to bypass other pedestrians primarily in unidirectional streams. Where reverse directions or crossing movements exist, minor conflicts will occur, and speed and volume will be somewhat lower. |
| D | > 33 - 49 | Freedom to select individual walking speed and bypass other pedestrians is restricted. Where crossing or reverse-flow movements exist, the probability of conflict is high and its avoidance requires frequent changes in speed and position. The LOS provides reasonably fluid flow; however considerable friction and interaction between pedestrians is likely to occur. |
| E | > 49 – 75 | Virtually, all pedestrians would have their normal walking speed restricted. At the lower range of this LOS, forward movement is possible only by shuffling. Space is insufficient to pass over slower pedestrians. Cross- or reverse-flow movements are possible only with extreme difficulties. Design volumes approach the limit of walkway capacity with resulting stoppages and interruptions to flow. |
| F | > 75 | Walking speeds are severely restricted. Forward progress is made only by "shuffling". There is frequent and unavoidable contact with other pedestrians. Cross- and reverse-flow movements are virtually impossible. Flow is sporadic and unstable. Space is more characteristic of queued pedestrians than of moving pedestrian streams. |

Source: Transport Planning & Design Manual Volume 6, Transport Department

2.13 The effective width of the Proposed Footpath is presented in Table 2.4.

TABLE 2.4 EFFECTIVE WIDTH OF THE SURVEYED FOOTPATHS

| Ref. | Location | | Footpath Width (m) | Effective Width (m) |
|---|---|---|---|---|
| 1 | San Shek Wan Road between Subject Site and Lung Mun Road | Southern footpath | 1.6 | 0.6 |
| 2 | Lung Mun Road between San Shek Wan and Light Rail Station - Light Rail Depot | Western footpath | 3.0 | 2.0 |

2.14 The existing LOS at the surveyed footpath is presented in Table 2.5.

TABLE 2.5 EXISTING LOS AT THE SURVEYED FOOTPATHS

| Ref. | Location | | Peak Period | Existing Condition | | |
|---|---|---|---|---|---|---|
| | | | | Ped / 15min | Ped / min/m | LOS |
| 1 | San Shek Wan Road between Subject Site and Lung Mun Road | Southern footpath | AM | 8 | 0.9 | A |
| | | | PM | 6 | 0.7 | A |
| 2 | Lung Mun Road between San Shek Wan and Light Rail Station - Light Rail Depot | Western footpath | AM | 34 | 1.1 | A |
| | | | PM | 37 | 1.2 | A |

# 3.0 THE PROPOSED DEVELOPMENT

Proposed Development

3.1 The car parking spaces provided for the Proposed Development, which is one 2-storey house with some 370m$^2$ GFA, comply with the maximum recommendation of the Hong Kong Planning Standards and Guidelines ("HKPSG").

3.2 The calculation on the provision of internal transport facilities is found in Table 3.1, and the layout of the car park is found in Figure 3.1.

TABLE 3.1 PROVISION OF INTERNAL TRANSPORT FACILITIES FOR THE PROPOSED DEVELOPMENT

| Use | HKPSG Recommendation | Proposed Provision |
|---|---|---|
| | Car Parking Space | |
| Residential (I) | Number of space = GPS x R1 x R2 x R3, where:<br>Global Parking Standard (GPS) = 1 space per 4 – 7 flats<br>R1 = 7 for flat size of > 160m$^2$<br>R2 = 0.75 for development within 500m of rail station<br>R3 = 1.3 for domestic plot ratio (PR) ≤ 1<br><br>Minimum<br>=(1 ÷ 7 x 7 x 0.75 x 1.3) = 0.98, say 1 no.<br>Maximum<br>=(1 ÷ 4 x 7 x 0.75 x 1.3) =1.71, say 2 nos. | 2 @ 5m (L) x 2.5m (W) x 2.4m (H); and<br><br>1 @ 5m (L) x 3.5m (W) x 2.4m (H) for persons with disabilities<br><br>= 3 nos.<br>= maximum HKPSG, OK |
| Visitor (II) | For private residential developments with 75 units or less per block, the visitor car parking provision will be determined by Transport Department on a case-by-case basis.<br><br>1 no. visitor car parking spaces are provided | |
| Total (I) + (II) | Minimum = 1 + 1 = 2 nos.<br>Maximum = 2 + 1 = 3 nos. | |
| | Motorcycle Parking Space | |
| Residential | 1 motorcycle parking space per 100 – 150 flats,<br><br>NA | NA |
| | Loading / Unloading Bay | |
| Residential | Minimum of 1 loading / unloading bay for goods vehicles within the site for every 800 flats or part thereof, subject to a minimum of 1 bay for each housing block or as determined by the Authority. | 1 LGV loading / unloading bay @ 7.0m (L) x 3.5m (W) x 3.6m (H)<br><br>(Note: Since vehicles exceeding 10m in length are prohibited from entering San Shek Wan Road, a LGV loading / unloading bay will be provided.) |

Proposed Access Road

3.3 As part of the development, an access road connecting San Shek Wan Road and the Proposed Development will be provided (the "Proposed Access Road"). The existing passing at San Shek Wan Road, where the Proposed Access Road is to be provided, is shifted some 20m to the west. The Proposed Access Road and the new location of the passing bay at San Shek Wan Road are found in Figure 3.2.

3.4 The key design features of the Proposed Access Road are:

i) Minimum road width is 4.5m;
ii) 12m-long passing bay at midway of the straight section of Proposed Access Road (the "passing bay of Proposed Access Road");
iii) 50m sight distance at the passing bay of the Proposed Access Road which is found in Figure 3.3;
iv) One footpath along the eastern side with minimum width of 1.6m (the "Proposed Footpath");
v) Road gradient of some 2%, which fulfils the Transport Planning and Design Manual maximum desirable gradient of 16% for small and light vehicles.

Swept Path Analysis

3.5 The CAD-based swept path analysis program, Autodesk Vehicle Tracking, was used to check the ease of vehicle manoeuvring within the Proposed Development and no manoeuvring issue is found. The swept path analysis drawings for critical movements are found in Appendix 2.

# 4.0 TRAFFIC IMPACT

Design Year

4.1 The Proposed Development is expected to be completed by 2031, and the design year adopted for the capacity analysis is 2034, i.e. 3 years after the completion of the Proposed Development.

Traffic Forecasting

4.2 The 2034 traffic flows used for the junction analysis are produced with reference to the following:

(i) 2031 traffic flows derived with reference to Base District Traffic Model ("BDTM");

(ii) estimated traffic growth from 2031 to 2034 based on the higher of: (a) 2021 – based Territorial Population and Employment Data Matrix ("TPEDM") data produced by Planning Department, (b) Hong Kong Population Projections 2022 – 2046, published by Census and Statistics Department, or (c) historic Annual Average Daily Traffic ("AADT") produced by Transport Department;

(iii) the other developments in the vicinity of the Proposed Development; and

(iv) Traffic generated by the Proposed Development.

4.3 The (ii) estimated traffic growth from 2031 to 2034, (iii) the other development in the vicinity of the Proposed Development, and (iv) traffic generated by the Proposed Development are presented in the paragraphs below.

Estimated Traffic Growth Rate from 2031 to 2034

4.4 The (a) 2021 – based TPEDM data for Tuen Mun District, and the (b) Hong Kong Population Projections 2022 – 2046, and (c) historic AADT are summarised in Tables 4.1 – 4.3 respectively.

TABLE 4.1 2021-BASED TPEDM DATA FOR TUEN MUN DISTRICT

| Item | TPEDM Estimation / Projection | | | Annual Growth Rate | | |
|---|---|---|---|---|---|---|
| | 2021 | 2026 | 2031 | 2021 to 2026 | 2026 to 2031 | 2021 to 2031 |
| Population | 506,900 | 557,650 | 586,200 | 1.93% | 1.00% | 1.46% |
| Employment | 133,400 | 132,450 | 152,650 | -0.14% | 2.88% | 1.36% |

TABLE 4.2 HONG KONG POPULATION PROJECTIONS 2022 – 2046

| Whole Territory Population | | Annual Growth Rate |
|---|---|---|
| Year 2031 | Year 2034 | 2031 to 2034 |
| 7,820,200 | 7,945,100 | 0.53% |

TABLE 4.3 AADT OF THE STATION IN THE VICINITY OF THE SUBJECT SITE

| Station | 5640 | 5654 | 5839 | 6633 | Overall |
|---|---|---|---|---|---|
| Road | Lung Mun Road | Wu Shan Road | Lung Mun Road | Wu Chui Road | |
| From | Wu Shan Road | Lung Mun Road | Wong Chu Road | Lung Mun Road | |
| To | Wu Chui Road | Wu King Road | Wu Shan Road | Wu Shan Road | |
| 2011 | 12,420 | 6,410 | 17,210 | 8,580 | 44,620 |
| 2012 | 12,340 | 6,370 | 14,530 | 8,480 | 41,720 |
| 2013 | 12,440 | 6,420 | 14,650 | 8,060 | 41,570 |
| 2014 | 12,310 | 6,350 | 14,500 | 7,350 | 40,510 |
| 2015 | 12,410 | 6,350 | 14,380 | 8,190 | 41,330 |

| | | | | | |
|---|---|---|---|---|---|
| 2016 | 12,090 | 6,860 | 17,860 | 8,340 | 45,150 |
| 2017 | 11,900 | 6,750 | 18,360 | 8,100 | 45,110 |
| 2018 | 12,190 | 6,920 | 18,810 | 8,540 | 46,460 |
| 2019 | 12,100 | 6,870 | 18,670 | 8,710 | 46,350 |
| 2020 | 12,230 | 7,100 | 17,900 | 7,130 | 44,360 |
| 2021 | 12,990 | 7,610 | 18,940 | 7,670 | 47,210 |
| 2022 | 12,600 | 7,380 | 19,530 | 8,190 | 47,700 |
| 2023 | 12,890 | 7,550 | 14,449 | 9,280 | 49,710 |
| | | | | Average Annual Growth | 0.90% |

4.5 Table 4.1 shows that the highest annual growth rate for population is +1.93% and for employment is +2.88%. Table 4.2 shows that the annual growth rate from 2031 to 2034 is +0.53%. Table 4.3 shows that in the historic AADT of the stations between 2011 and 2023 in the vicinity has average annual growth rate of 0.90% per annum. To be conservative, the growth rate of +2.88% per annum is adopted for the traffic growth between 2031 and 2034.

Other developments in the vicinity of the Proposed Development

4.6 The planned development included in the 2034 reference traffic flows are presented in Table 4.4.

TABLE 4.4 PLANNED DEVELOPMENT IN THE VICINITY OF THE PROPOSED DEVELOPMENT

| Site | Planning Application No. | Address | Use |
|---|---|---|---|
| 1 | A/TM/565 | Government Land in D.D. 138 and D.D. 300, Tuen Mun | Proposed Bus Depots with Ancillary Public Utility Installation (Electricity Substation) |

4.7 In addition, the infrastructure and road network considered in the traffic model include the following:

- Wu Shan Road Public Housing Development
- New Lung Fu Road slip road northbound
- New Lung Fu Road slip road southbound
- New slip road from Tuen Mun Road northbound to Hoi Wing Road westbound
- New Tuen Mun Swimming Pool

Traffic Generated by the Proposed Development

4.8 Traffic generation associated with the Proposed Development is calculated based on the trip rates from theTransport Planning and Design Manual published by Transport Department and is presented in Table 4.5.

TABLE 4.5 TRAFFIC GENERATION OF THE PROPOSED DEVELOPMENT

| Item | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | In | Out | 2-way | In | Out | 2-way |
| Trip Generation Rates for residential use (pcu/hour/flat)[(1)] | | | | | | |
| Private Housing: low-density / R(C) with an average flat size of 300m$^2$ | 0.2609 | 0.3252 | NA | 0.4074 | 0.2835 | NA |
| Traffic Generation of Proposed Development (pcu/hour) | | | | | | |
| Residential Use: 1 house [a] | 1 | 1 | 2 | 1 | 1 | 2 |

Note: [(1)] Mean rates taken from the Transport Planning and Design Manual.

4.9 Table 4.5 shows that the Proposed Development is expected to generate only 2 pcu/hour (2-way) during both the AM and PM peak hours.

2034 Traffic Flows

4.10 Year 2034 traffic flows for the following cases are derived:

| | |
|---|---|
| 2034 without the Proposed Development [A] | = (i)2031 traffic flows derived with reference to BDTM + (ii) estimated total growth from 2031 to 2034 + (iii) Other developments in the vicinity of the Proposed Development |
| 2034 with the Proposed Development [B] | = [A] + (iv) Traffic generated by the Proposed Development (Table 4.5) |

4.11 The 2034 peak hour traffic flows for the cases without and with the Proposed Development, are shown in Figures 4.1 – 4.2, respectively.

2034 Junction Operational Performance

4.12 Year 2034 capacity analysis for the cases without and with the Proposed Development are summarised in Table 4.6 and detailed calculations are found in the Appendix 1.

TABLE 4.6 2034 JUNCTION OPERATIONAL PERFORMANCE

| Ref. | Junction | Type of Junction / Parameter(1) | Year 2034 without the Proposed Development | | Year 2034 with the Proposed Development | |
|---|---|---|---|---|---|---|
| | | | AM Peak | PM Peak | AM Peak | PM Peak |
| J1 | Lung Mun Road / Light Rail Transit Depot Access | Signal / RC | > 100% | > 100% | > 100% | > 100% |
| J2 | Lung Mun Road / Tuen Tsing Lane | Signal / RC | 43% | 65% | 43% | 65% |
| J3 | Lung Mun Road / Wu Shan Road | Signal / RC | 69% | 93% | 69% | 93% |

Notes: (1) RC – reserve capacity

4.13 Table 4.6 shows that the junctions operate with capacities during the AM and PM peak hours for the cases without and with the Proposed Development.

# 5.0 PEDESTRIAN ASSESSMENT

Estimation of Future Pedestrian Flows

5.1 The year 2034 pedestrian flow is estimated based on the following:
(i) 2025 Existing pedestrian flows in Figure 2.8;
(ii) Estimated annual pedestrian growth rates from 2025 to 2034; and
(iii) Pedestrians generated by the Proposed Development.

Estimated Annual Pedestrian Growth Rates from 2025 to 2034

5.2 The 2034 reference pedestrian flow is estimated based on the 2025 observed pedestrian flows and the annual pedestrian growth rate from 2025 to 2034. The pedestrian growth rate from 2025 to 2034 is assumed to be +2.88% per annum which is taken from Table 4.1.

Pedestrian Generated by the Proposed Development

5.3 As stated in the planning statement, the Proposed Development, which is one 2-storey house with some 370m$^2$ GFA, is expected to have a design population of 3. However, to be conservative, it is assumed that all residents will leave and enter within 15 minutes, a generation of 3 ped/15min (2-way) during the AM and PM peak periods.

2034 Pedestrian Flows

5.4 The 2034 pedestrian flows without and with the Proposed Development are derived using the following method:

| | | |
|---|---|---|
| 2034 without the Proposed Development [A] | = | (i) 2025 existing pedestrian flows + (ii) estimated annual pedestrian growth rates from 2025 to 2034 |
| 2034 with the Proposed Development [B] | = | [A] + (iii) pedestrian generated by the Proposed Development |

5.5 The 2034 pedestrian flows without and with the Proposed Development are presented in Figures 5.3 and 5.4.

5.6 The effective width of the Proposed Footpath is presented in Table 5.1.

TABLE 5.1 EFFECTIVE WIDTH OF THE PROPOSED FOOTPATH

| Ref. | Location | | Footpath Width (m) | Effective Width (m) |
|---|---|---|---|---|
| 3 | The Proposed Footpath | Eastern footpath | 1.6 | 0.6 |

5.7 The 2034 weekday LOS at the surveyed footpaths for the cases without and with the Proposed Development is presented in Table 5.2.

TABLE 5.2 2034 LOS WITHOUT AND WITH THE PROPOSED DEVELOPMENT

| Ref. | Location | | Peak Period | Year 2034 without the Proposed Development | | | Year 2034 with the Proposed Development | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Ped / 15min | Ped / min/m | LOS | Ped / 15min | Ped / min/m | LOS |
| 1 | San Shek Wan Road between Subject Site and Lung Mun Road | Southern footpath | AM | 11 | 1.2 | A | 14 | 1.6 | A |
| | | | PM | 8 | 0.9 | A | 11 | 1.2 | A |
| 2 | Lung Mun Road between San Shek Wan and Light Rail Station - Light Rail Depot | Western footpath | AM | 44 | 1.5 | A | 47 | 1.6 | A |
| | | | PM | 48 | 1.6 | A | 51 | 1.7 | A |
| 3 | The Proposed Footpath | Eastern footpath | AM | N/A | | | 3 | 0.3 | A |
| | | | PM | N/A | | | 3 | 0.3 | A |

5.8 Table 5.4 shows that all surveyed footpaths operate with LOS A for the case without and with the Proposed Development. Hence, it can be concluded that the Proposed Development will result in no impact to the footpaths assessed.

# 6.0 CONCLUSION

6.1 The Subject Site is located at T.M.T.L 550 near San Shek Wan Road in Tuen Mun. The Owner has the intention to to build one 2-storey house with some 370m$^2$ GFA, at the Subject Site.

6.2 Manual classified counts were conducted at surveyed junctions located in the vicinity of the Proposed Development in order to establish the peak hour traffic flows. Currently, these junctions operate with capacities during the AM and PM peak hours.

6.3 The car parking spaces provided for the Proposed Development comply with the maximum recommendation of the HKPSG. Since the vehicles over 10m in length are prohibited from entering San Shek Wan Road, LGV loading / unloading bay will be provided.

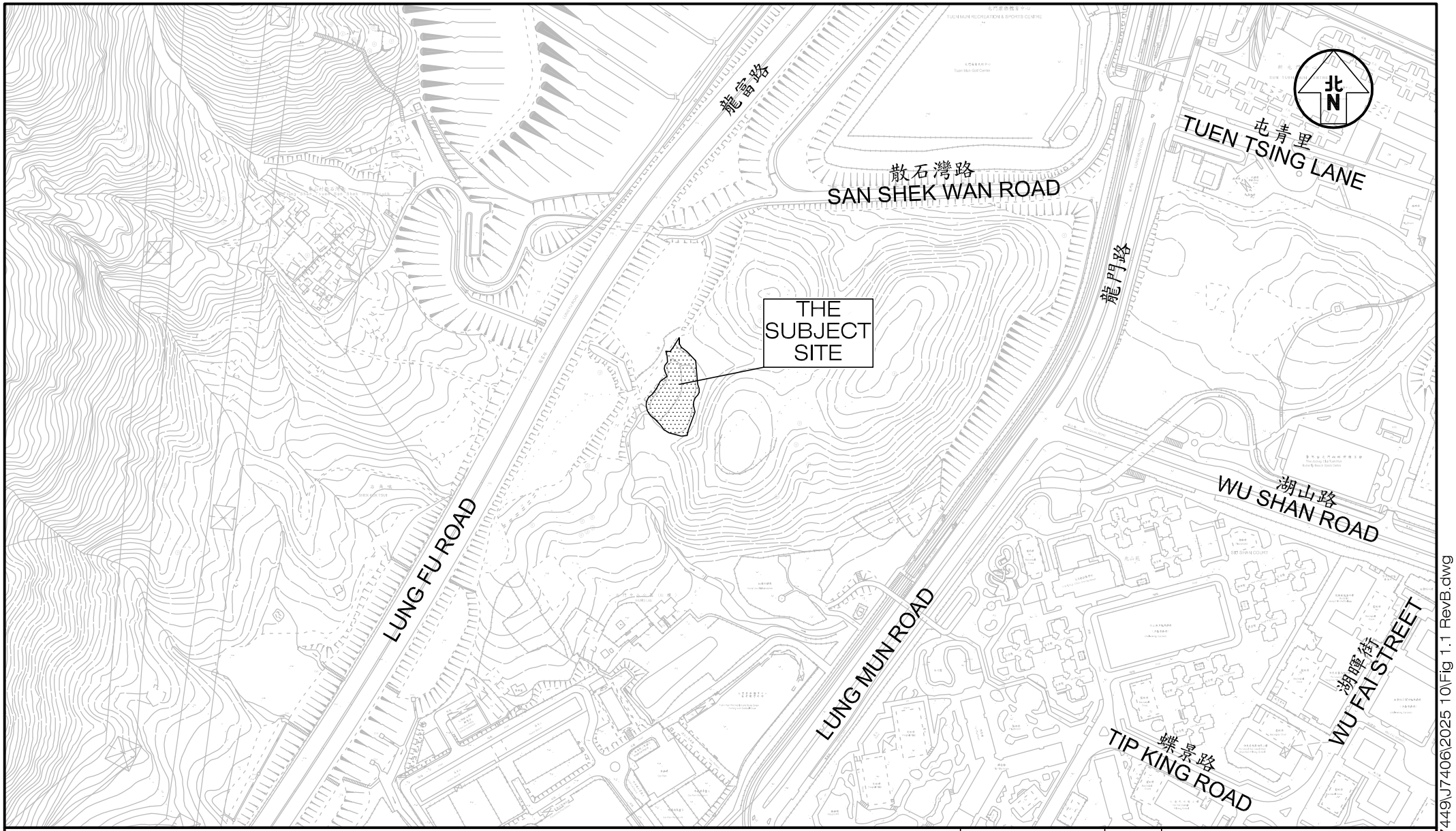
6.4 The Proposed Access Road connects San Shek Wan Road with the Proposed Development. To provide the Proposed Access Road, the existing passing bay at San Shek Wan Road is shifted some 20m to the west.

6.5 The Proposed Development is expected to be completed by 2031, and the junction capacity analysis is undertaken for year 2034. For the design year 2034, the junctions analysed are expected to operate with capacities during the peak hours for the case without and with the Proposed Development.

6.6 The pedestrian assessment conducted found that the surveyed footpaths would operate with LOS A in 2034 for the case without and with the Proposed Development, and the Proposed Development has no adverse impact to the footpaths assessed.

6.7 It is concluded that the Proposed Development will result in no adverse traffic impact to the surrounding road network. From traffic engineering grounds, the Proposed Development is acceptable.

Figures

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|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 1.1 | Revision B | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: LOCATION OF SUBJECT SITE | Designed by C Y Y / Drawn by N C M / Checked by K C | | [redacted] |
| | Scale in A4 1 : 4,000 | Date 24 OCT 2025 | |

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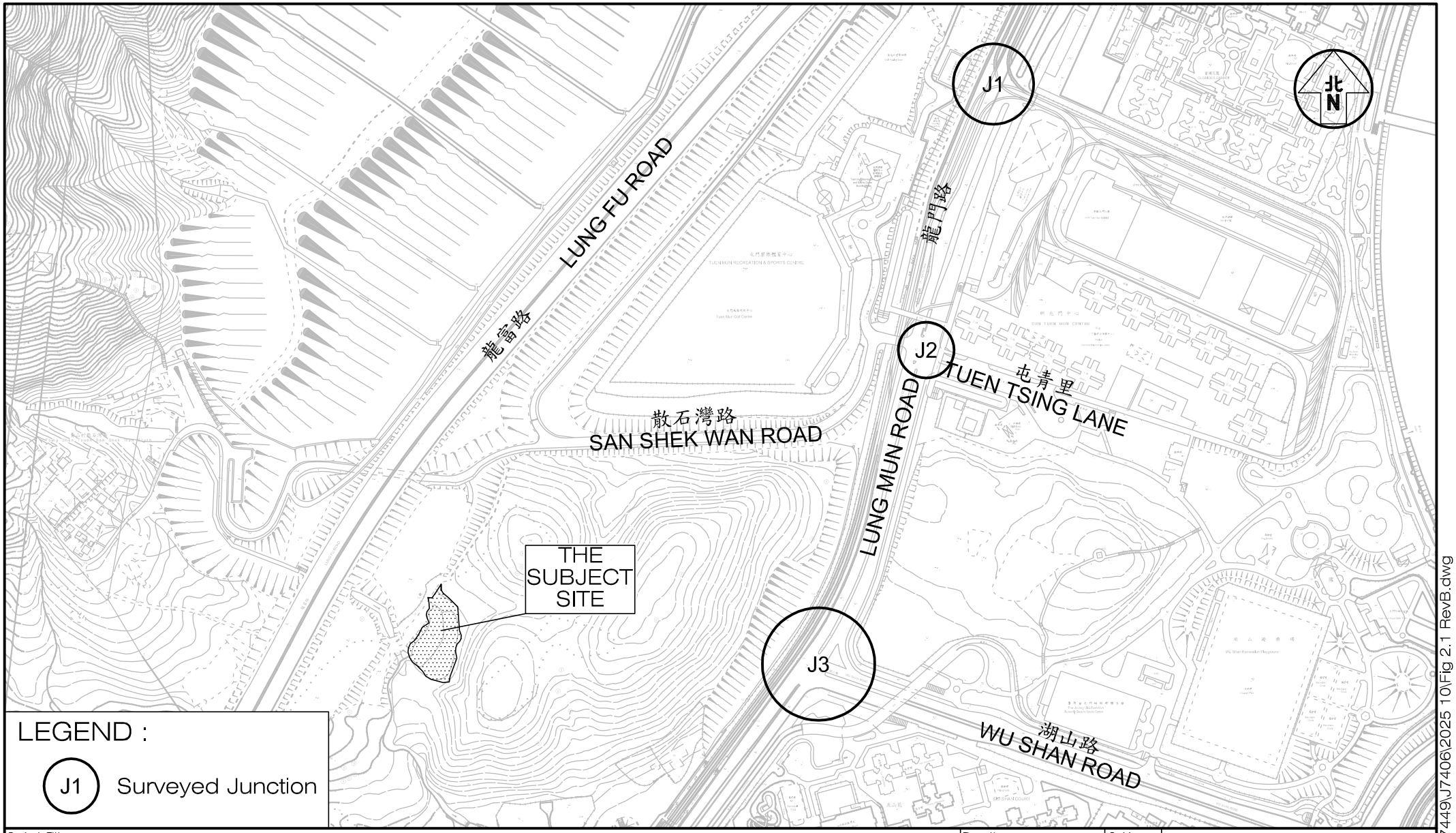


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| Figure Title: LOCATION OF SURVEYED JUNCTIONS | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4 1 : 4,000 | Date 24 OCT 2025 | |

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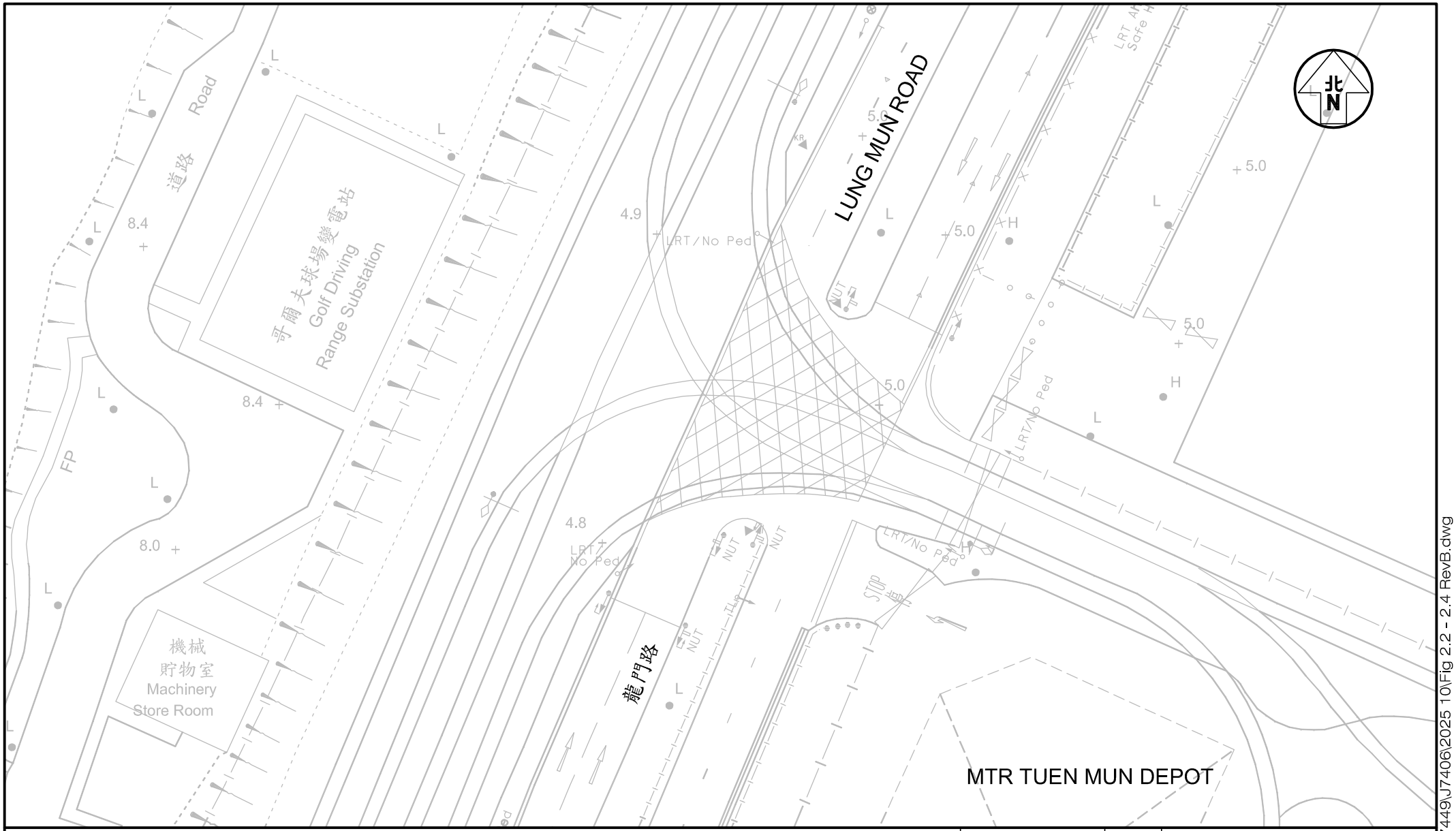


| | | | |
|---|---|---|---|
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| Figure Title: LAYOUT OF JUNCTION OF LUNG MUN ROAD / LIGHT RAIL TRANSIT DEPOT ACCESS | | Designed by C Y Y / Drawn by N C M / Checked by K C | |
| | | Scale in A4: 1 : 500 | Date: 24 OCT 2025 |

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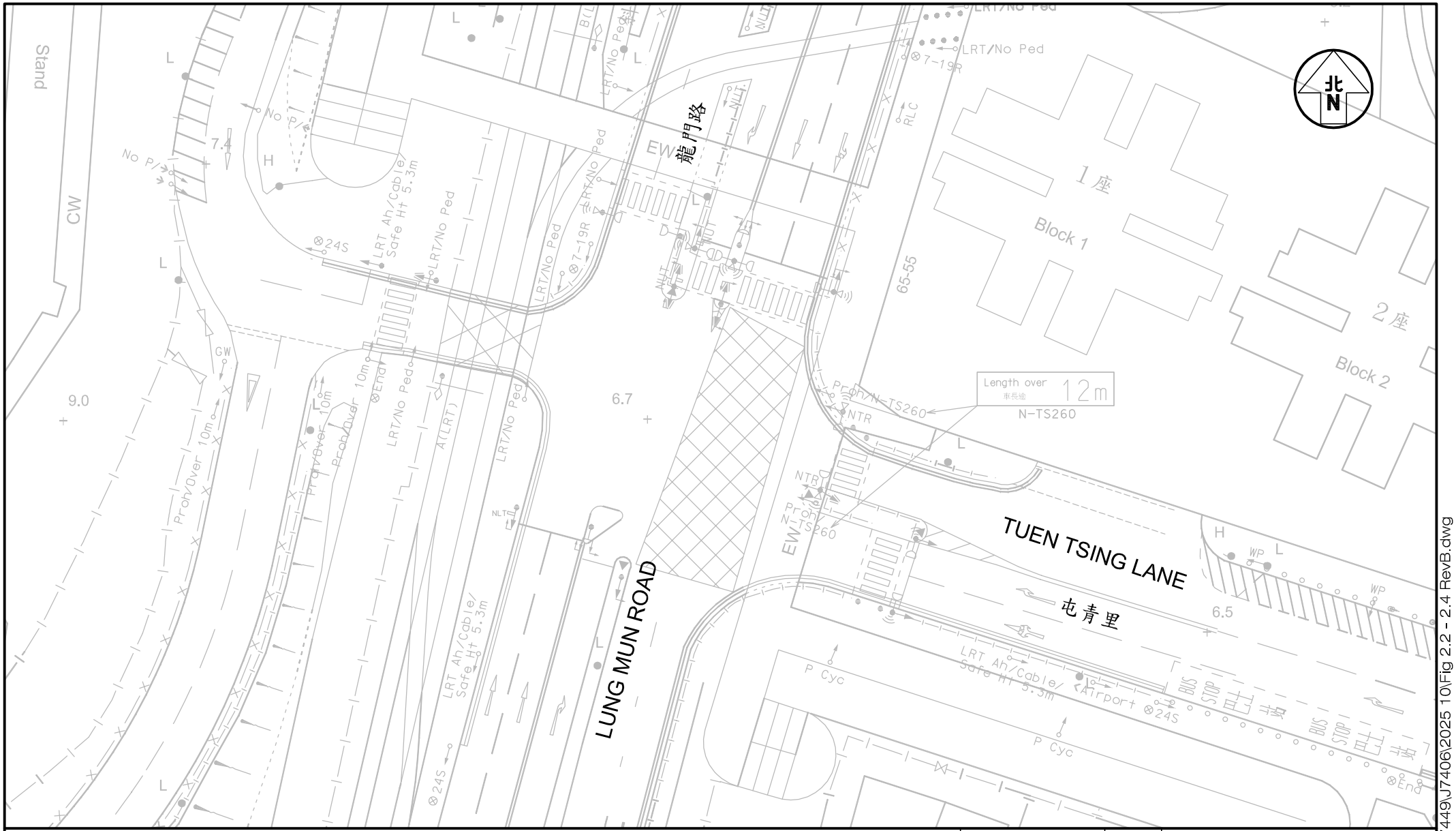


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|---|---|---|---|
| Project Title | PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 2.3 | Revision B |
| Figure Title | LAYOUT OF JUNCTION OF LUNG MUN ROAD / TUEN TSING LANE | Designed by C Y Y / Drawn by N C M / Checked by K C | |
| | | Scale in A4 1 : 500 | Date 24 OCT 2025 |

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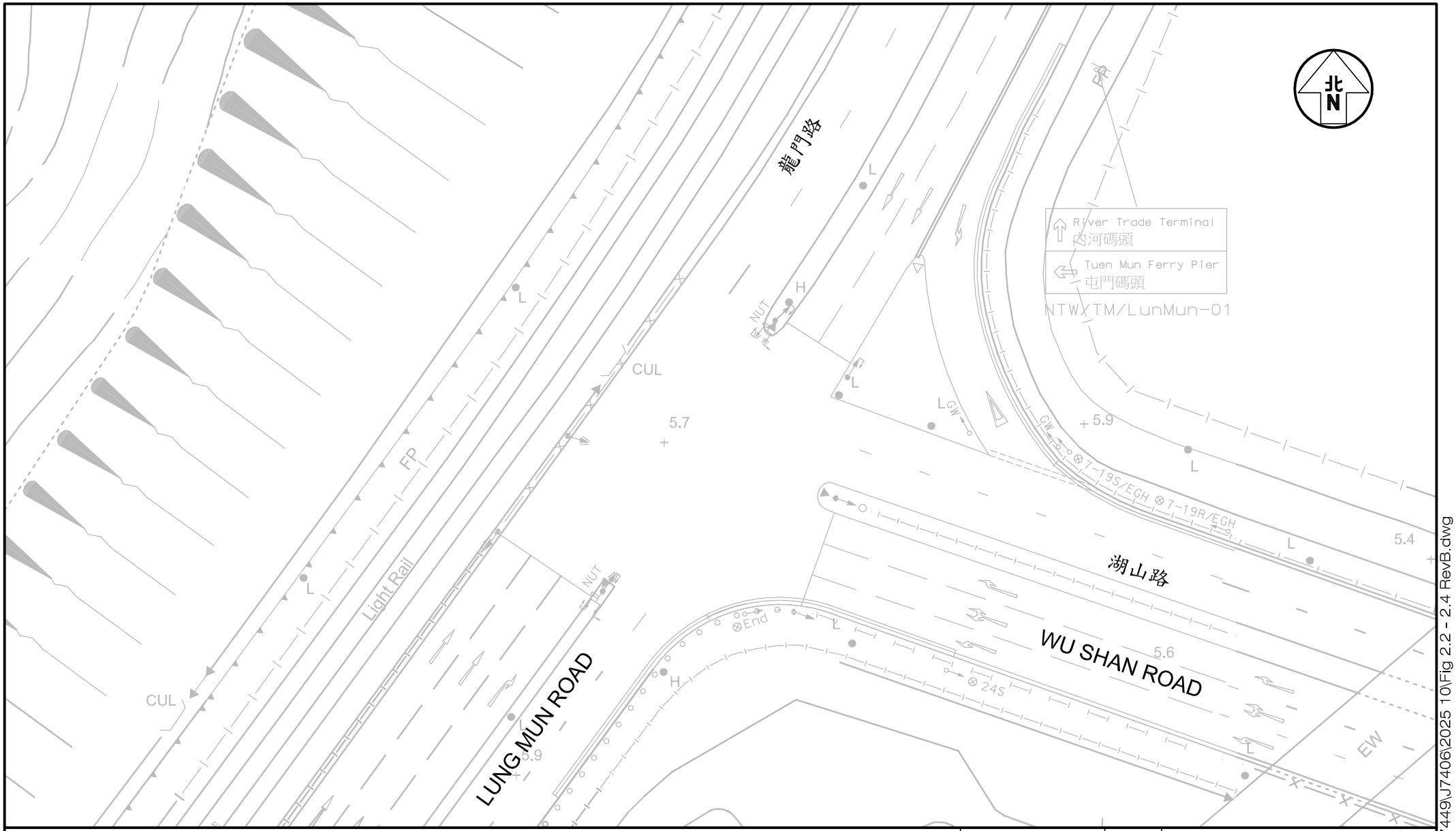


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| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 2.4 | Revision B | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: LAYOUT OF JUNCTION OF LUNG MUN ROAD / WU SHAN ROAD | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4: 1 : 500 | Date: 24 OCT 2025 | |

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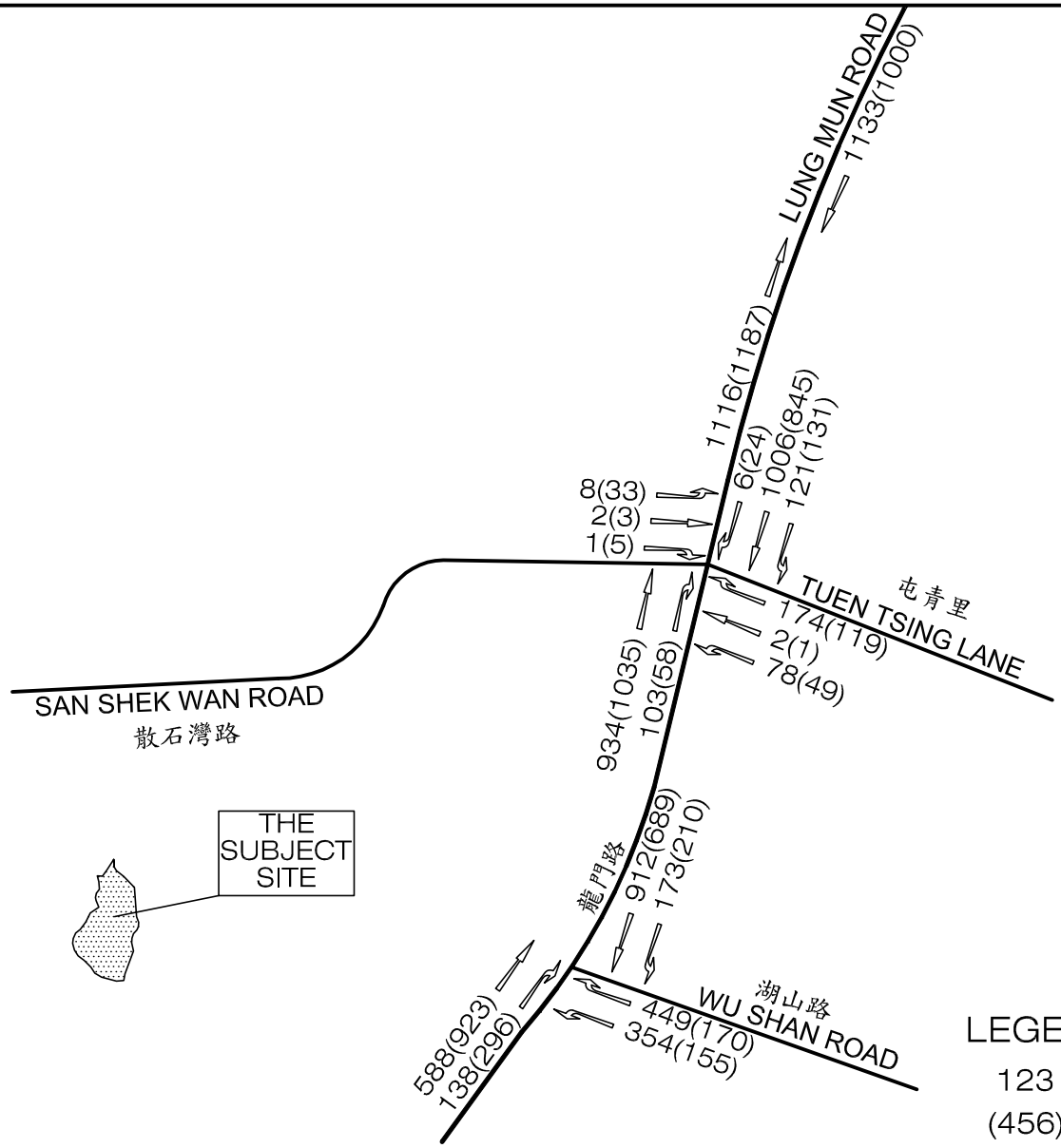


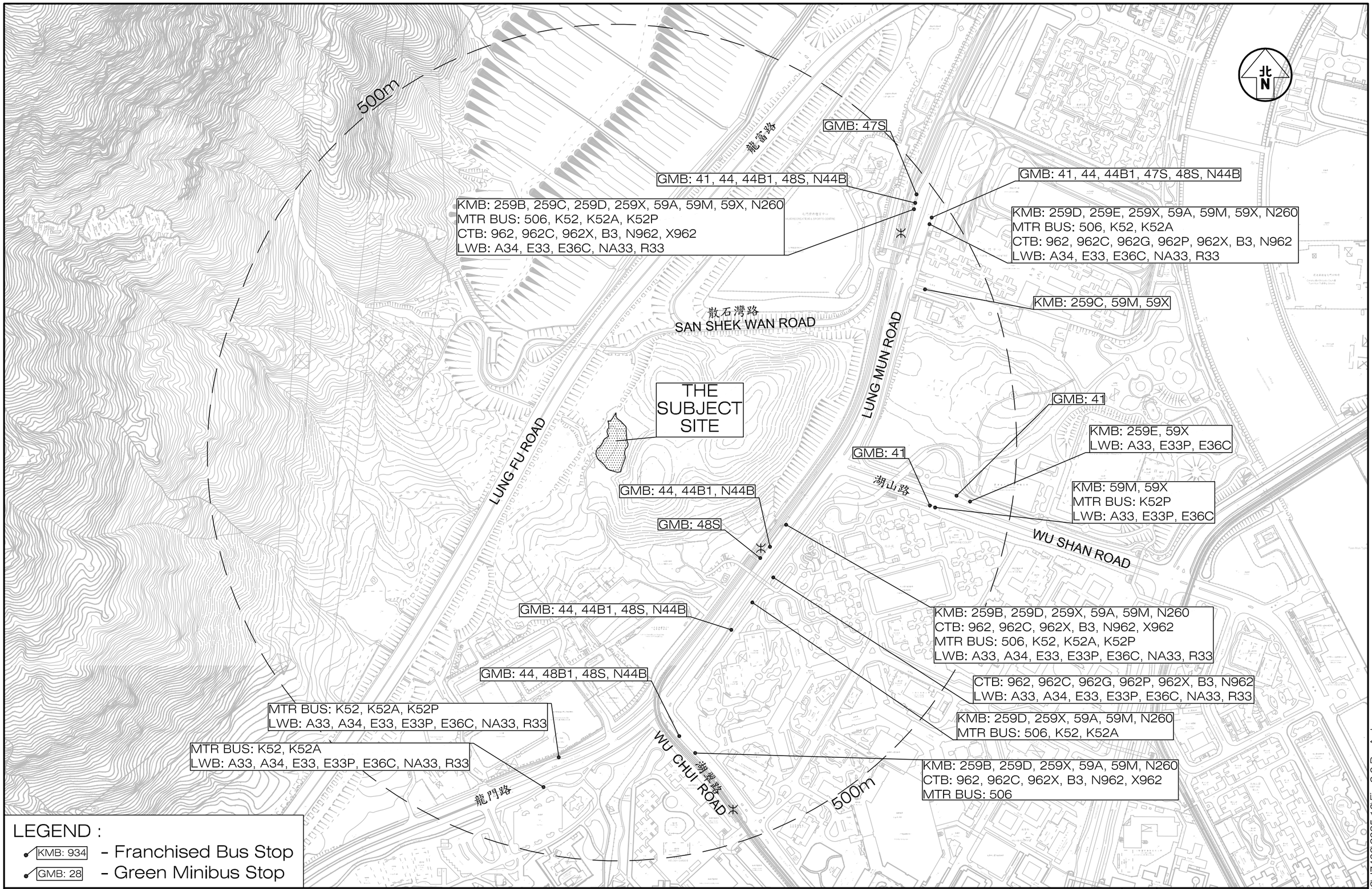

LEGEND :

123 - AM peak hour traffic flow, pcu / hr

(456) - PM peak hour traffic flow, pcu / hr

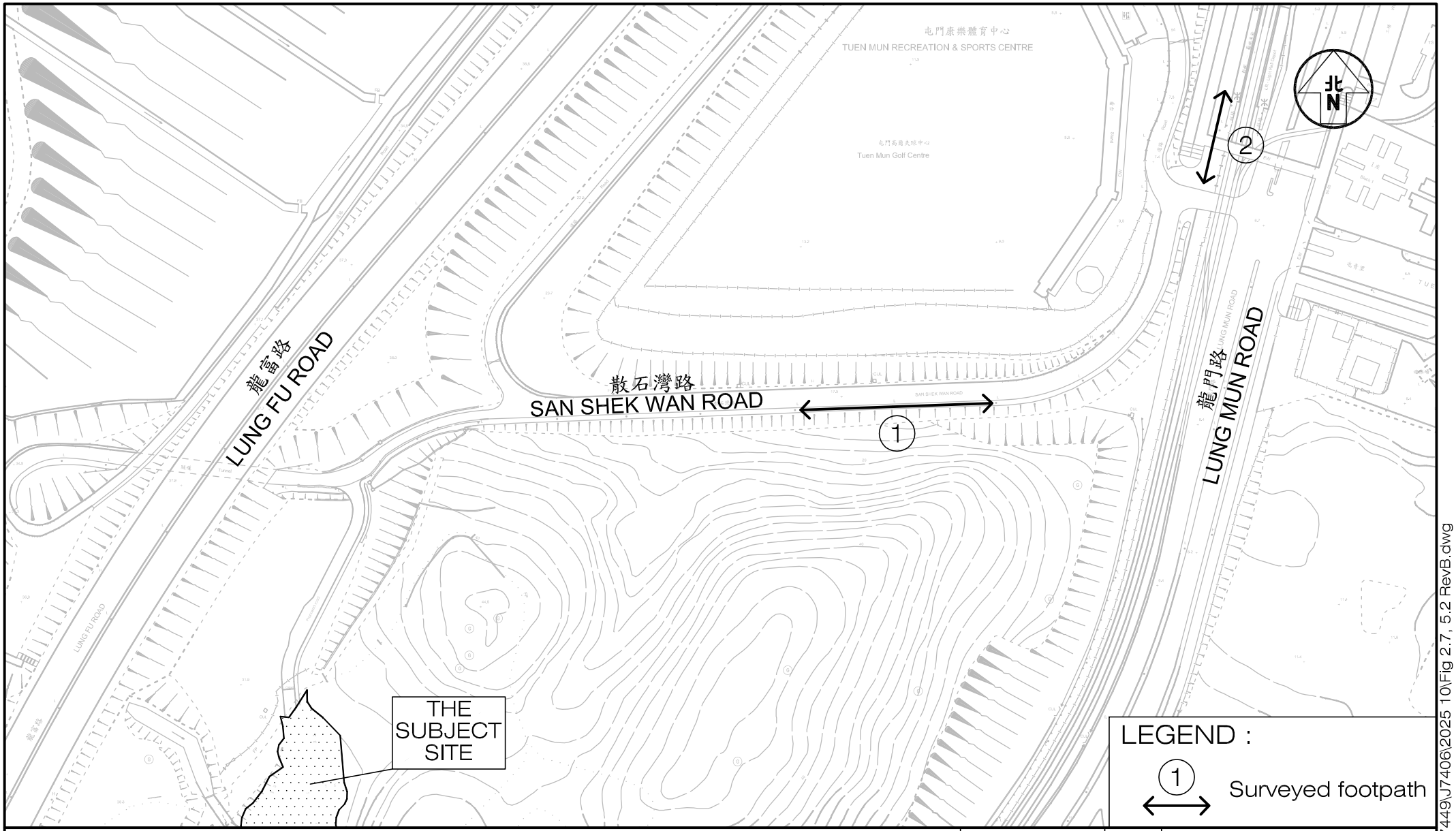
| | | | |
|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 2.5 | Revision B | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: EXISTING PEAK HOUR TRAFFIC FLOWS | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4 N.T.S. | Date 24 OCT 2025 | |

T:\JOBs\J7400-J7449\J7406\2025 10\Fig 2.5 RevB.dwg



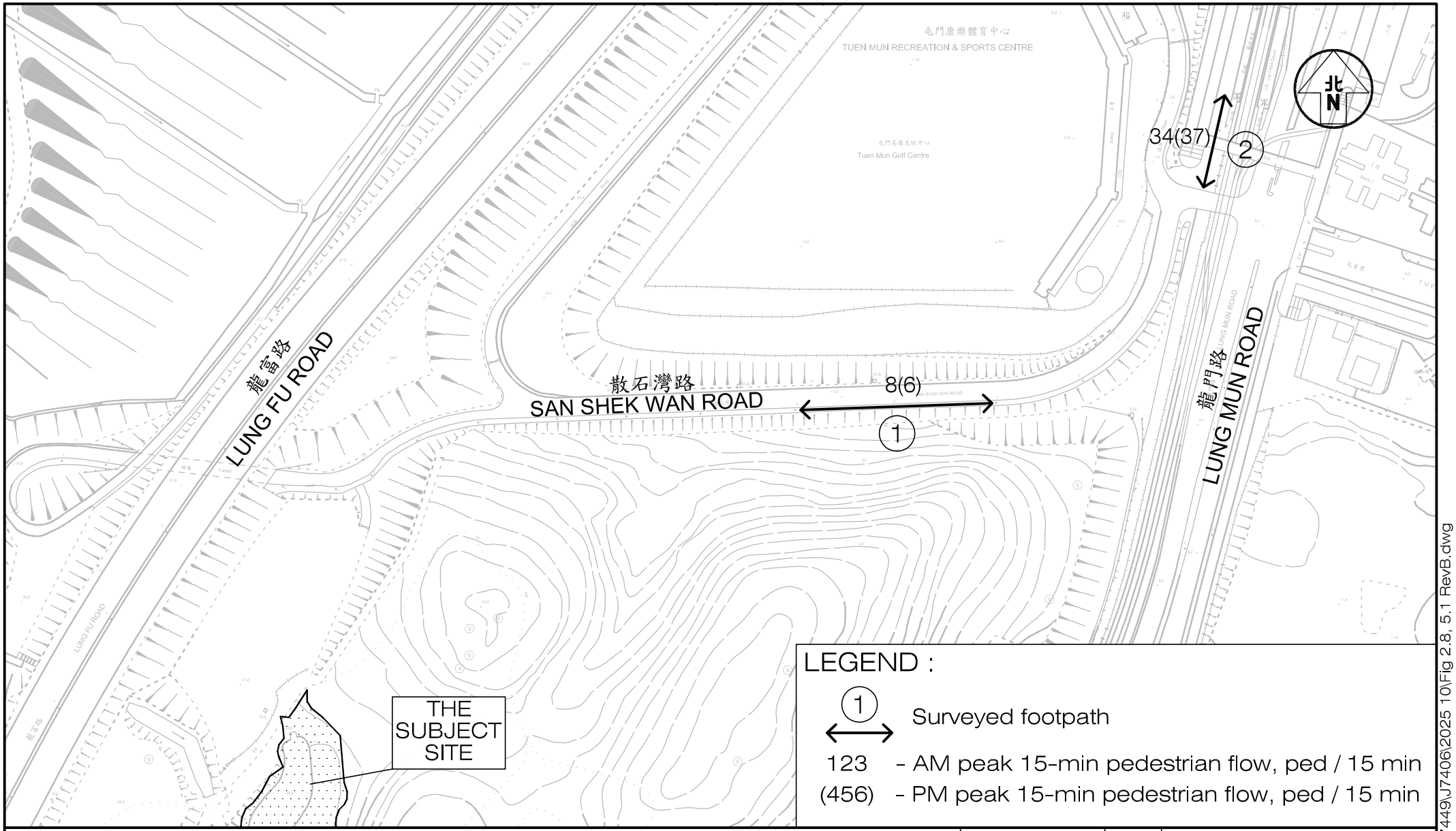

| | | | |
|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 2.6 | Revision B | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: THE PUBLIC TRANSPORT SERVICES PROVIDED IN THE VICINITY OF THE SUBJECT SITE | Designed by L C H / Drawn by N C M / Checked by K C | | |
| | Scale in A3: 1 : 5000 | Date: 24 OCT 2025 | |

T:\JOB\J7400-J7449\J7406\2025 10\Fig 2.6 RevA.dwg




| | | | |
|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 2.7 | Revision B | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: LOCATION OF THE SURVEYED FOOTPATHS | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4 1 : 2000 | Date 24 OCT 2025 | |

T:\JOB\J7400-J7449\J7406\2025 10\Fig 2.7, 5.2 RevB.dwg




| | | | |
|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 2.8 | Revision B | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: EXISTING PEDESTRIAN FLOWS | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4: 1 : 2000 | Date: 24 OCT 2025 | |

T:\JOB\J7400-J7449\J7406\2025 10\Fig 2.8, 5.1 RevB.dwg

Gates

Application Boundary

Gates

北
N

31.9

CUL

FP

CUL

80.10

+29.60

+29.50

L1

V1(D)

+29.50

+29.60

P1

P2

+29.60

2-storey House

F.S. Tank & Pumps

+29.50

+29.50

## LEGEND :

L1 — LGV loading / unloading bay @7m(L) X 3.5m(W) X 3.6m(H)

V1(D) — Accessible car parking space @5m(L) X 3.5m(W) X 2.4m(H)

P1 — Private car parking space @5m(L) X 2.5m(W) X 2.4m(H)

Project Title

PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T.

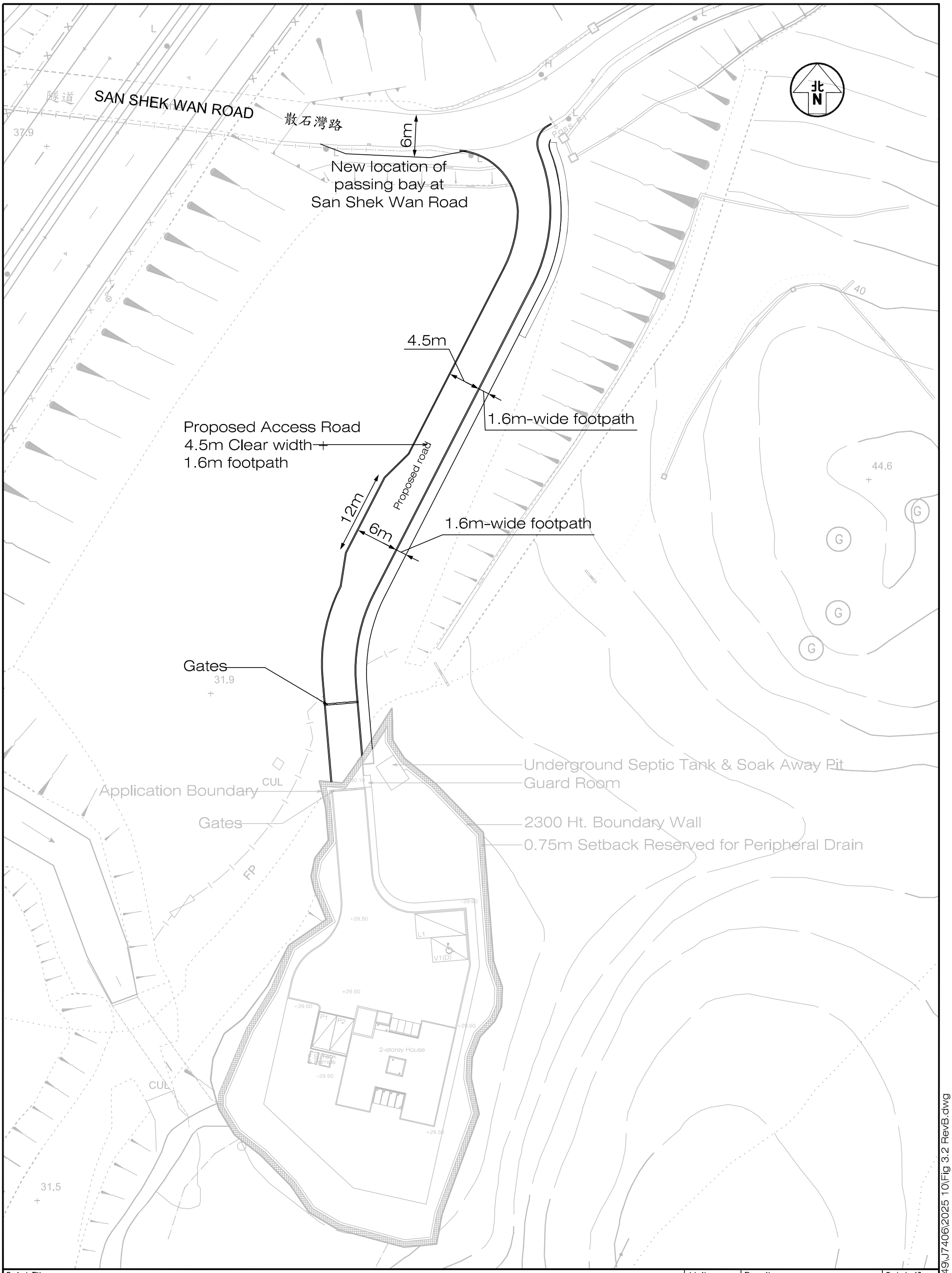
| Job No. | Figure No. | | | Scale in A3 |
|---|---|---|---|---|
| J7406 | 3.1 | | | 1 : 300 |
| Designed by | Drawn by | Checked by | Revision | Date |
| C Y Y | N C M | K C | B | 24 OCT 2025 |

Figure Title

CAR PARK LAYOUT

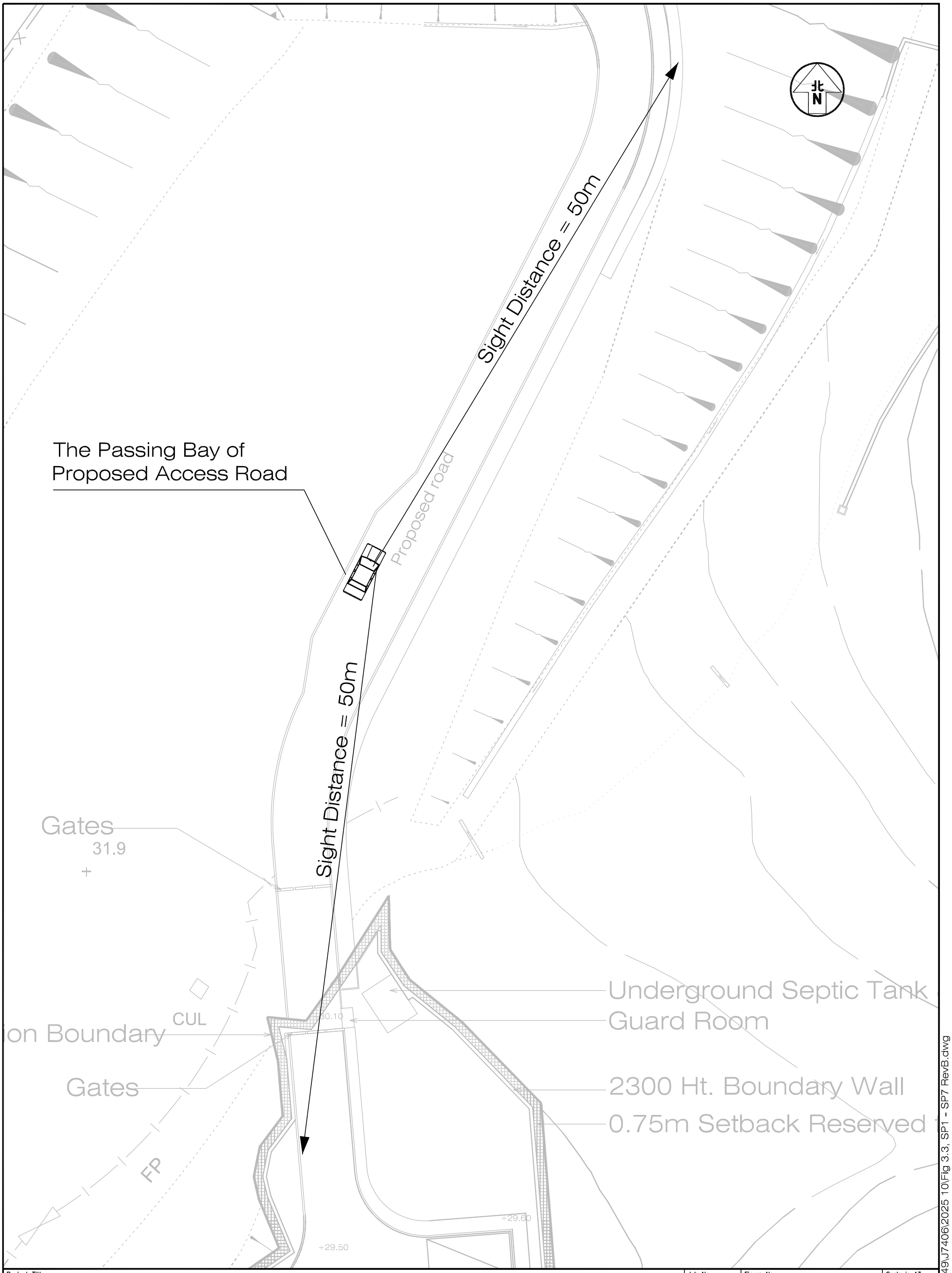
CKM Asia Limited
Traffic and Transportation Planning Consultants

T:\JOB\J7400-J7449\J7406\2025 10\Fig 3.1 RevB.dwg



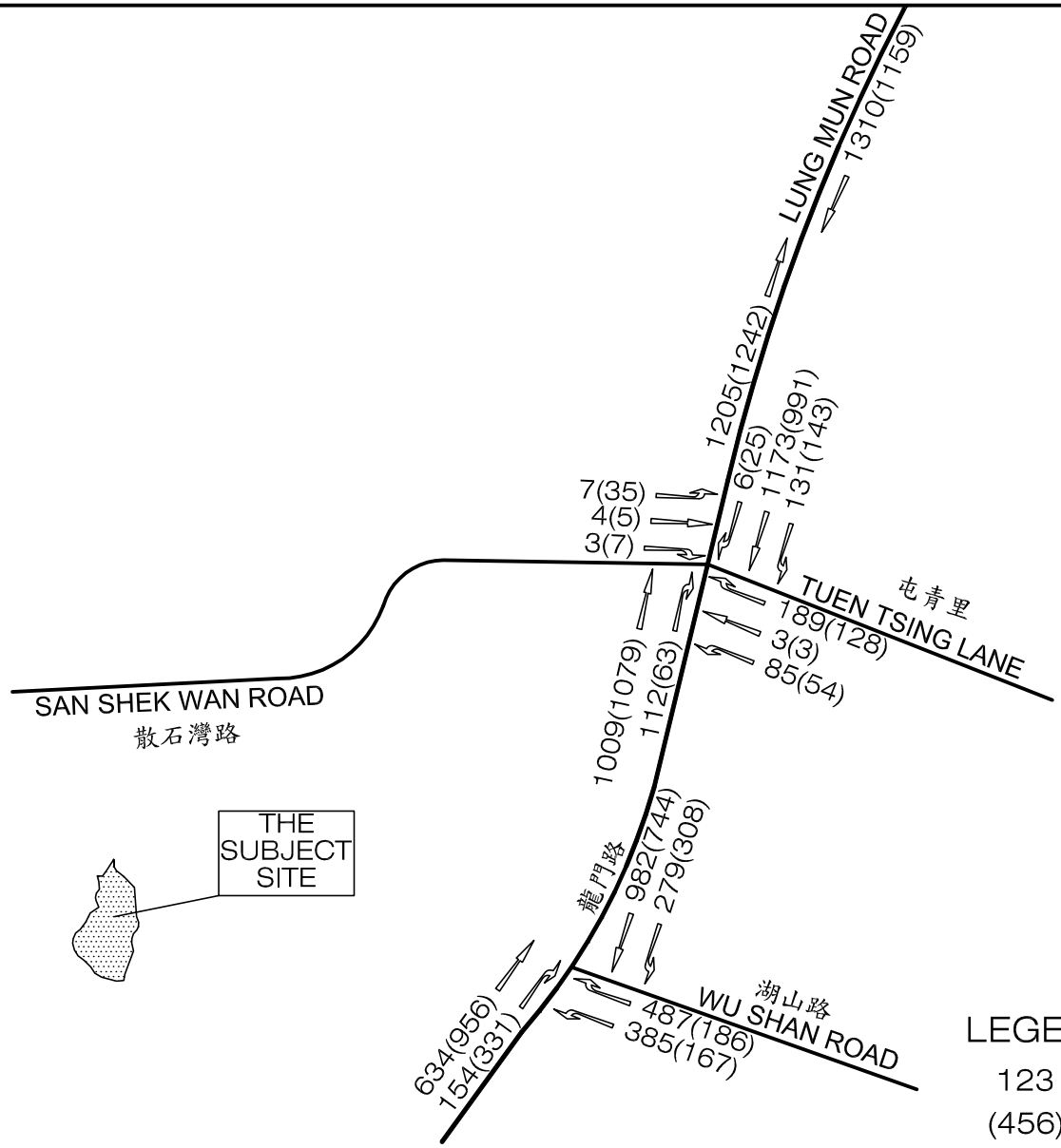

| | | | | | |
|---|---|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. | Job No. J7406 | Figure No. 3.2 | | | Scale in A3 1 : 500 |
| | Designed by C Y Y | Drawn by N C M | Checked by K C | Revision B | Date 24 OCT 2025 |
| Figure Title: THE PROPOSED ACCESS ROAD AND THE NEW LOCATION OF PASSING BAY AT SAN SHEK WAN ROAD | CKM Asia Limited<br>Traffic and Transportation Planning Consultants | | | | |

T:\JOB\J7400-J7449\J7406\2025 10\Fig 3.2 RevB.dwg




| | | | | | |
|---|---|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. | Job No. J7406 | Figure No. 3.3 | | | Scale in A3 1 : 300 |
| | Designed by C Y Y | Drawn by N C M | Checked by K C | Revision B | Date 24 OCT 2025 |
| Figure Title: SIGHT DISTANCE AT THE PASSING BAY OF PROPOSED ACCESS ROAD | CKM Asia Limited<br>Traffic and Transportation Planning Consultants | | | | |

T:\JOB\J7400-J7449\J7406\2025 10\Fig 3.3, SP1 - SP7 RevB.dwg



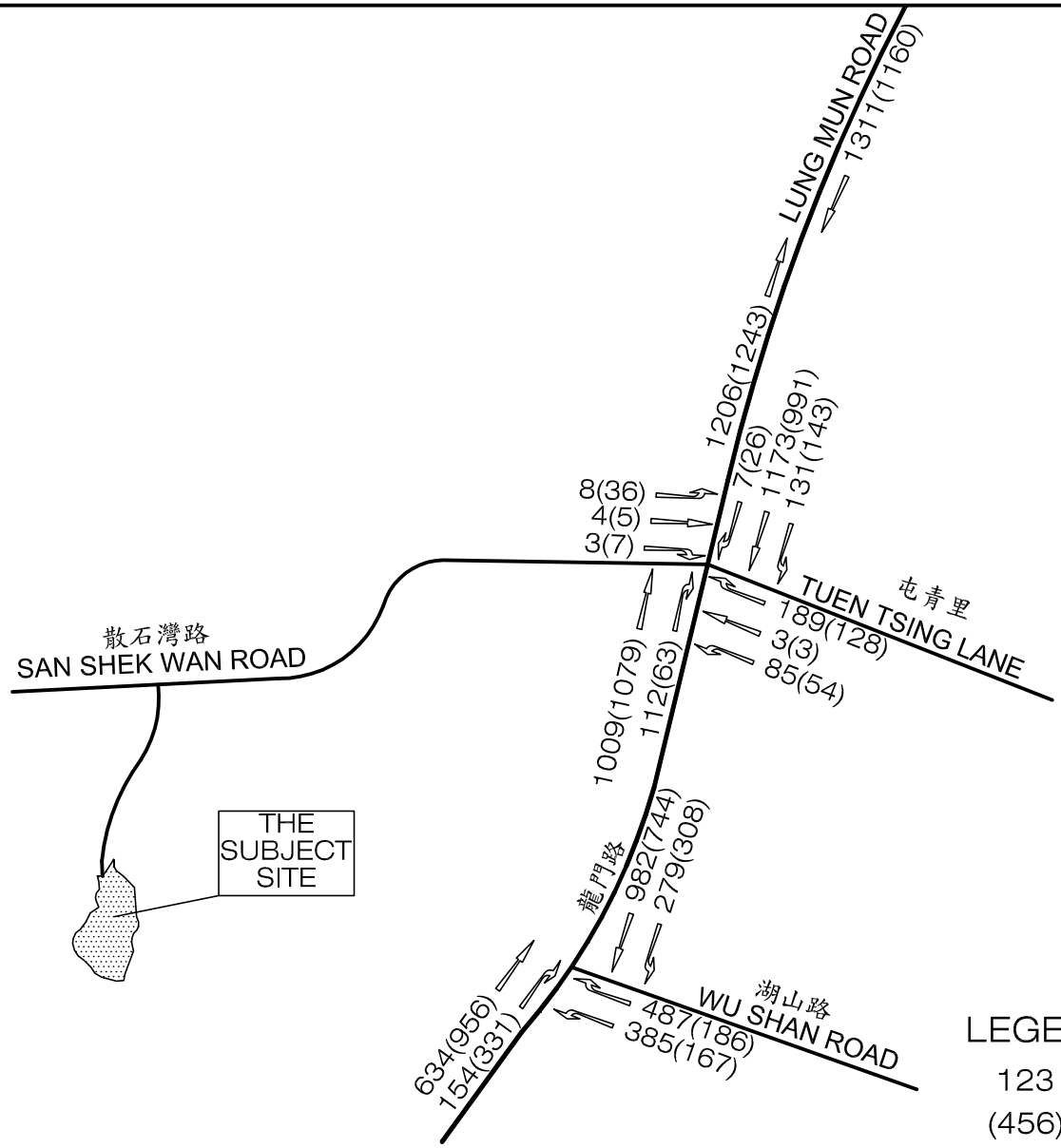

LEGEND :

123 - AM peak hour traffic flow, pcu / hr

(456) - PM peak hour traffic flow, pcu / hr

| | | | |
|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 4.1 | Revision B | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: YEAR 2034 PEAK HOUR TRAFFIC FLOWS WITHOUT THE PROPOSED DEVELOPMENT | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4 N.T.S. | Date 24 OCT 2025 | |

T:\JOBs\J7400-J7449\J7406\2025 10\Fig 4.1 RevB.dwg



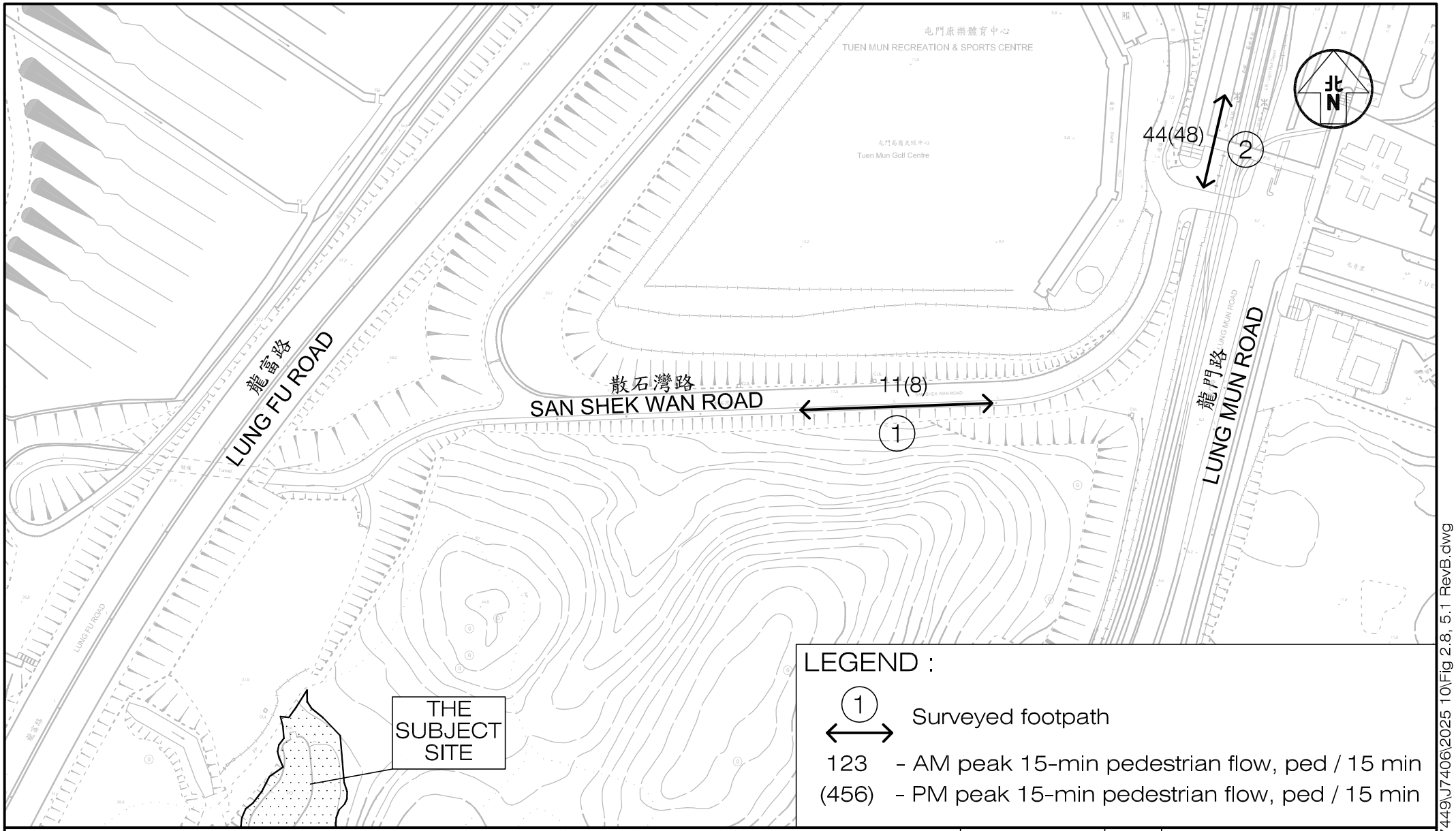

LEGEND :

123 - AM peak hour traffic flow, pcu / hr

(456) - PM peak hour traffic flow, pcu / hr

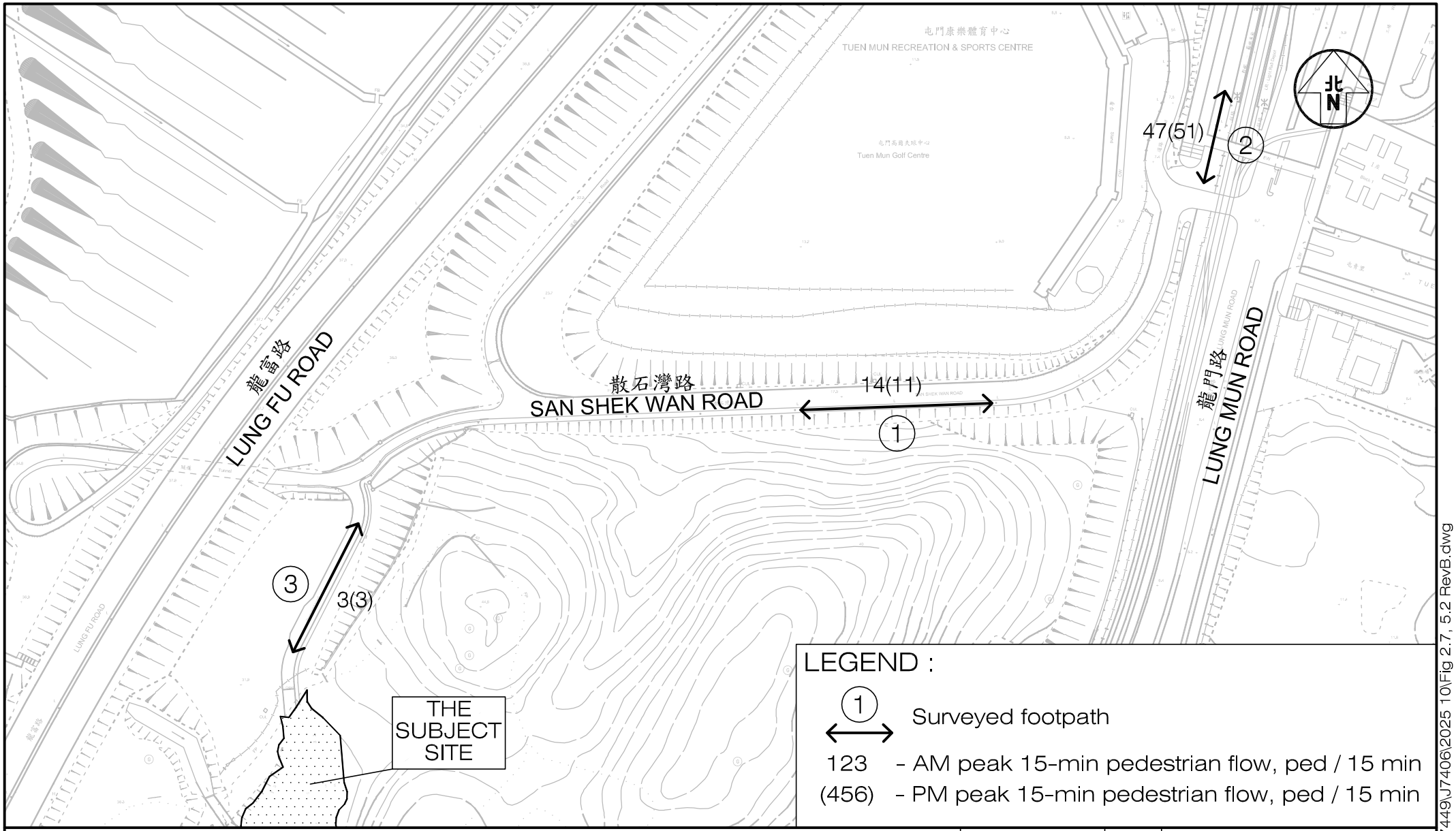
| | | | |
|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 4.2 | Revision B | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: YEAR 2034 PEAK HOUR TRAFFIC FLOWS WITH THE PROPOSED DEVELOPMENT | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4 N.T.S. | Date 24 OCT 2025 | |

T:\JOBs\J7400-J7449\J7406\2025 10\Fig 4.2 RevB.dwg




| | | | |
|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 5.1 | Revision B | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: YEAR 2034 PEDESTRIAN FLOWS WITHOUT THE PROPOSED DEVELOPMENT | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4: 1 : 2000 | Date: 24 OCT 2025 | |

T:\JOB\J7400-J7449\J7406\2025 10\Fig 2.8, 5.1 RevB.dwg




| | | | |
|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. 5.2 | Revision B | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: YEAR 2034 PEDESTRIAN FLOWS WITH THE PROPOSED DEVELOPMENT | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4: 1 : 2000 | Date: 24 OCT 2025 | |

T:\JOB\J7400-J7449\J7406\2025 10\Fig 2.7, 5.2 RevB.dwg

# Appendix 1 – Calculation

# Signal Junction Analysis

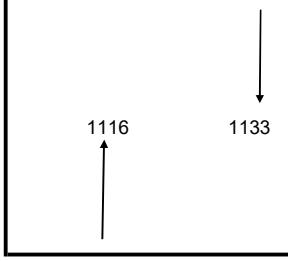
Junction: Lung Mun Road / Light Rail Transit Depot Access — Job Number: J7406

Scenario: Existing Condition — P. 1

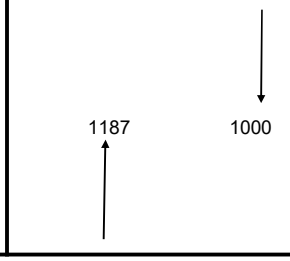
Design Year: 2025 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road NB | SA | A1 | 1 | 3.70 | | | | 1985 | 539 | 0.272 | | | 1985 | 573 | 0.289 | 0.289 |
| | SA | A2 | 1 | 3.70 | | | | 2125 | 577 | 0.272 | | | 2125 | 614 | 0.289 | |
| | | | | | | | | | | | | | | | | |
| Lung Mun Road SB | SA | B1 | 1 | 3.60 | | | | 1975 | 547 | 0.277 | 0.277 | | 1975 | 483 | 0.245 | |
| | SA | B2 | 1 | 3.60 | | | | 2115 | 586 | 0.277 | | | 2115 | 517 | 0.244 | |
| pedestrian phase | | | | | | | | | | | | | | | | |

AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)

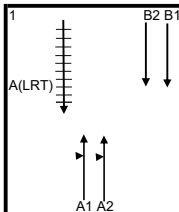
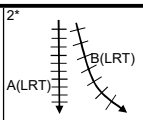
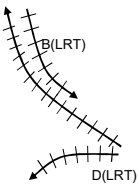



$S=1940+100(W-3.25)$ $S_M=S\div(1+1.5f/r)$

$S=2080+100(W-3.25)$ $S_M=(S-230)\div(1+1.5f/r)$

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1 | | 1 | |
| Sum y | 0.277 | | 0.289 | |
| L (s) | 156 | | 104 | |
| C (s) | 3600 | | 3600 | |
| practical y | 0.861 | | 0.874 | |
| R.C. (%) | 211% | | 203% | |

Note:

| 1 | 2* | 3 | 4* | 5 |
|---|---|---|---|---|
|   |   | |   | |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM | G = | I/G = | G = | I/G = | 5 | G = | 33 | I/G = | 15 | G = | I/G = | G = | I/G = | | | |
| | G = | I/G = | G = | I/G = | | G = | | I/G = | | G = | I/G = | G = | I/G = | | | |
| PM | G = | I/G = | G = | I/G = | 5 | G = | 33 | I/G = | 15 | G = | I/G = | G = | I/G = | | | |
| | G = | I/G = | G = | I/G = | | G = | | I/G = | | G = | I/G = | G = | I/G = | | | |

# Signal Junction Analysis

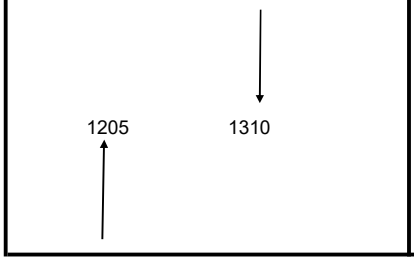
Junction: Lung Mun Road / Light Rail Transit Depot Access — Job Number: J7406

Scenario: Future Condition (Without Proposed Development) — P. 2

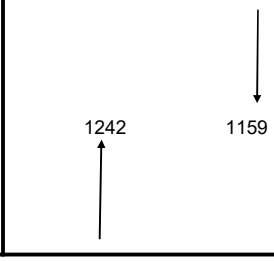
Design Year: 2031 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road NB | SA | A1 | 1 | 3.70 | | | | 1985 | 582 | 0.293 | | | 1985 | 600 | 0.302 | 0.302 |
| | SA | A2 | 1 | 3.70 | | | | 2125 | 623 | 0.293 | | | 2125 | 642 | 0.302 | |
| | | | | | | | | | | | | | | | | |
| Lung Mun Road SB | SA | B1 | 1 | 3.60 | | | | 1975 | 633 | 0.321 | 0.321 | | 1975 | 560 | 0.284 | |
| | SA | B2 | 1 | 3.60 | | | | 2115 | 677 | 0.320 | | | 2115 | 599 | 0.283 | |
| pedestrian phase | | | | | | | | | | | | | | | | |

AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)

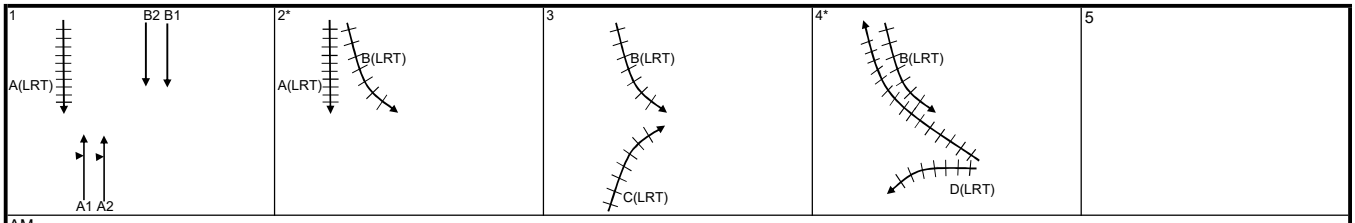



$S=1940+100(W-3.25)$ $S_M=S\div(1+1.5f/r)$

$S=2080+100(W-3.25)$ $S_M=(S-230)\div(1+1.5f/r)$

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1 | | 1 | |
| Sum y | 0.321 | | 0.302 | |
| L (s) | 156 | | 104 | |
| C (s) | 3600 | | 3600 | |
| practical y | 0.861 | | 0.874 | |
| R.C. (%) | 169% | | 189% | |

Note:




| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM | G = | I/G = | G = | I/G = | 5 | G = | 33 | I/G = | 15 | G = | I/G = | G = | I/G = |
| | G = | I/G = | G = | I/G = | | G = | | I/G = | | G = | I/G = | G = | I/G = |
| PM | G = | I/G = | G = | I/G = | 5 | G = | 33 | I/G = | 15 | G = | I/G = | G = | I/G = |
| | G = | I/G = | G = | I/G = | | G = | | I/G = | | G = | I/G = | G = | I/G = |

# Signal Junction Analysis

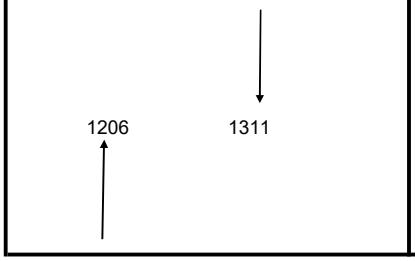
Junction: Lung Mun Road / Light Rail Transit Depot Access — Job Number: J7406

Scenario: Future Condition (With Proposed Development) — P. 3

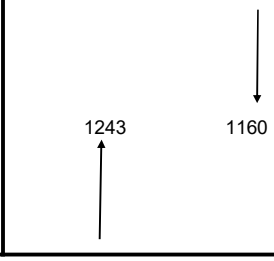
Design Year: 2036 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road NB | SA | A1 | 1 | 3.70 | | | | 1985 | 582 | 0.293 | | | 1985 | 600 | 0.302 | 0.302 |
| | SA | A2 | 1 | 3.70 | | | | 2125 | 624 | 0.294 | | | 2125 | 643 | 0.303 | |
| | | | | | | | | | | | | | | | | |
| Lung Mun Road SB | SA | B1 | 1 | 3.60 | | | | 1975 | 633 | 0.321 | 0.321 | | 1975 | 560 | 0.284 | |
| | SA | B2 | 1 | 3.60 | | | | 2115 | 678 | 0.321 | | | 2115 | 600 | 0.284 | |
| pedestrian phase | | | | | | | | | | | | | | | | |

AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)

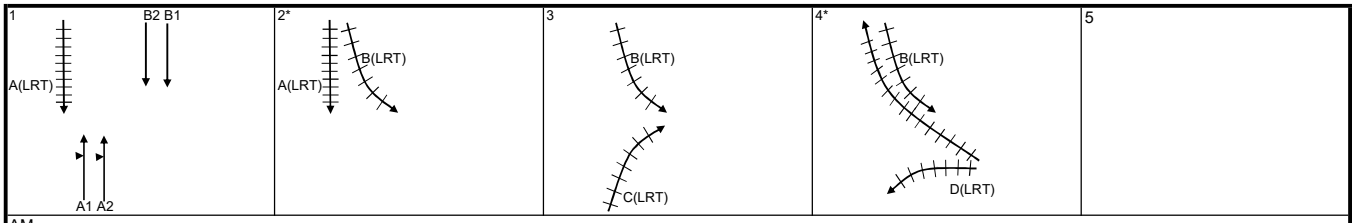



$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1 | | 1 | |
| Sum y | 0.321 | | 0.302 | |
| L (s) | 156 | | 104 | |
| C (s) | 3600 | | 3600 | |
| practical y | 0.861 | | 0.874 | |
| R.C. (%) | 169% | | 189% | |

Note:




| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM | G = | I/G = | G = | I/G = | 5 | G = | 33 | I/G = | 15 | G = | I/G = | G = | I/G = |
| | G = | I/G = | G = | I/G = | | G = | | I/G = | | G = | I/G = | G = | I/G = |
| PM | G = | I/G = | G = | I/G = | 5 | G = | 33 | I/G = | 15 | G = | I/G = | G = | I/G = |
| | G = | I/G = | G = | I/G = | | G = | | I/G = | | G = | I/G = | G = | I/G = |

# Signal Junction Analysis

Junction: Lung Mun Road / Tuen Tsing Lane — Job Number: J7406

Scenario: Existing Condition — P. 4

Design Year: 2025 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road NB | SA | A1 | 2 | 3.20 | | | | 2075 | 468 | 0.226 | | | 2075 | 519 | 0.250 | 0.250 |
| | SA | A2 | 2 | 3.10 | | | | 2065 | 466 | 0.226 | | | 2065 | 516 | 0.250 | |
| | RT | A3 | 1 | 3.30 | 20.0 | | 100 | 1940 | 103 | 0.053 | 0.053 | 100 | 1940 | 58 | 0.030 | 0.030 |
| | | | | | | | | | | | | | | | | |
| Access Road to | LT+SA+RT | B1 | 3 | 3.50 | 13.0 | | 78 | 1803 | 11 | 0.006 | 0.006 | 92 | 1776 | 41 | 0.023 | 0.023 |
| Sports Centre EB | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Lung Mun Road SB | SA+LT | C1 | 2 | 4.70 | 14.0 | | 22 | 2037 | 552 | 0.271 | 0.271 | 30 | 2020 | 476 | 0.236 | |
| | SA | C2 | 2 | 3.70 | | | | 2125 | 575 | 0.271 | | | 2125 | 500 | 0.235 | |
| | RT | C3 | 1 | 3.10 | 12.0 | | 100 | 1836 | 6 | 0.003 | | 100 | 1836 | 24 | 0.013 | |
| | | | | | | | | | | | | | | | | |
| Tuen Tsing Lane WB | LT+SA+RT | D1 | 4 | 3.40 | 13.0 | | 99 | 1755 | 120 | 0.068 | | 99 | 1755 | 80 | 0.046 | |
| | RT | D2 | 4 | 3.40 | 22.0 | | 100 | 1961 | 134 | 0.068 | 0.068 | 100 | 1961 | 89 | 0.045 | 0.045 |
| | | | | | | | | | | | | | | | | |
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| pedestrian phase | | lp | 1 | | min crossing time = | | 7 | sec GM + | 7 | sec FGM = | | 14 | sec | | | |
| | | Jp | 3,4 | | min crossing time = | | 10 | sec GM + | 10 | sec FGM = | | 20 | sec | | | |
| | | Kp | 4 | | min crossing time = | | 5 | sec GM + | 6 | sec FGM = | | 11 | sec | | | |
| | | Lp | 1,2,3 | | min crossing time = | | 5 | sec GM + | 6 | sec FGM = | | 11 | sec | | | |
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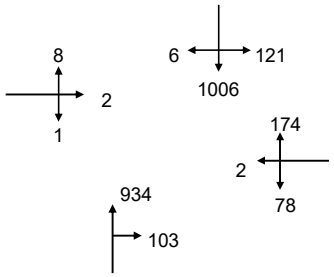
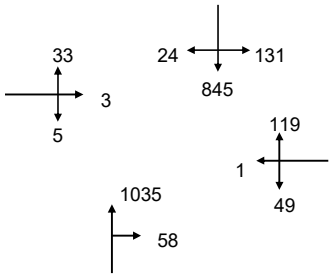
AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)

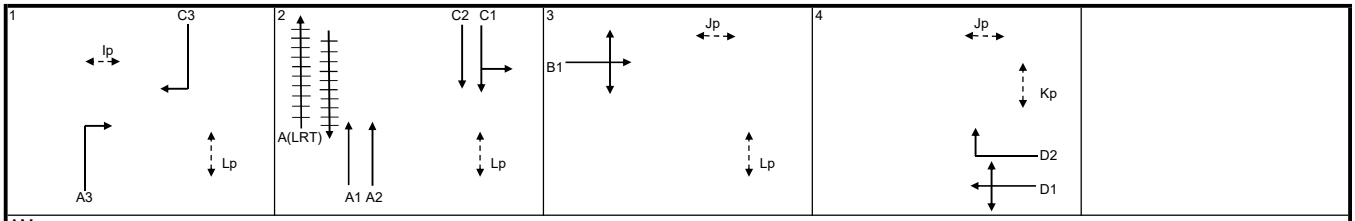



$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1+2+3+4 | | 1+2+3+4 | |
| Sum y | 0.399 | | 0.348 | |
| L (s) | 1012 | | 1161 | |
| C (s) | 3600 | | 3600 | |
| practical y | 0.647 | | 0.610 | |
| R.C. (%) | 62% | | 75% | |

Note:

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM | | | | | | | | | | | | | | | | | | | |
| | G = | I/G = | 7 | G = | I/G = | 14 | G = | I/G = | 13 | G = | I/G = | 14 | G = | I/G = | | | | | |
| | G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | | | | |
| PM | | | | | | | | | | | | | | | | | | | |
| | G = | I/G = | 5 | G = | I/G = | 15 | G = | I/G = | 13 | G = | I/G = | 14 | G = | I/G = | | | | | |
| | G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | | | | |

# Signal Junction Analysis

Junction: Lung Mun Road / Tuen Tsing Lane — Job Number: J7406

Scenario: Future Condition (Without Proposed Development) — P. 5

Design Year: 2031 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road NB | SA | A1 | 2 | 3.20 | | | | 2075 | 506 | 0.244 | | | 2075 | 541 | 0.261 | 0.261 |
| | SA | A2 | 2 | 3.10 | | | | 2065 | 503 | 0.244 | | | 2065 | 538 | 0.261 | |
| | RT | A3 | 1 | 3.30 | 20.0 | | 100 | 1940 | 112 | 0.058 | 0.058 | 100 | 1940 | 63 | 0.032 | 0.032 |
| | | | | | | | | | | | | | | | | |
| Access Road to | LT+SA+RT | B1 | 3 | 3.50 | 13.0 | | 83 | 1793 | 14 | 0.008 | 0.008 | 93 | 1775 | 47 | 0.026 | 0.026 |
| Sports Centre EB | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Lung Mun Road SB | SA+LT | C1 | 2 | 4.70 | 14.0 | | 21 | 2039 | 639 | 0.313 | 0.313 | 27 | 2026 | 553 | 0.273 | |
| | SA | C2 | 2 | 3.70 | | | | 2125 | 665 | 0.313 | | | 2125 | 581 | 0.273 | |
| | RT | C3 | 1 | 3.10 | 12.0 | | 100 | 1836 | 6 | 0.003 | | 100 | 1836 | 25 | 0.014 | |
| | | | | | | | | | | | | | | | | |
| Tuen Tsing Lane WB | LT+SA+RT | D1 | 4 | 3.40 | 13.0 | | 98 | 1756 | 131 | 0.075 | | 98 | 1756 | 87 | 0.050 | |
| | RT | D2 | 4 | 3.40 | 22.0 | | 100 | 1961 | 146 | 0.074 | 0.074 | 100 | 1961 | 98 | 0.050 | 0.050 |
| | | | | | | | | | | | | | | | | |
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| pedestrian phase | | lp | 1 | | min crossing time = | | 7 | sec GM + | 7 | sec FGM = | | 14 | sec | | | |
| | | Jp | 3,4 | | min crossing time = | | 10 | sec GM + | 10 | sec FGM = | | 20 | sec | | | |
| | | Kp | 4 | | min crossing time = | | 5 | sec GM + | 6 | sec FGM = | | 11 | sec | | | |
| | | Lp | 1,2,3 | | min crossing time = | | 5 | sec GM + | 6 | sec FGM = | | 11 | sec | | | |
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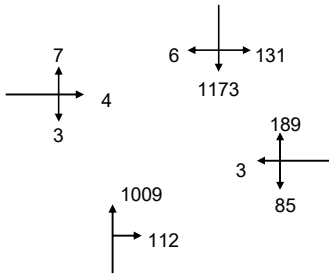
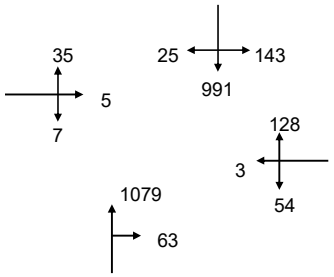
AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)

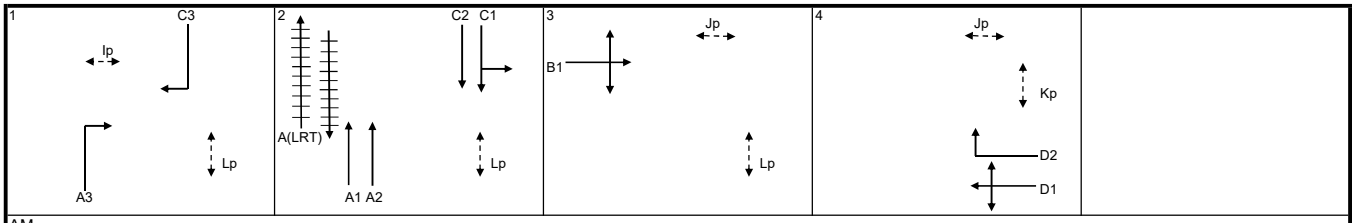



S=1940+100(W–3.25) S=2080+100(W–3.25)

$S_M$=S÷(1+1.5f/r) $S_M$=(S–230)÷(1+1.5f/r)

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1+2+3+4 | | 1+2+3+4 | |
| Sum y | 0.453 | | 0.370 | |
| L (s) | 1012 | | 1161 | |
| C (s) | 3600 | | 3600 | |
| practical y | 0.647 | | 0.610 | |
| R.C. (%) | 43% | | 65% | |

Note:

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM | | | | | | | | | | | | | | | | | | | |
| | G = | I/G = | 7 | G = | I/G = | 14 | G = | I/G = | 13 | G = | I/G = | 14 | G = | I/G = | | | | | |
| | G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | | | | |
| PM | | | | | | | | | | | | | | | | | | | |
| | G = | I/G = | 5 | G = | I/G = | 15 | G = | I/G = | 13 | G = | I/G = | 14 | G = | I/G = | | | | | |
| | G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | | | | |

# Signal Junction Analysis

Junction: Lung Mun Road / Tuen Tsing Lane — Job Number: J7406

Scenario: Future Condition (With Proposed Development) — P. 6

Design Year: 2036 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road NB | SA | A1 | 2 | 3.20 | | | | 2075 | 506 | 0.244 | | | 2075 | 541 | 0.261 | 0.261 |
| | SA | A2 | 2 | 3.10 | | | | 2065 | 503 | 0.244 | | | 2065 | 538 | 0.261 | |
| | RT | A3 | 1 | 3.30 | 20.0 | | 100 | 1940 | 112 | 0.058 | 0.058 | 100 | 1940 | 63 | 0.032 | 0.032 |
| | | | | | | | | | | | | | | | | |
| Access Road to | LT+SA+RT | B1 | 3 | 3.50 | 13.0 | | 85 | 1789 | 15 | 0.008 | 0.008 | 93 | 1775 | 48 | 0.027 | 0.027 |
| Sports Centre EB | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Lung Mun Road SB | SA+LT | C1 | 2 | 4.70 | 14.0 | | 21 | 2039 | 639 | 0.313 | 0.313 | 27 | 2026 | 553 | 0.273 | |
| | SA | C2 | 2 | 3.70 | | | | 2125 | 665 | 0.313 | | | 2125 | 581 | 0.273 | |
| | RT | C3 | 1 | 3.10 | 12.0 | | 100 | 1836 | 7 | 0.004 | | 100 | 1836 | 26 | 0.014 | |
| | | | | | | | | | | | | | | | | |
| Tuen Tsing Lane WB | LT+SA+RT | D1 | 4 | 3.40 | 13.0 | | 98 | 1756 | 131 | 0.075 | | 98 | 1756 | 87 | 0.050 | |
| | RT | D2 | 4 | 3.40 | 22.0 | | 100 | 1961 | 146 | 0.074 | 0.074 | 100 | 1961 | 98 | 0.050 | 0.050 |
| | | | | | | | | | | | | | | | | |
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| pedestrian phase | | Ip | 1 | | min crossing time = | | 7 | sec GM + | 7 | sec FGM = | | 14 | sec | | | |
| | | Jp | 3,4 | | min crossing time = | | 10 | sec GM + | 10 | sec FGM = | | 20 | sec | | | |
| | | Kp | 4 | | min crossing time = | | 5 | sec GM + | 6 | sec FGM = | | 11 | sec | | | |
| | | Lp | 1,2,3 | | min crossing time = | | 5 | sec GM + | 6 | sec FGM = | | 11 | sec | | | |
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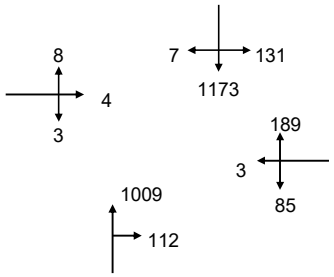
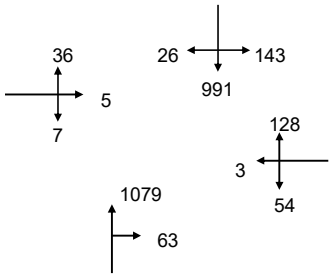
AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)

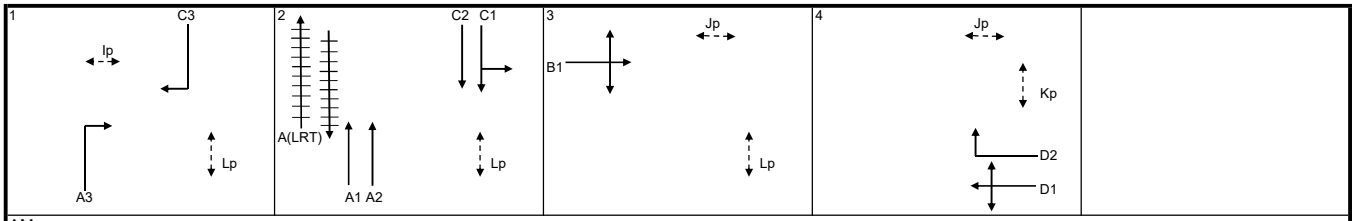



$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1+2+3+4 | | 1+2+3+4 | |
| Sum y | 0.454 | | 0.370 | |
| L (s) | 1012 | | 1161 | |
| C (s) | 3600 | | 3600 | |
| practical y | 0.647 | | 0.610 | |
| R.C. (%) | 43% | | 65% | |

Note:




AM

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G = | I/G = | 7 | G = | I/G = | 14 | G = | I/G = | 13 | G = | I/G = | 14 | G = | I/G = | | | |
| G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | | |

PM

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G = | I/G = | 5 | G = | I/G = | 15 | G = | I/G = | 13 | G = | I/G = | 14 | G = | I/G = | | | |
| G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | G = | I/G = | | | |

# Signal Junction Analysis

Junction: Lung Mun Road / Wu Shan Road — Job Number: J7406

Scenario: Existing Condition — P. 7

Design Year: 2025 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road SB | LT* | A1 | 1,2,3 | 3.20 | | | | | 173 | | | | | 210 | | |
| | SA | A2 | 1 | 3.70 | | | | 2125 | 456 | 0.215 | 0.215 | | 2125 | 345 | 0.162 | 0.162 |
| | SA | A3 | 1 | 3.70 | | | | 2125 | 456 | 0.215 | | | 2125 | 344 | 0.162 | |
| | | | | | | | | | | | | | | | | |
| Wu Shan Road WB | LT | B1 | 3 | 3.20 | 10.0 | | 100 | 1683 | 250 | 0.149 | 0.149 | 100 | 1683 | 101 | 0.060 | 0.060 |
| | LT+RT | B2 | 3 | 3.20 | 12.0 | | 100 | 1844 | 274 | 0.149 | | 100 | 1844 | 111 | 0.060 | |
| | RT | B3 | 3 | 3.20 | 15.0 | | 100 | 1886 | 279 | 0.148 | | 100 | 1886 | 113 | 0.060 | |
| | | | | | | | | | | | | | | | | |
| Lung Mun Road NB | SA | C1 | 1,2 | 3.60 | | | | 2115 | 294 | 0.139 | | | 2115 | 462 | 0.218 | |
| | SA | C2 | 1,2 | 3.60 | | | | 2115 | 294 | 0.139 | | | 2115 | 461 | 0.218 | |
| | RT | C3 | 2 | 3.60 | 25.0 | | 100 | 1995 | 138 | 0.069 | 0.069 | 100 | 1995 | 296 | 0.148 | 0.148 |
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| pedestrian phase | | | | | | | | | | | | | | | | |
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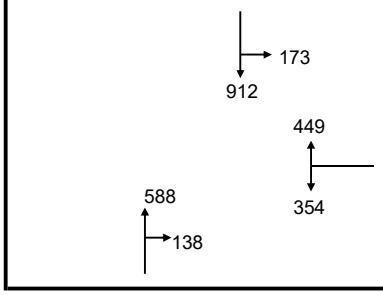
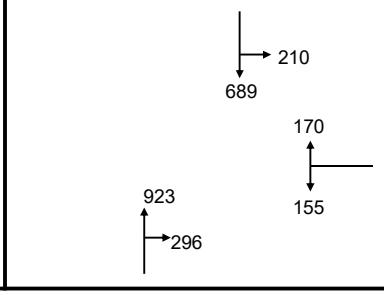
AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)

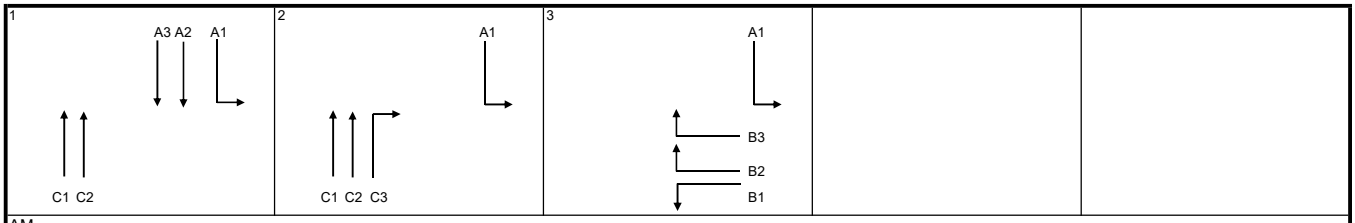



$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1+2+3 | 1,2 + 3 | 1+2+3 | 1,2 + 3 |
| Sum y | 0.432 | 0.288 | 0.371 | 0.278 |
| L (s) | 14 | 10 | 14 | 10 |
| C (s) | 120 | 120 | 108 | 108 |
| practical y | 0.795 | 0.825 | 0.783 | 0.817 |
| R.C. (%) | 84% | 187% | 111% | 193% |

Note:




| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM | | | | | | | | | | | | | | | | | | | | | | | |
| | G = | | I/G = | 5 | G = | | I/G = | 7 | G = | | I/G = | 5 | G = | | I/G = | | G = | | I/G = | |
| | G = | | I/G = | | G = | | I/G = | 7 | G = | | I/G = | 5 | G = | | I/G = | | G = | | I/G = | |
| PM | | | | | | | | | | | | | | | | | | | | | | | |
| | G = | | I/G = | 5 | G = | | I/G = | 7 | G = | | I/G = | 5 | G = | | I/G = | | G = | | I/G = | |
| | G = | | I/G = | | G = | | I/G = | 7 | G = | | I/G = | 5 | G = | | I/G = | | G = | | I/G = | |

# Signal Junction Analysis

Junction: Lung Mun Road / Wu Shan Road — Job Number: J7406

Scenario: Future Condition (Without Proposed Development) — P. 8

Design Year: 2031 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road SB | LT* | A1 | 1,2,3 | 3.20 | | | | | 279 | | | | | 308 | | |
| | SA | A2 | 1 | 3.70 | | | | 2125 | 491 | 0.231 | 0.231 | | 2125 | 372 | 0.175 | 0.175 |
| | SA | A3 | 1 | 3.70 | | | | 2125 | 491 | 0.231 | | | 2125 | 372 | 0.175 | |
| | | | | | | | | | | | | | | | | |
| Wu Shan Road WB | LT | B1 | 3 | 3.20 | 10.0 | | 100 | 1683 | 271 | 0.161 | 0.161 | 100 | 1683 | 110 | 0.065 | 0.065 |
| | LT+RT | B2 | 3 | 3.20 | 12.0 | | 100 | 1844 | 297 | 0.161 | | 100 | 1844 | 120 | 0.065 | |
| | RT | B3 | 3 | 3.20 | 15.0 | | 100 | 1886 | 304 | 0.161 | | 100 | 1886 | 123 | 0.065 | |
| | | | | | | | | | | | | | | | | |
| Lung Mun Road NB | SA | C1 | 1,2 | 3.60 | | | | 2115 | 317 | 0.150 | | | 2115 | 478 | 0.226 | |
| | SA | C2 | 1,2 | 3.60 | | | | 2115 | 317 | 0.150 | | | 2115 | 478 | 0.226 | |
| | RT | C3 | 2 | 3.60 | 25.0 | | 100 | 1995 | 154 | 0.077 | 0.077 | 100 | 1995 | 331 | 0.166 | 0.166 |
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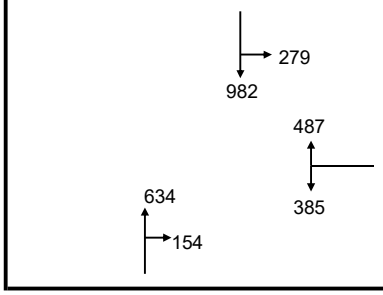
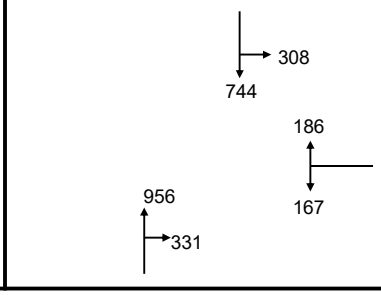
AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)



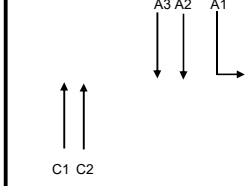

$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1+2+3 | 1,2 + 3 | 1+2+3 | 1,2 + 3 |
| Sum y | 0.469 | 0.311 | 0.406 | 0.291 |
| L (s) | 14 | 10 | 14 | 10 |
| C (s) | 120 | 120 | 108 | 108 |
| practical y | 0.795 | 0.825 | 0.783 | 0.817 |
| R.C. (%) | 69% | 165% | 93% | 180% |

Note:

1

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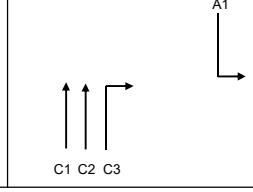


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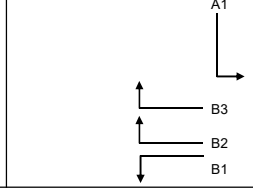


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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM | | | | | | | | | | | | | | | | | | | |
| | G = | I/G = | 5 | G = | I/G = | 7 | G = | I/G = | 5 | G = | I/G = | | G = | I/G = | | | | | |
| | G = | I/G = | | G = | I/G = | 7 | G = | I/G = | 5 | G = | I/G = | | G = | I/G = | | | | | |
| PM | | | | | | | | | | | | | | | | | | | |
| | G = | I/G = | 5 | G = | I/G = | 7 | G = | I/G = | 5 | G = | I/G = | | G = | I/G = | | | | | |
| | G = | I/G = | | G = | I/G = | 7 | G = | I/G = | 5 | G = | I/G = | | G = | I/G = | | | | | |

# Signal Junction Analysis

Junction: Lung Mun Road / Wu Shan Road — Job Number: J7406

Scenario: Future Condition (With Proposed Development) — P. 9

Design Year: 2036 — Designed By: — Checked By: — Date: 15 Jul 2025

| Approach | | Phase | Stage | Width (m) | Radius (m) | % Up-hill Gradient | AM Peak Turning % | AM Peak Sat. Flow (pcu/hr) | AM Peak Flow (pcu/hr) | AM Peak y value | AM Peak Critical y | PM Peak Turning % | PM Peak Sat. Flow (pcu/hr) | PM Peak Flow (pcu/hr) | PM Peak y value | PM Peak Critical y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lung Mun Road SB | LT* | A1 | 1,2,3 | 3.20 | | | | | 279 | | | | | 308 | | |
| | SA | A2 | 1 | 3.70 | | | | 2125 | 491 | 0.231 | 0.231 | | 2125 | 372 | 0.175 | 0.175 |
| | SA | A3 | 1 | 3.70 | | | | 2125 | 491 | 0.231 | | | 2125 | 372 | 0.175 | |
| | | | | | | | | | | | | | | | | |
| Wu Shan Road WB | LT | B1 | 3 | 3.20 | 10.0 | | 100 | 1683 | 271 | 0.161 | 0.161 | 100 | 1683 | 110 | 0.065 | 0.065 |
| | LT+RT | B2 | 3 | 3.20 | 12.0 | | 100 | 1844 | 297 | 0.161 | | 100 | 1844 | 120 | 0.065 | |
| | RT | B3 | 3 | 3.20 | 15.0 | | 100 | 1886 | 304 | 0.161 | | 100 | 1886 | 123 | 0.065 | |
| | | | | | | | | | | | | | | | | |
| Lung Mun Road NB | SA | C1 | 1,2 | 3.60 | | | | 2115 | 317 | 0.150 | | | 2115 | 478 | 0.226 | |
| | SA | C2 | 1,2 | 3.60 | | | | 2115 | 317 | 0.150 | | | 2115 | 478 | 0.226 | |
| | RT | C3 | 2 | 3.60 | 25.0 | | 100 | 1995 | 154 | 0.077 | 0.077 | 100 | 1995 | 331 | 0.166 | 0.166 |
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| pedestrian phase | | | | | | | | | | | | | | | | |
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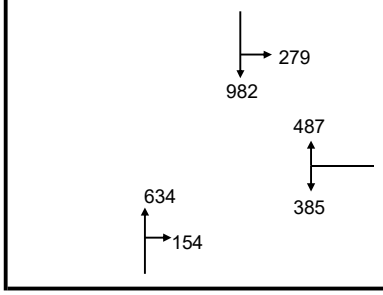
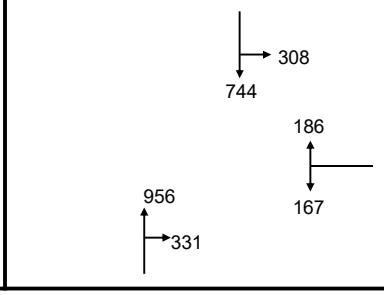
AM Traffic Flow (pcu/hr)




PM Traffic Flow (pcu/hr)



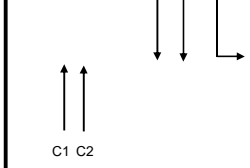

$S=1940+100(W-3.25)$ $S=2080+100(W-3.25)$

$S_M=S\div(1+1.5f/r)$ $S_M=(S-230)\div(1+1.5f/r)$

| | AM Peak | | PM Peak | |
|---|---|---|---|---|
| Group | 1+2+3 | 1,2 + 3 | 1+2+3 | 1,2 + 3 |
| Sum y | 0.469 | 0.311 | 0.406 | 0.291 |
| L (s) | 14 | 10 | 14 | 10 |
| C (s) | 120 | 120 | 108 | 108 |
| practical y | 0.795 | 0.825 | 0.783 | 0.817 |
| R.C. (%) | 69% | 165% | 93% | 180% |

Note:

1

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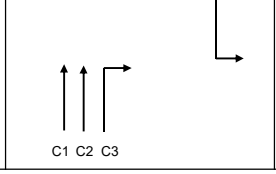


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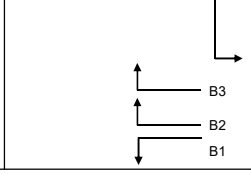


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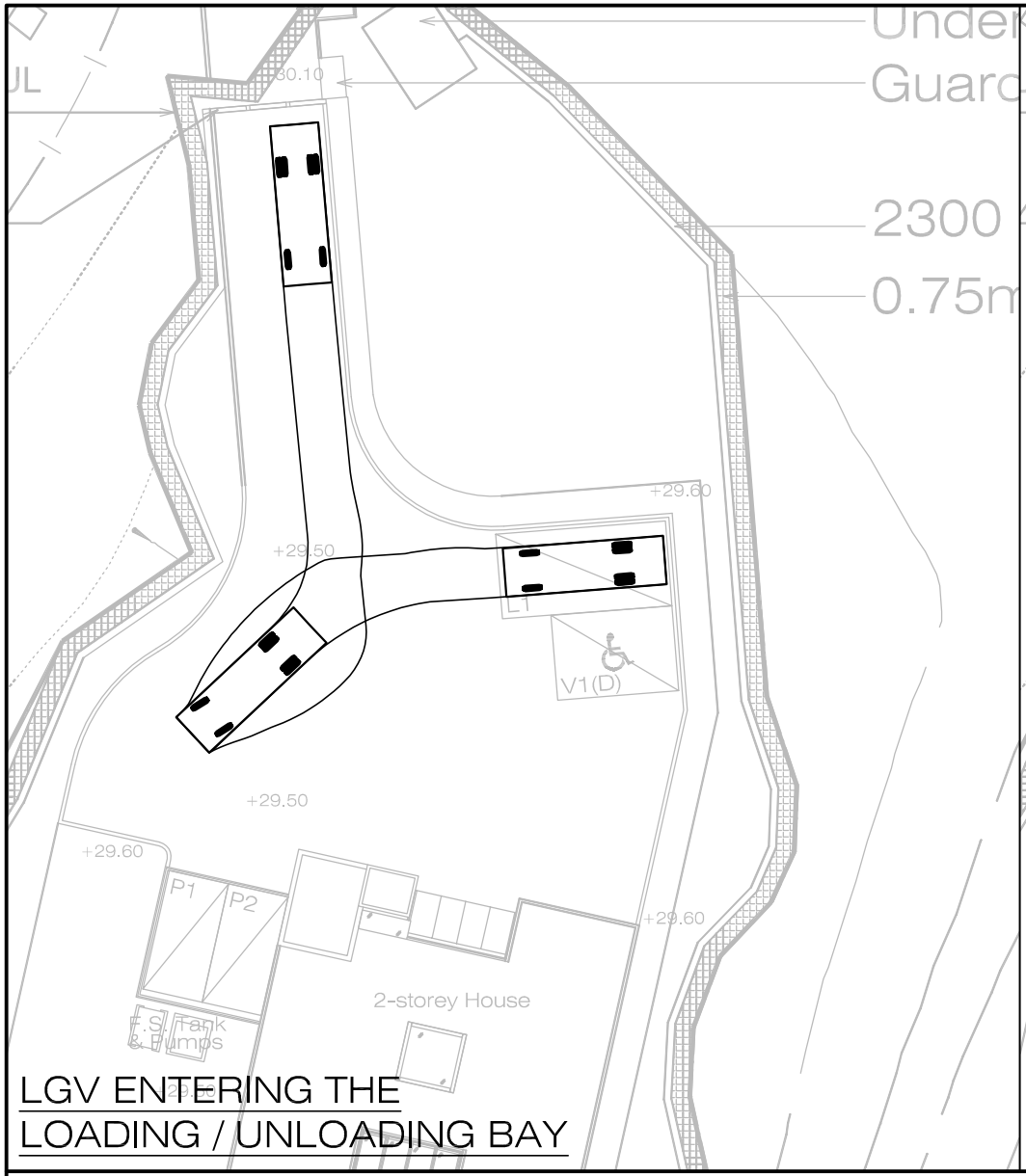
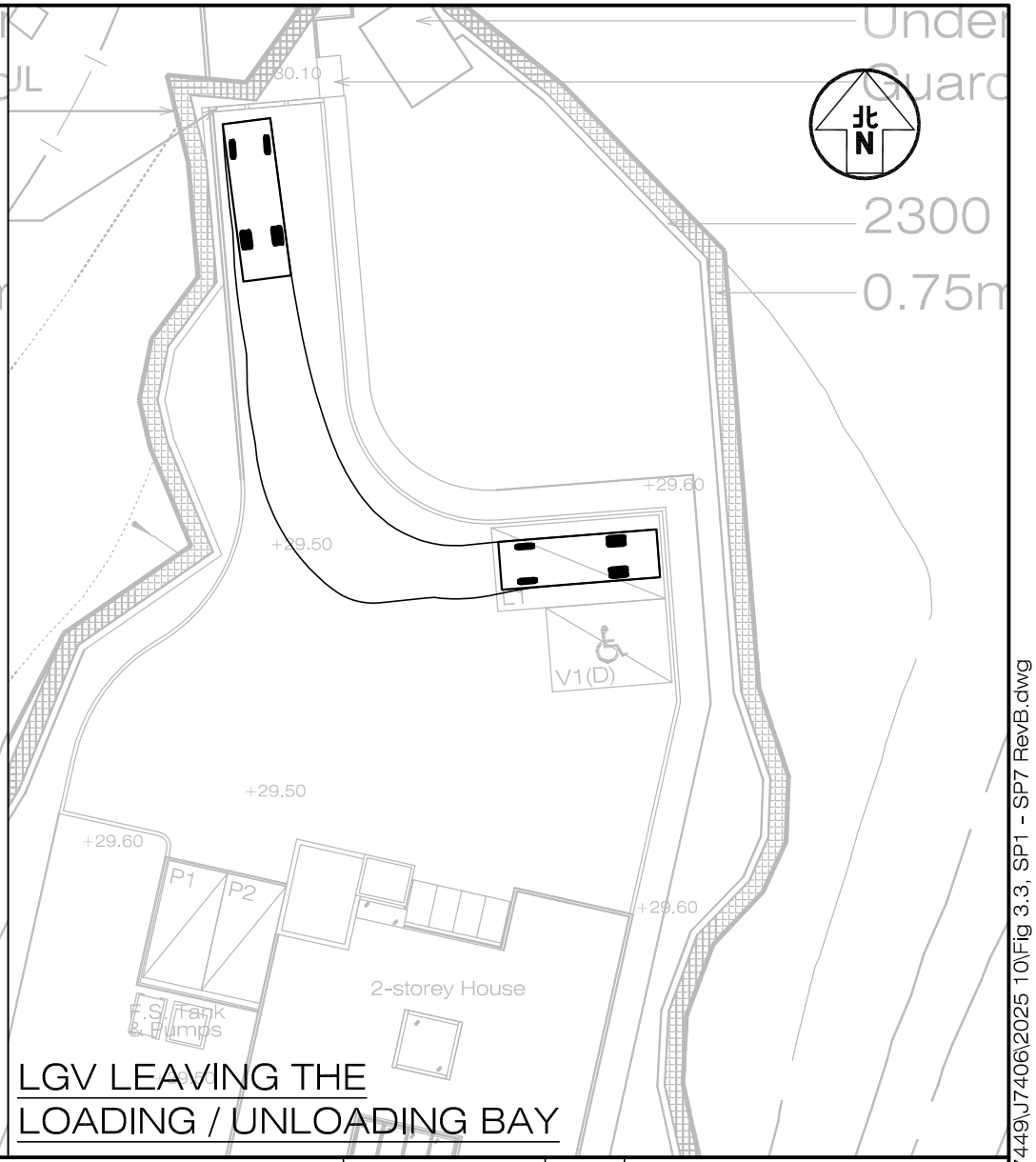
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM | | | | | | | | | | | | | | | | | | | |
| | G = | I/G = | 5 | G = | I/G = | 7 | G = | I/G = | 5 | G = | I/G = | | G = | I/G = | | | | | |
| | G = | I/G = | | G = | I/G = | 7 | G = | I/G = | 5 | G = | I/G = | | G = | I/G = | | | | | |
| PM | | | | | | | | | | | | | | | | | | | |
| | G = | I/G = | 5 | G = | I/G = | 7 | G = | I/G = | 5 | G = | I/G = | | G = | I/G = | | | | | |
| | G = | I/G = | | G = | I/G = | 7 | G = | I/G = | 5 | G = | I/G = | | G = | I/G = | | | | | |

# Appendix 2 –
# Swept Path Analysis



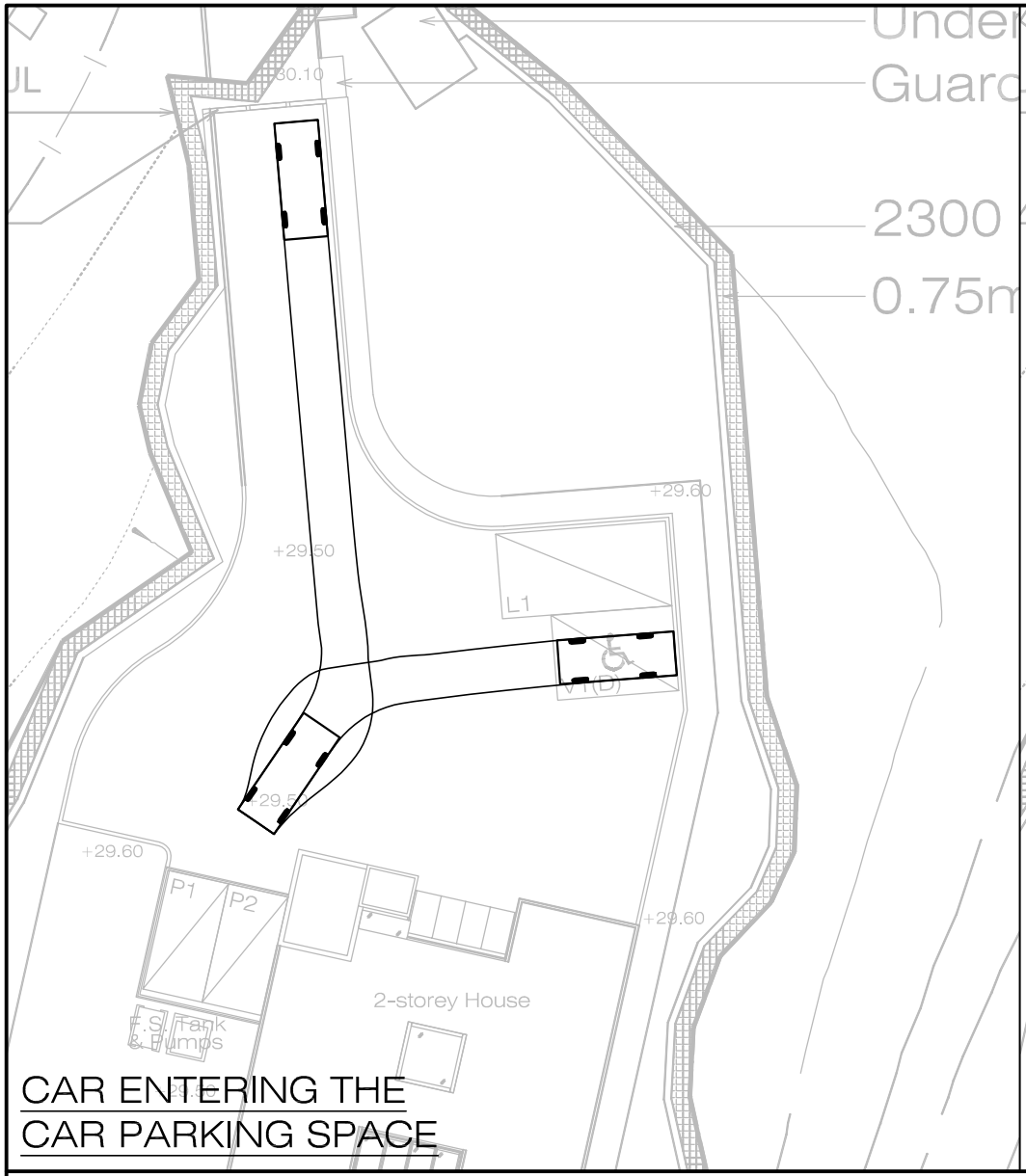

LGV ENTERING THE LOADING / UNLOADING BAY



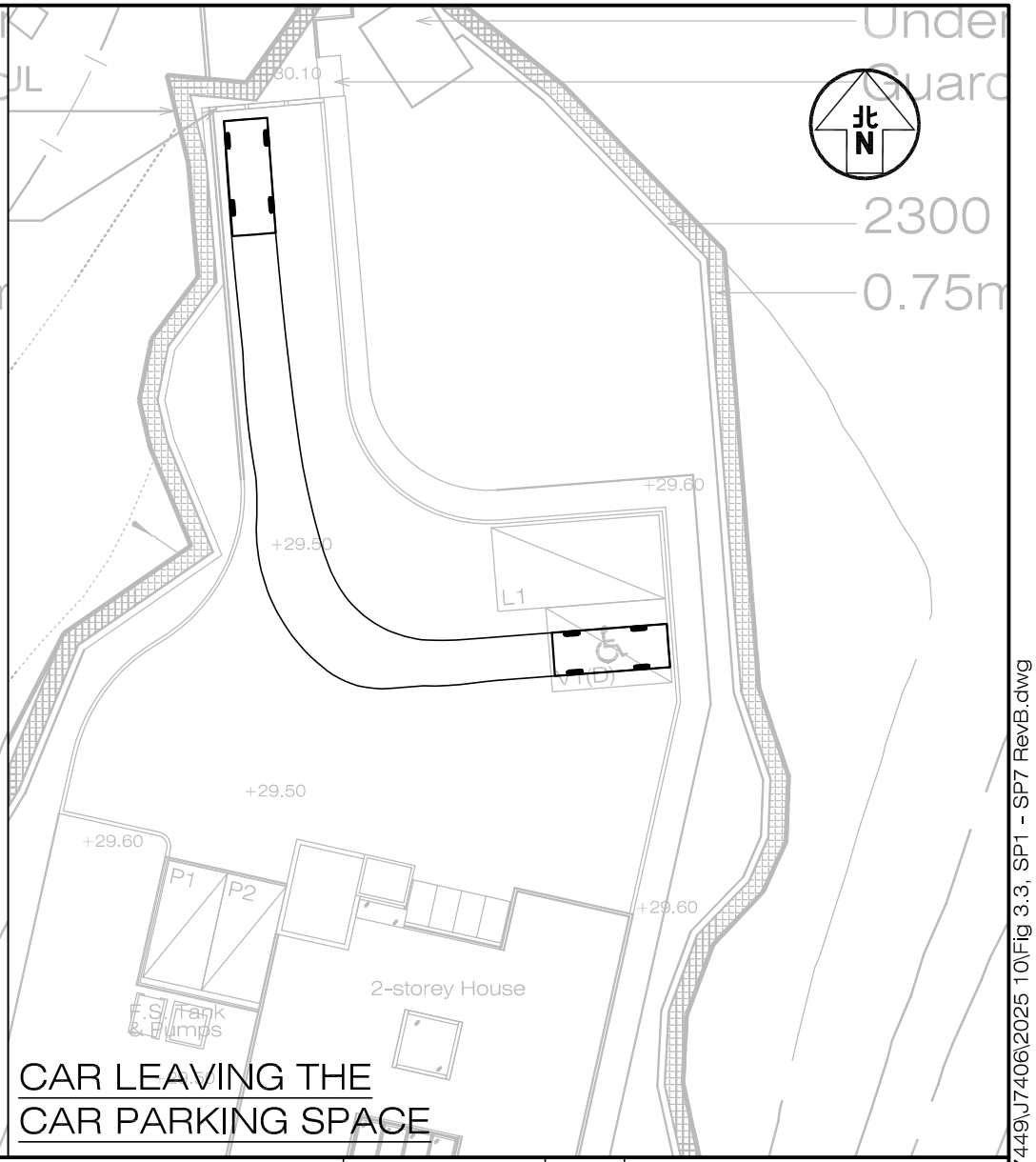

LGV LEAVING THE LOADING / UNLOADING BAY

| | | | |
|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. SP1 | Revision B | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: SWEPT PATH OF LGV ENTERING AND LEAVING THE LOADING / UNLOADING BAY L1 | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4: 1 : 300 | Date: 24 OCT 2025 | |

T:\JOB\J7400-J7449\J7406\2025 10\Fig 3.3, SP1 - SP7 RevB.dwg



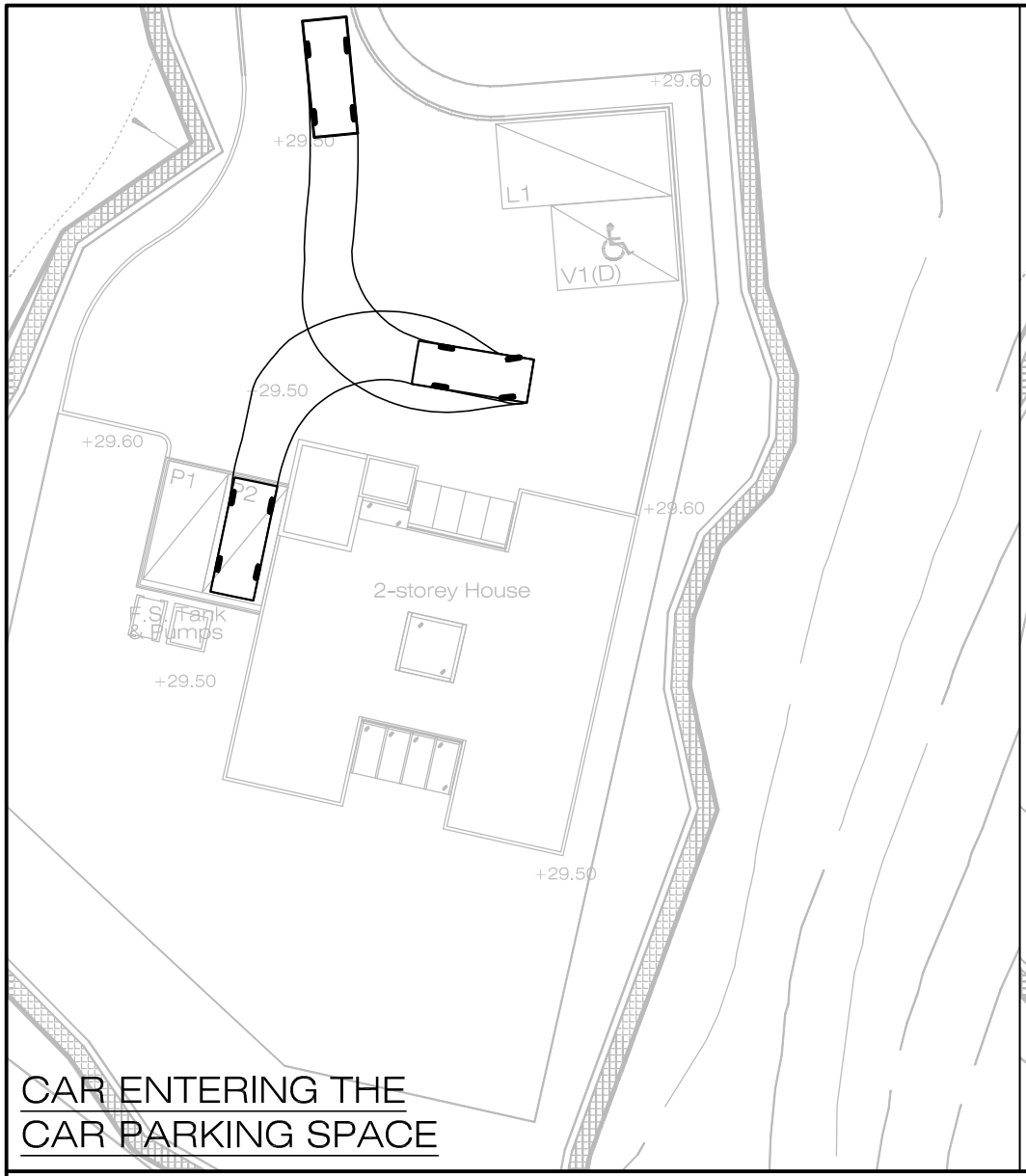

CAR ENTERING THE CAR PARKING SPACE



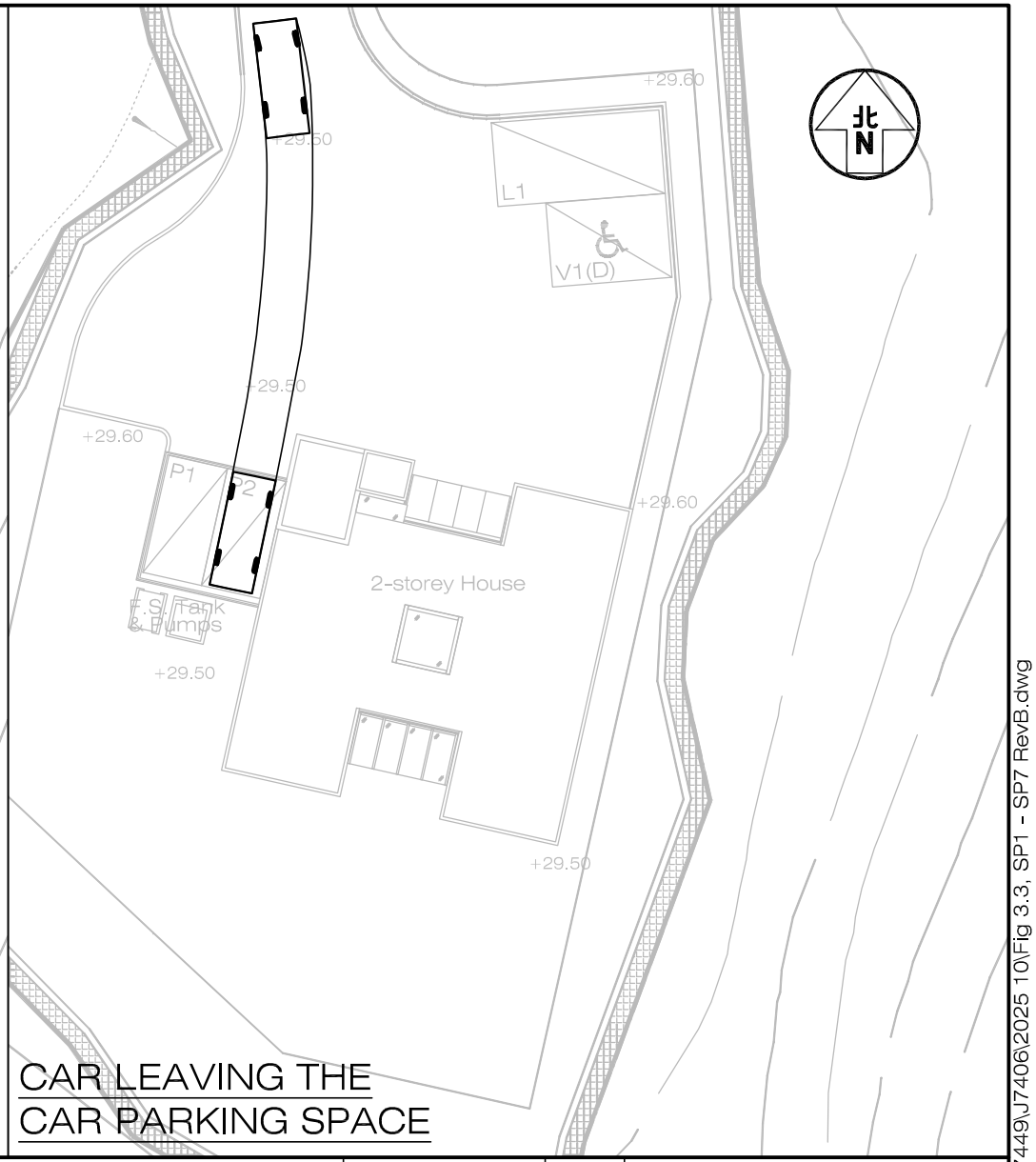

CAR LEAVING THE CAR PARKING SPACE

| | | | |
|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. SP2 | Revision B | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE V1(D) | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4: 1 : 300 | Date: 24 OCT 2025 | |

T:\JOB\J7400-J7449\J7406\2025 10\Fig 3.3, SP1 - SP7 RevB.dwg




CAR ENTERING THE CAR PARKING SPACE




CAR LEAVING THE CAR PARKING SPACE

| | | | |
|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. SP3 | Revision B | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: SWEPT PATH OF PRIVATE CAR ENTERING AND LEAVING THE CAR PARKING SPACE P2 | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4: 1 : 300 | Date: 24 OCT 2025 | |

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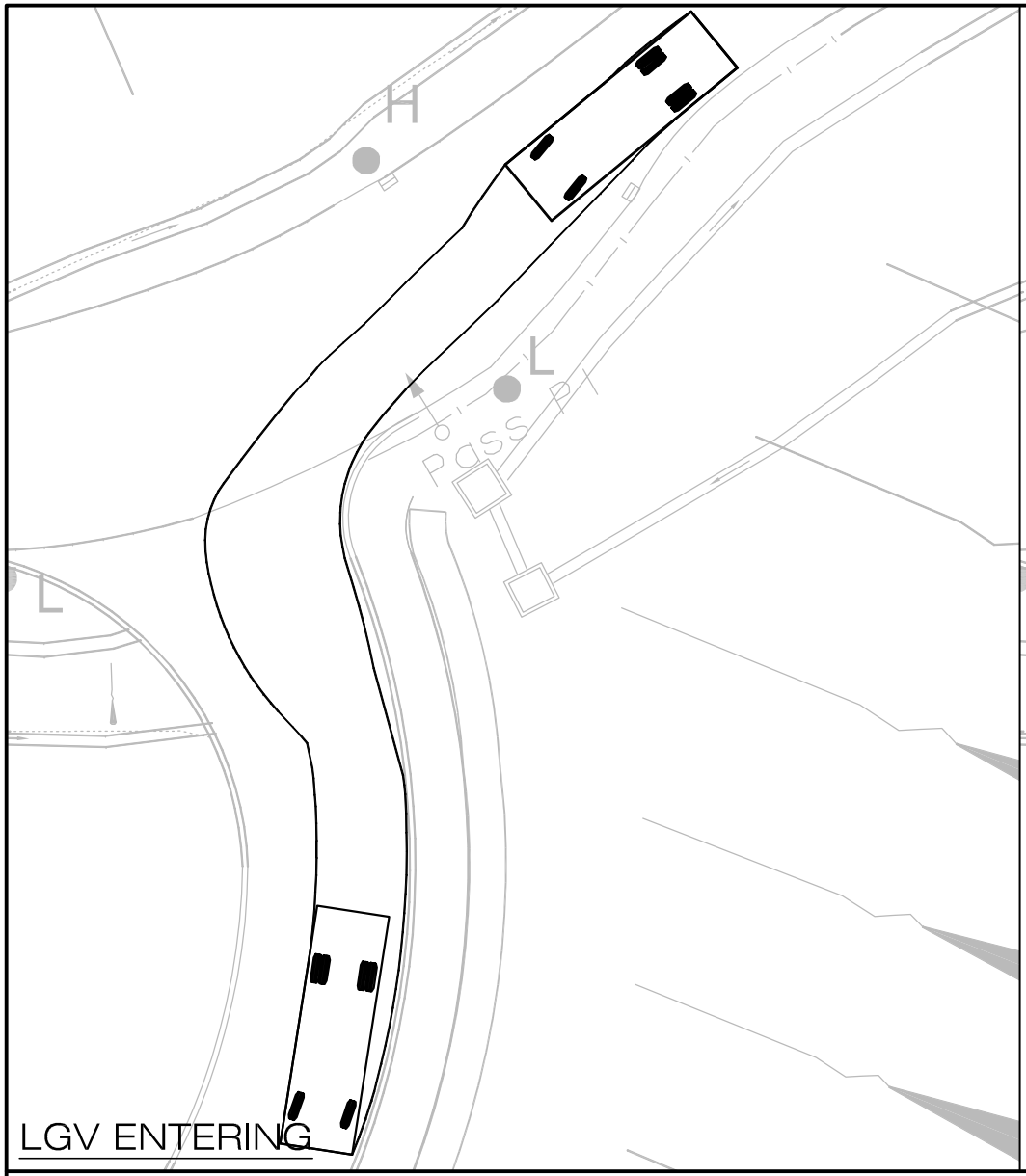
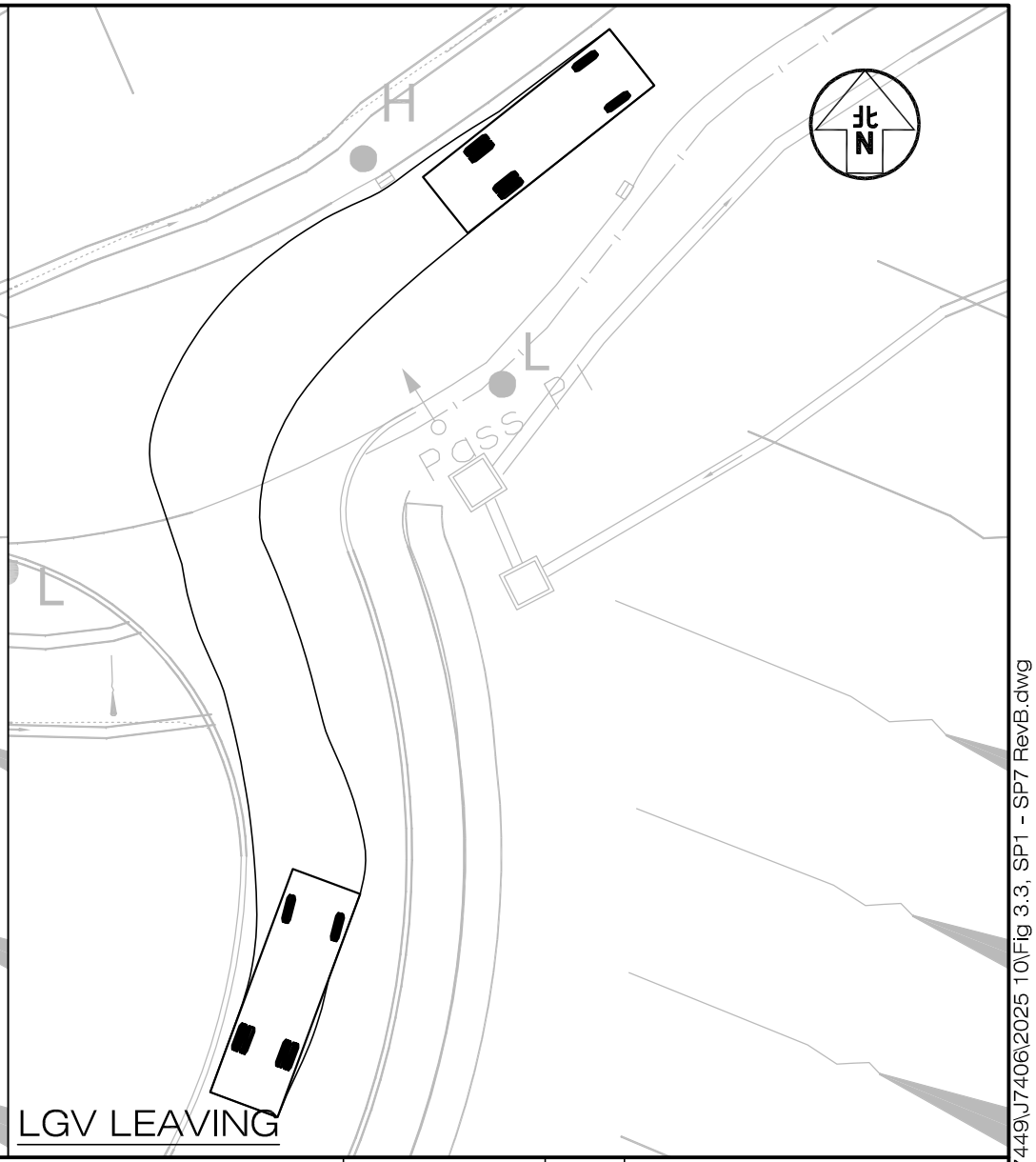



LGV ENTERING




LGV LEAVING

| | | | | |
|---|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | | | Figure No. SP4 | Revision B |
| Figure Title: SWEPT PATH OF LGV ENTERING AND LEAVING THE PROPOSED ACCESS ROAD | Designed by C Y Y | Drawn by N C M | Checked by K C | CKM Asia Limited Traffic and Transportation Planning Consultants |
| | Scale in A4 1 : 200 | Date 24 OCT 2025 | | [redacted] |

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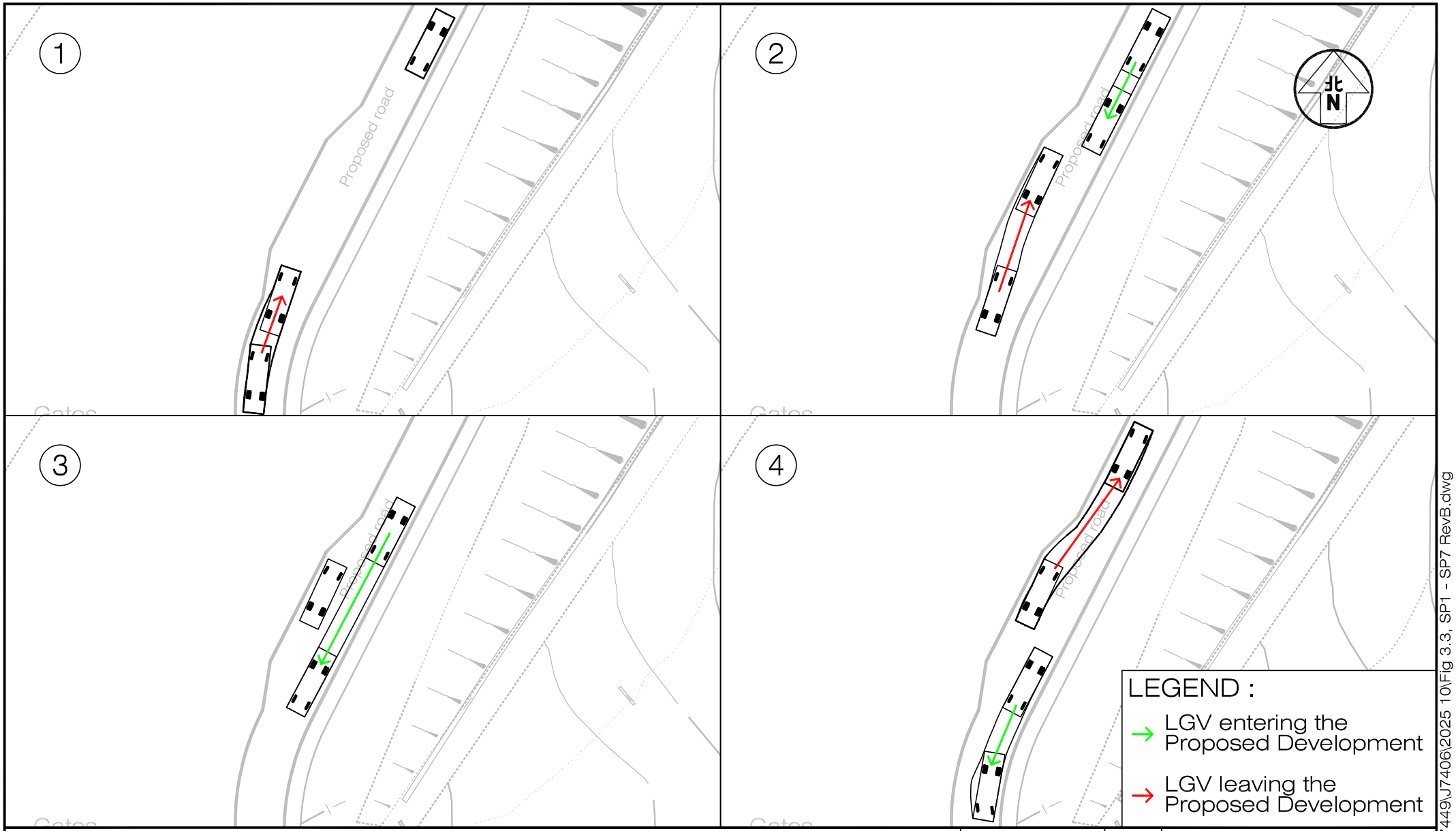


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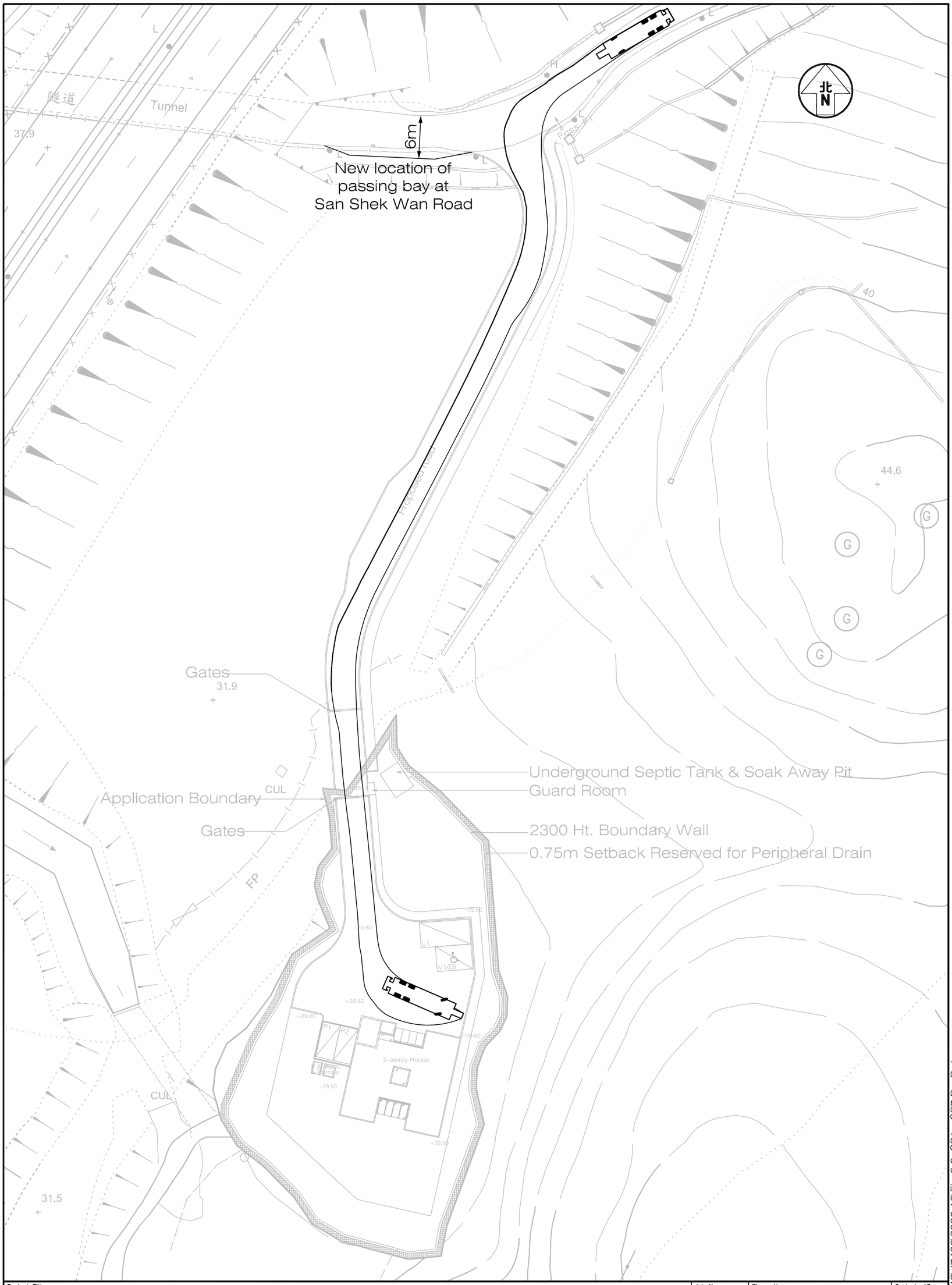
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. SP5 | Revision B | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: SWEPT PATH OF 2-WAY TRAFFIC OPERATION AT THE PROPOSED ACCESS ROAD | Designed by C Y Y / Drawn by N C M / Checked by K C | | |
| | Scale in A4 1 : 500 | Date 24 OCT 2025 | |

T:\JOB\J7400-J7449\J7406\2025 10\Fig 3.3, SP1 - SP7 RevB.dwg

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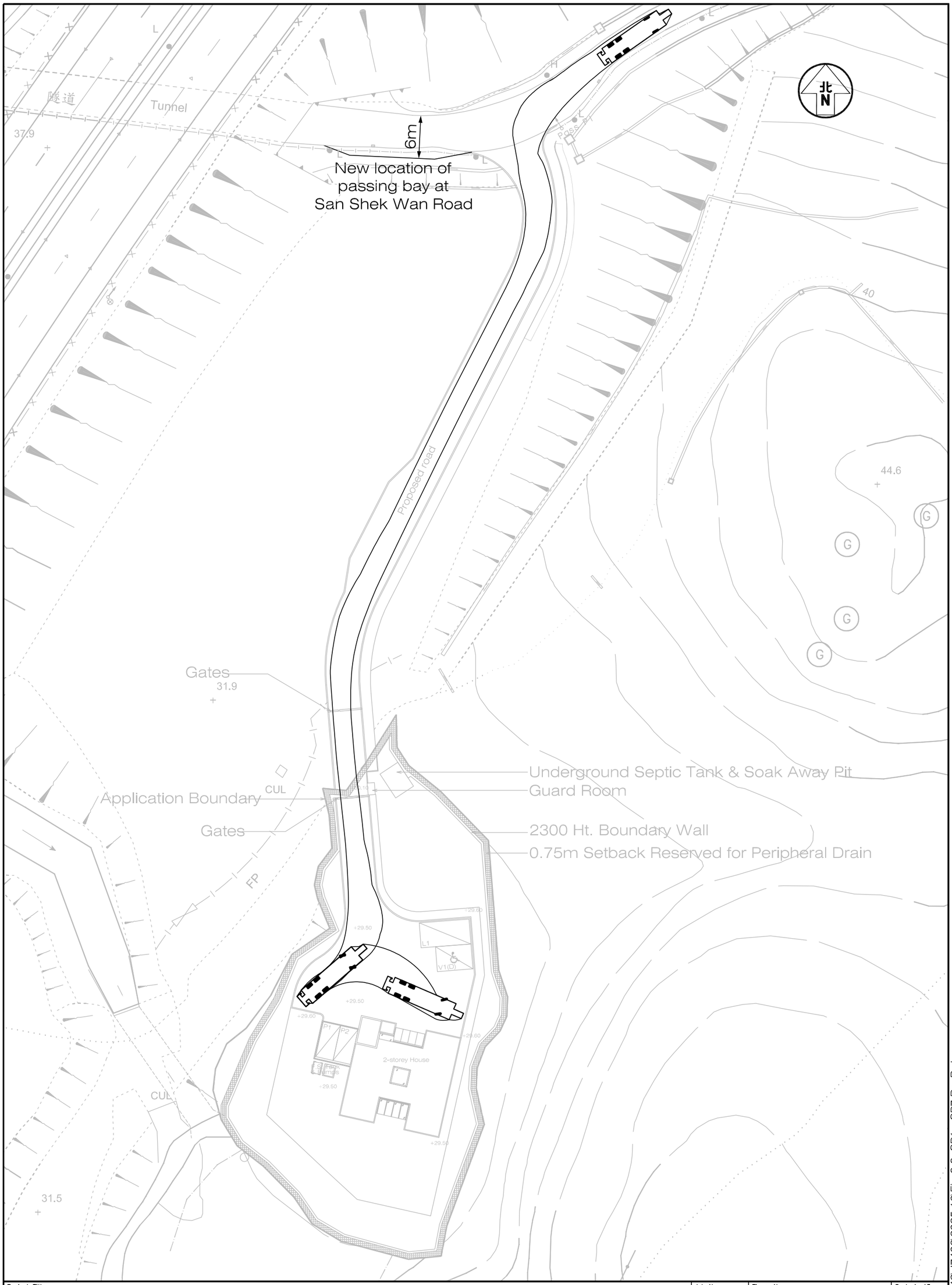
| | Designed by C Y Y | Drawn by N C M | Checked by K C | Revision B | Date 24 OCT 2025 |
| Figure Title: SWEPT PATH OF FIRE APPLIANCE ENTERING THE SUBJECT SITE | CKM Asia Limited Traffic and Transportation Planning Consultants | | | | |

T:\JOB\J7400-J7449\J7406\2025 10\Fig 3.3, SP1 - SP7 RevB.dwg

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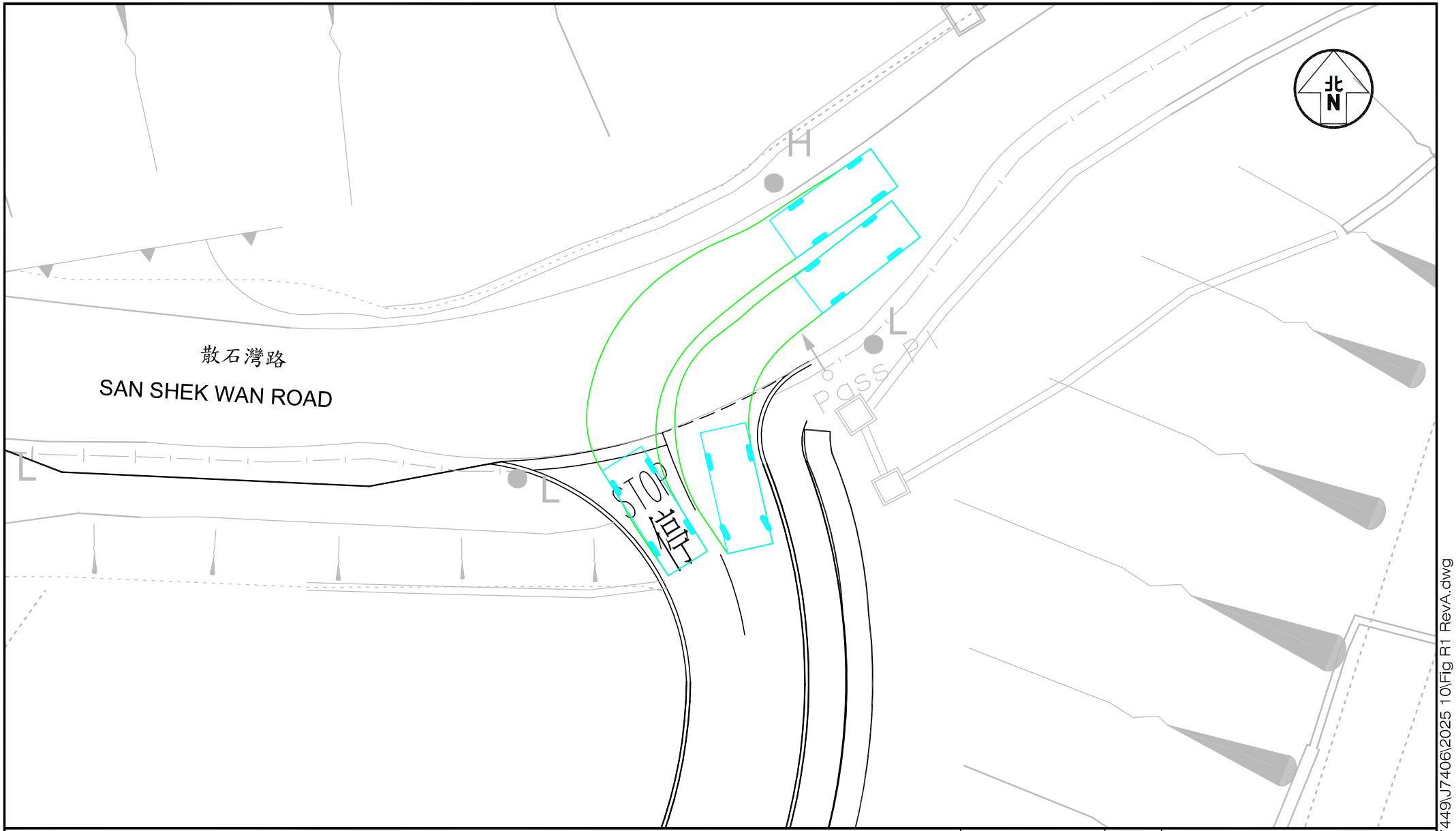
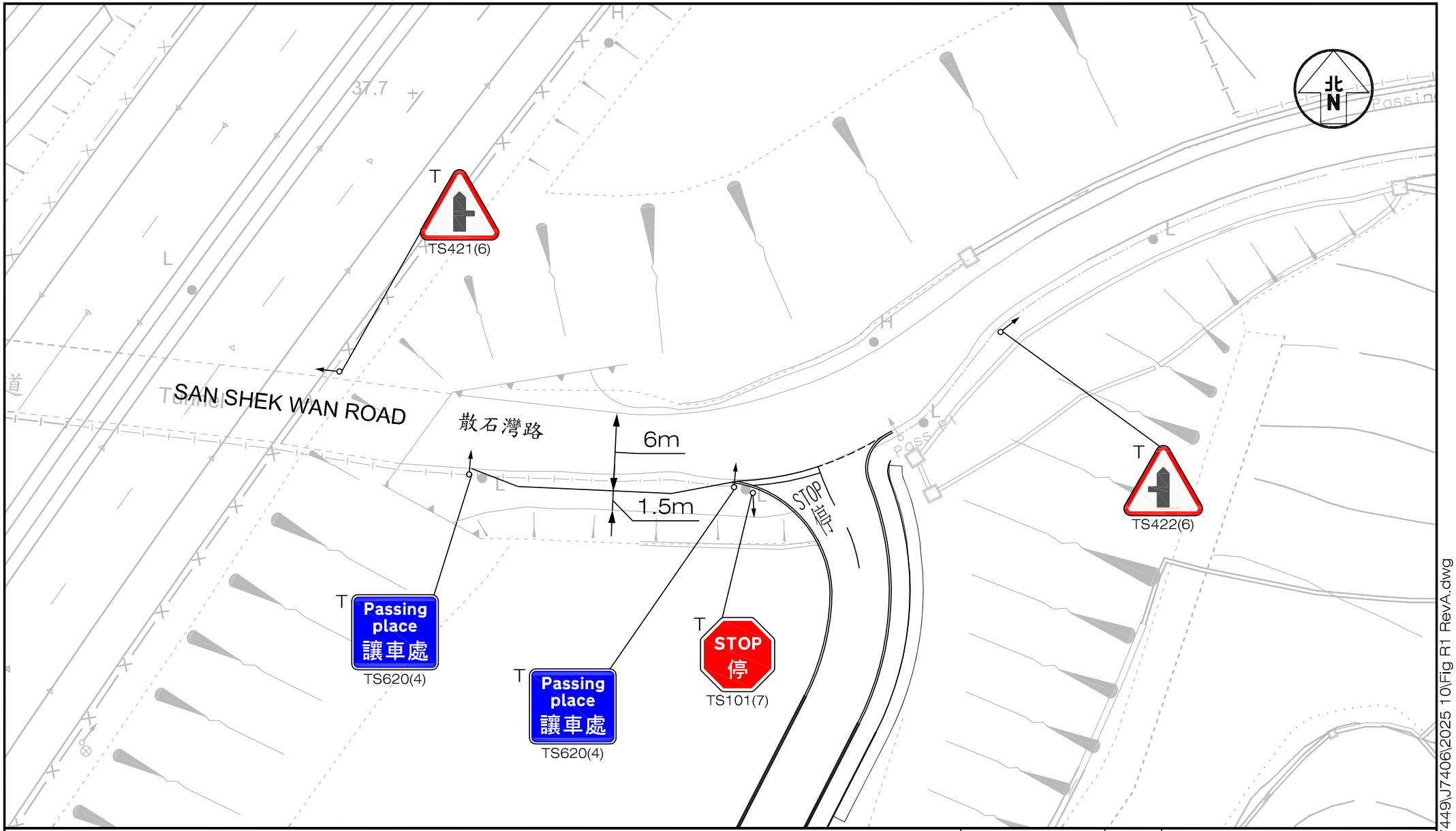
|---|---|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. | Job No. J7406 | Figure No. SP7 | | | Scale in A3 1 : 500 |
| | Designed by C Y Y | Drawn by N C M | Checked by K C | Revision B | Date 24 OCT 2025 |
| Figure Title: SWEPT PATH OF FIRE APPLIANCE LEAVING THE SUBJECT SITE | CKM Asia Limited Traffic and Transportation Planning Consultants [redacted] | | | | |

T:\JOB\J7400-J7449\J7406\2025 10\Fig 3.3, SP1 - SP7 RevB.dwg




| | | | |
|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. J7406 | Figure No. R1 | Revision A | CKM Asia Limited<br>Traffic and Transportation Planning Consultants |
| Figure Title: SWEPT PATH OF PRIVATE CARS ENTERING AND LEAVING THE JUNCTION OF SAN SHEK WAN ROAD / PROPOSED ACCESS ROAD | Designed by L C H / Drawn by N C M / Checked by K C | | |
| | Scale in A4: 1 : 200 | Date: 24 OCT 2025 | |

T:\JOBS\J7400-J7449\J7406\2025 10\Fig R1 RevA.dwg




| | | | |
|---|---|---|---|
| Project Title: PROPOSED HOUSE DEVELOPMENT AT TUEN MUN TOWN LOT NO.550 (TMTL 550), TUEN MUN, N.T. | J7406 | Figure No.: R2 | Revision: A |
| Figure Title: PROPOSED TRAFFIC SIGN AND ROAD MARKING AT THE JUNCTION OF SAN SHEK WAN ROAD / PROPOSED ACCESS ROAD | | Designed by: L C H / Drawn by: N C M / Checked by: K C | |
| | | Scale in A4: 1 : 400 | Date: 24 OCT 2025 |

CKM Asia Limited
Traffic and Transportation Planning Consultants
[redacted]

T:\JOB\J7400-J7449\J7406\2025 10\Fig R1 RevA.dwg

# Annex G

Extract of District Lands Conference Notes dated 5 May 2016
Extract of New Grant No. 22878

(ii) The section of San Shek Wan Road, which is maintained by HyD, connecting Lung Fu Road and the proposed Brown Area, does not have a width in excess of 4.5m. The narrowest width of San Shek Wan Road is about 3.4m according to desktop measurement. Would **D of FS** and **CBS/NTW, BD** please confirm whether San Shek Wan Road together with the Brown Area qualify as an Emergency Vehicular Access for the proposed holiday camp development. Besides, would **CBS/NTW, BD** please confirm the site classification of the lot having regard to the existing situation.

2.10 Existing horse trail

According to our record, a horse trail was found encroached onto the proposed Brown Area, Green Cross-hatched Black Area and Green Hatched Black Areas as shown on **Appendix I**. As per the request from the then Regional Services Department (now LCSD) in 1994, DLO has given no objection to the use of the horse trail on an non-exclusive use basis in conjunction with the Government Land Allocation TM 296 for the purpose of public horse-riding centre. While the horse trail does not form part of the subject land allocation, DLO has the right to request LCSD to reinstate and hand back the horse trail upon a 3 months' notice. The horse trail is maintained by LCSD.

Comment on the proposed development from LSCD was given to TPB upon planning application. LCSD advised that the applicant shall inform and consult with the Hong Kong Jockey Club (HKJC), the existing tenant and operator of the Tuen Mun Public Riding School (TMPRS), on any plan relevant to and / or interfacing with the existing horse trail of the school. All design and information interrelating to the horse trail of TMPRS and all relevant correspondences of the applicant with HKJC should be copied to LCSD for information. Should the holiday camp be taken place, the applicant should be obliged to bear the safety of all vehicles and pedestrians for passing the horse trail of TMRSC for going to the holiday camp. LCSD and HKJC shall not be responsible for the damage of any vehicle and injury of pedestrian using and passing the horse trail of TMPRS. The applicant should also possess valid third party insurance to protect LCSD and HKJC against any potential claims that may happen on the part of vehicular access intersected with the horse trail of LCSD.

2.11 Natural terrain [SC24]

GEO, CEDD recommended the incorporation of "Natural terrain" clause for green cross-hatched black area ("Green Cross-hatched Black Area"). They considered the lot could be affected landslide and boulder fall hazards arising from areas within the lot and those area outside the lot coloured Green Cross-hatched Black at **Appendix I**. The applicant will be required to carry out and complete to the satisfaction of the Director a geotechnical investigation within the lot and the Green Cross-hatched Black Area for the purpose of studying the natural terrain hazards and thereafter carrying out, completing and maintaining all necessary mitigation and

Licence for guest rooms

(B) grant licence to occupy all or any of the guest rooms on condition that the term of the licence shall not exceed 12 calendar months in the aggregate including any right of renewal; and

(C) grant licence to use or occupy all or any of the spaces provided pursuant to Special Condition No. (16) hereof on the condition that the term of the licence shall not exceed 12 calendar months in the aggregate including any right of renewal.

One assignment

(11) Notwithstanding anything to the contrary herein contained, the Grantee (which expression shall, for the purpose of this Special Condition only, exclude his executors, administrators, successors and assigns) may, after he has complied with Special Conditions Nos. (1) and (2) hereof but before he has in all respects observed and complied with and fulfilled all of his obligations under these Conditions to the satisfaction of the Director, assign the whole of the lot, but not a part thereof, absolutely.

Registration

(12) Every assignment, mortgage, charge, underletting for more than three years or other alienation of the lot or any part thereof or any interest therein shall be registered at the Land Registry.

Restriction on partitioning

(13) The Grantee shall not, without the prior written consent of the Director, partition (whether by way of assignment or other disposal or by any other means) the lot or any part thereof or any section which has been partitioned with the prior written consent of the Director under this Special Condition.

Non-exclusive right of way

(14) (a) The lot is granted together with a right for the Grantee and his servants, visitors, workmen and other persons authorized by the Grantee in that behalf from time to time and at all times during the term hereby agreed to be granted for all purposes connected with the proper use and enjoyment of the lot to pass and repass on, along, over, by and through the area shown coloured brown on PLAN I annexed hereto (hereinafter referred to as "the Brown Area") at such level or levels as may be approved by the Director.

(b) (i) The Grantee hereby acknowledges that as at the date of this Agreement, there is in existence a horse trail within the Government land adjoining the lot, the approximate alignment of which is shown for identification purpose only by two pecked purple lines and marked "HORSE TRAIL OF GLA-TM296" on PLAN I annexed hereto (hereinafter referred to as "the Horse Trail"). The Grantee hereby further acknowledges that as at the date of this Agreement, a portion of the Horse Trail is within a portion of the Brown Area (which portion of the Horse Trail is hereinafter referred to as "the Horse Trail – Brown Area").

(ii) The Grantee shall on or before the 30th day of September, 2025 or such other date as may be approved by the Director, at his own expense, in such manner, with such

materials and to such standards, levels, alignment and design as the Director shall require or approve and in all respects to the satisfaction of the Director lay and form the Brown Area and provide and construct such associated street furniture, traffic aids, street lighting, sewers, drains and other structures thereon as the Director in his sole discretion may require so that vehicular and pedestrian traffic may be carried on the Brown Area and horse riding or leading may be carried on the Horse Trail – Brown Area.

(iii) In carrying out the works required under sub-clause (b)(ii) of this Special Condition,

(I) the Grantee shall not obstruct, interfere, close, alter, divert, relocate, demolish or permit to be obstructed, interfered, closed, altered, diverted, relocated or demolished the Horse Trail – Brown Area or any part thereof without the prior approval of the Director; and

(II) the Grantee shall cause or permit or suffer to be caused minimum disturbance to the owners of any other lots and users in the vicinity to whom rights of way over the whole or any portion of the Brown Area may have been granted.

(c) The Grantee shall at his own expense uphold, maintain and repair the Brown Area and everything forming a portion of or pertaining to it, all to be done to the satisfaction of the Director and the Grantee shall be responsible for the whole as if he were the absolute owner thereof.

(d) Any alteration to any public road absorbing a portion or portions of the Brown Area over and along which a right of way is given or affecting the gradient thereof shall not give rise to any claim by the Grantee who shall at his own expense carry out all consequent alterations to the Brown Area to the satisfaction of the Director.

(e) The grant of the right of way referred to in sub-clause (a) of this Special Condition shall not give the Grantee the exclusive right over the Brown Area. The Government shall have the right to grant rights of way over the Brown Area to the owners and the Government's licensees, permitees and tenants of any other lots in the vicinity now or at any time in the future and their contractors, workmen and other persons authorized by the Government, or to take over the whole or any portion of the Brown Area for the purposes of a public street or for such other purposes as may be determined by the Director whose decision shall be final and binding on the Grantee without payment of any compensation to the Grantee or to other owners to whom rights of way over the whole or any portion of the Brown Area may have been granted.

(f) In the event of the non-fulfilment of the Grantee's obligations under sub-clauses (b) and (c) of this Special Condition, the Government may carry out the necessary construction, maintenance and repair works at the cost of the Grantee who shall pay to the Government on demand a sum equal to the cost thereof, such sum to be determined by the Director whose determination shall be final and binding upon the Grantee.

(g) The Government shall have no liability in respect of any loss, damage, nuisance or disturbance whatsoever caused to or suffered by the Grantee or any other person whether arising out of or incidental to the fulfilment of the Grantee's obligations under sub-clauses (b) and (c) of this Special Condition or the exercise of the rights by the Government under sub-clause (f) of this Special Condition or the presence and use of the Horse Trail – Brown Area or otherwise, and no claim whatsoever shall be made against the Government by the Grantee in respect of any such loss, damage, nuisance or disturbance.

(h) Notwithstanding the grant of the right of way referred to in sub-clause (a) of this Special Condition, the Government shall have the full right and power, upon giving to the Grantee, not less than fourteen days' written notice (save in case of emergency), to lay, install, relay, divert, remove, reprovision, replace, inspect, operate, repair, maintain and renew any Government or other drain, culvert, waterway or watercourse, sewer, nullah, water main, pipe, cable, wire, line, utility service or other works or installations (all together hereinafter referred to as "the Brown Area Services") which are now or may hereafter be upon, over, under or adjacent to the Brown Area as the Director may in his absolute discretion deem fit, making good any and all damages caused thereby, and the Director, his officers, contractors and agents and any other persons authorized by him, his or their workmen with or without tools, equipment, plant, machinery or motor vehicles shall have the right of free ingress, egress and regress at all times to and from the Brown Area for the purposes aforesaid. The Grantee shall not disturb or allow anybody to disturb the Brown Area Services without the prior written approval from the Director. Save in respect of making good any and all damage caused by any exercise of the aforesaid rights and powers, the Government, the Director, his officers, contractors and agents and any other persons authorized by him, his or their workmen shall have no liability in respect of any loss, damage, nuisance or disturbance whatsoever caused to or suffered by the Grantee arising out of or incidental to the exercise of the rights conferred under this sub-clause (h), and no claim nor objection shall be made against him or them by the Grantee.

Vehicular access

(15) The Grantee shall have no right of ingress or egress to or from the lot for the passage of motor vehicles except between the points X and Y through Z shown and marked on PLAN I annexed hereto or at such other points as may be approved in writing by the Director. Upon development or redevelopment of the lot, a temporary access for construction vehicles into the lot may be permitted in such position and subject to such conditions as may be imposed by the Director. Upon completion of the development or redevelopment, the Grantee shall at his own expense within the time limit specified by the Director and in all respects to the satisfaction of the

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Consultant :
劉志光 Lau Chi Kwong FRICS FHKIS ALS MHKIUS R.P.S.(LS)(PFM) MSc
李霧儀 Lee Mo Yi MPIA RPP MUDD BA (Hons)
林桂金 Daniel K.K. Lam MRICS MHKIS MCIREA R.P.S.(GP) BSc
趙慧姿 Chiu Wai Chi MRICS MHKIS MSc BBus (MKtg)
陳志凌 Elwyn C. Chan RPE PMgr CEnv FIHE FCIOB MICE MHKIE MSOE FCMI MCIArb MSc
潘孝維 Pun How Wai B.Arch.HK RIBA

**By Email and Hand**

Date : 11 December 2025
Your Ref.: TPB/A/TM/601
Our Ref. : LDS/PLAN/7145

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

Dear Sir/Madam,

**Application for Planning Permission for**
**Proposed House at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.**
**(Application No. A/TM/601)**

We refer to the comments from Environmental Protection Department on the captioned application and submit herewith our response in **Table 1** and revised Environmental Assessment (**Annex A**) for your consideration.

We would also like to clarify that the no. of existing trees to be felled is 23. Paragraph 2.7 of the Landscape Proposal, Paragraphs 3.1, 3.4 and 6.2 of the Tree Survey Report and Paragraph 5.2 of the Planning Statement have been updated (The replacement pages are attached at **Annex B**) for your reference.

Should there be any queries, please contact our Ms. Cannis Lee or Ms. Yancy Fung at [redacted]

Yours faithfully,
For and on behalf of
**Lawson David & Sung Surveyors Limited**

Encl.

c.c. DPO/TM&YLW (Attn.: Mr. Aiden Chu) – By Email
Client



[redacted]

**Table 1: S.16 Planning Application No. A/TM/601 - Proposed House at Tuen Mun Town Lot No. 550, Tuen Mun, New Territories.**

Response to Comments on Environmental Assessment Report (R8944_2.1)

| | EPD's Comments | The Consultant's Responses |
|---|---|---|
| **Air Quality** | | |
| 1.1 | Table 2.4 - Please indicate the reference source for the "Road Type" column in the table footnote (e.g. Annual Traffic Census 2024, confirmed by TD). | Please refer to updated Table 2.4.<br><br>*Note:*<br>*[1] The road type of roads is made reference to the Annual Traffic Census 2024 and confirmed by TD.* |
| 1.2 | RtoC#1.8 - Please follow up and provide TD's confirmation on road types once available. | TD's confirmation on road types is provided in Appendix 2. |
| 1.3 | Section 2.4.4 -<br>1.3.1 Please remove "10 m and 5 m" in Line 8.<br>1.3.2 Please revise "subjected" in the second-to-last line to "subject". | Revised accordingly. |
| **Noise** | | |
| 2.1 | Section 3.2 - In addition to industrial noise sources, other fixed noise sources within 300m area should also be considered, particularly those potentially adopting outdoor PA system, e.g. Tuen Mun Riding School Substation, Sports Centre Archery Cum Gateball Court, Tuen Mun Recreation and Sports Centre etc. Please review and verify. | Please refer to updated S3.2 and Figure 9.<br><br>3.2.1 Desktop studies and onsite surveys have been conducted to identify the potential industrial noise sources within 300m assessment area. According to the observation from onsite surveys, Tuen Mun Riding School Substation and Sports Centre Archery Cum Gateball Court (outdoor PA system) to the south of the Application Site, Tuen Mun Recreation and Sports Centre (outdoor PA system) to the northeast of the Application Site are identified. Their location is shown in Figure 9.<br>3.2.2 Onsite surveys were conducted on 27 June and 24 November 2025, no noticeable noise / PA system sound was observed along the boundary of Tuen Mun Riding School Substation, Sports Centre Archery Cum Gateball Court, Tuen |

| | | |
|---|---|---|
| | | Mun Recreation and Sports Centre. In addition, the direct line of sight between proposed development and identified industrial noise sources is blocked by natural terrain (Approximate from 24mPD to 38mPD), and the separation distance of at least 177m from the Application Site to the nearest industrial noise source (i.e. Sports Centre Archery Cum Gateball Court). In view of the hindered line of sight and long separation distance, it is anticipated that the Proposed Development would not be subject to adverse industrial noise impact. Location of the industrial noise sources and separation distance from the Application Site is shown in Figure 9. |
| 2.2 | Section 3.4.2.3 - The statement "Based on the tentative completion year of Proposed Development (Year 2031), traffic forecast for the Year 2046 (AM Peak) on the road carriageways in the vicinity of the Proposed Development,..." Since traffic data of both AM & PM peak are provided in Appendix 2, please review and update the sentence, if appropriate. | "traffic forecast for the Year 2046 (AM Peak) on the road carriageways…" is revised to "traffic forecast for the Year 2046 on the road carriageways…" for better presentation. |
| 2.3 | Noise Model –<br>2.3.1 TD's endorsement for the traffic flow data is pending. Please supplement.<br>2.3.2 The boundary wall of the proposed house development is not included in the model. Please update.<br>2.3.3 Appendix 3 - Base Case (AM) - "G/F, N10" seems incorrectly referred to the result of PM. Please review and update. | - TD's endorsement for the traffic flow data is provided in Appendix 2.<br>- The boundary wall of the proposed house development is not included in the model for a more conservative approach. No noise model update is anticipated in this NIA (R8944_v2.2) Submission.<br>- Please refer to updated Appendix 3, result of AM for "G/F,N10" has been revised. |
| **Waste Management** | | |
| 3.1 | Section 5.5.3 – Please confirm whether the population of the proposed 2-storey house is estimated to be 3. | It is confirmed that population of the proposed 2-storey house is estimated to be 3. |
| **Land Contamination** | | |
| 4.1 | Section 6.3.2 & Appendix 4 – Previous comment has not been duly addressed. It appears that the 2024 aerial photo is missing from the report. Please supplement. | 2024 aerial photo has been provided in Appendix 4. |

# Annex A

Revised Environmental Assessment

Prepared for

**King Brave Limited c/o Lawson David & Sung Surveyors Limited**

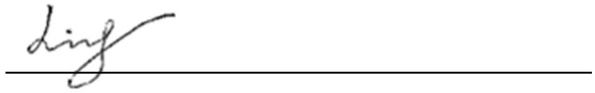
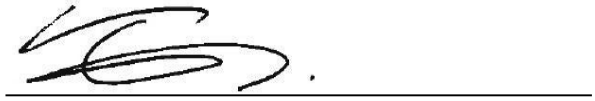
Prepared by

**Ramboll Hong Kong Limited**

# PROPOSED HOUSE DEVELOPMENT AT T.M.T.L. 550, TUEN MUN, NEW TERRITORIES

# S16 PLANNING APPLICATION

# ENVIRONMENTAL ASSESSMENT

| | |
|---|---|
| Date | **December 2025** |
| Prepared by | **Tony Ling**<br>**Environmental Consultant** |
| Signed |  |
| Approved by | **Tony Cheng**<br>**Senior Manager** |
| Signed |  |
| Project Reference | **RILTM550EI00** |
| Document No. | **R8944_v2.2** |

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# 1. INTRODUCTION

## 1.1 Project Background

1.1.1 The Application Site is located at T.M.T.L. 550, Tuen Mun, New Territories, zoned as "Recreation" ("REC") under the Approved Tuen Mun Outline Zoning Plan No. S/TM/41. The Subject Site is about 1,852 $m^2$. A planning application for the use of "Holiday Camp" was approved in May 2015 (A/TM/469).

1.1.2 The purpose of the submission is to develop the Application Site to a 2-storey house.

1.1.3 In order to support the planning application of the proposed development, an environmental assessment (EA) shall be prepared to support the proposed development from the environmental points of view.

1.1.4 Ramboll Hong Kong Limited (the Consultant) has been commissioned by the applicant to conduct this environmental assessment in relation to the planning application. Architectural drawings and technical information of the Subject Site were provided by Design Consultants Limited and Lawson David & Sung Surveyors Limited respectively whereas information on road traffic forecast was provided by CKM Asia Limited (the Traffic Consultant).

## 1.2 Application Site and its Environs

1.2.1 The Application Site is located at T.M.T.L. 550 in Tuen Mun. The site is currently zoned "Recreation".

1.2.2 The Subject Site is bounded by road carriageways on three sides. Lung Fu Road and Lung Mun Road are aligned on the northwest and southeast sides of the Subject Site respectively.

1.2.3 The Application Site is vacant currently and situated more than 1 km away from any existing/planned industrial developments.

1.2.4 **Figure 1** shows the location of the Application Site and the surrounding environs.

## 1.3 Proposed Development

1.3.1 Under the current application, the Proposed Development consists of one 2-storey house for residential purpose. The maximum building height is 36.6 mPD. A proposed underground septic tank which follows the same treatment strategy proposed in the previous approved holiday camp application, will be located at the north of House. The master layout plan and sections of the Proposed Development are shown in **Appendix 1**.

1.3.2 The tentative completion year for the Proposed Development is 2031.

## 1.4 Key Environmental Issues and Study Approach

1.4.1 Key Environmental issues and concerns as identified for the Project include:

Air Quality

1.4.2 For the construction phase, the potential air quality impacts would be caused by the dust emissions generated during construction activities. For the operation phase, the potential air quality impacts arising from the vehicular emissions of the nearby roads, and the chimney emissions (if any) of the nearby industrial activities should be addressed.

Noise

1.4.3 Site visits were conducted on 27 June 2025 to identify whether there is any potential industrial noise source in the vicinity (i.e. 300m) of the Application Site. No industrial activities are identified in the vicinity.

1.4.4 The identified noise source in the vicinity of the Application Site is the road traffic noise from nearby road network. Practical noise mitigation measures should be recommended where required in order to satisfy the requirement of the Hong Kong Planning Standards and Guidelines (HKPSG).

Water Quality

1.4.5 For the construction and operation phase, potential water quality impact arising from the Application Site on the Water Sensitive Receiver in the vicinity (i.e. 500m) of the site boundary of Application Site will be discussed in **Section 4**. Practical mitigation measures should be recommended, where necessary, to reduce the potential water quality impacts in order to control the residual impacts to acceptable levels.

Waste Management

1.4.6 Potential waste management issues in connection with construction and operation of the Project will be discussed in **Section 5**. It also recommends mitigation measures to alleviate impacts, where necessary.

Land Contamination

1.4.7 The historical landuse and existing condition have been studied for the purpose to identify if there is/was any potentially land contaminating activity held onsite, and actions recommended to be taken afterwards. A land contamination appraisal is included in **Section 6.**

# 2. AIR QUALITY IMPACT ASSESSMENT

## 2.1 Introduction

2.1.1 This section examines the potential air quality impacts that could arise from the construction phase and operation phase of the Project.

## 2.2 Environmental Legislation and Guidelines

2.2.1 The following legislation and regulations provide the standards and guidelines for evaluation of air quality impacts and the type of works that are subject to air pollution control:

- Air Pollution Control Ordinance (APCO) (Cap. 311) and the Air Quality Objectives (AQO)
- Air Pollution Control (Construction Dust) Regulation
- Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation
- Air Pollution Control (Fuel Restriction) Regulations
- Hong Kong Planning Standards and Guidelines (HKPSG)

Air Pollution Control Ordinance (CAP 311)

2.2.2 To achieve as soon as reasonably practicable and to maintain thereafter to safeguard the health of the community, a set of Air Quality Objectives (AQOs) is established under the Air Pollution Control Ordinance (Cap. 311). The prevailing AQOs that came into effect on 11 April 2025 are listed in **Table 2.1**.

**Table 2.1 The Hong Kong Air Quality Objectives (HKAQOs)**

| Pollutant | Averaging time | Concentration limit [i] (μg/m³) | Number of exceedances allowed per calendar year |
|---|---|---|---|
| Sulphur dioxide, $SO_2$ | 10-min | 500 | 3 |
| | 24-Hour | 40 | 3 |
| Respirable suspended particulates, RSP ($PM_{10}$) [ii] | 24-Hour | 75 | 9 |
| | Annual | 30 | NA |
| Fine suspended Particulates, FSP ($PM_{2.5}$) [iii] | 24-Hour | 37.5 | 18 |
| | Annual | 15 | NA |
| Nitrogen dioxide, $NO_2$ | 1-Hour | 200 | 18 |
| | 24-Hour | 120 | 9 |
| | Annual | 40 | NA |
| Ozone, $O_3$ | 8-Hour | 160 | 9 |
| | Peak Season | 100 | NA |
| Carbon monoxide, CO | 1-Hour | 30,000 | 0 |
| | 8-Hour | 10,000 | 0 |
| | 24-Hour | 4,000 | 0 |
| Lead | Annual | 0.5 | NA |

*Notes:*

*[i] All measurements of the concentration of gaseous air pollutants, i.e. sulphur dioxide, nitrogen dioxide, ozone and carbon monoxide, are to be adjusted to a reference temperature of 293 Kelvin and a reference pressure of 101.325 kilopascal.*

*[ii] Respirable suspended particulates means suspended particles in air with a nominal aerodynamic diameter of 10 μm or less.*

*[iii] Fine suspended particulates means suspended particles in air with a nominal aerodynamic diameter of 2.5 μm or less.*

2.2.3 For odour impact assessment, Annex 4 of TM-EIAO stipulates an odour limit of 5 odour units based on an averaging time of 5 seconds at an air sensitive receiver should be met.

Air Pollution Control (Construction Dust) Regulation

2.2.4 Made under Section 43 of the APCO, this Regulation defines notifiable and regulatory works for achieving the purpose of dust control for a number of activities. The Regulation requires that any notifiable work shall give advance notice to EPD, and the Contractors shall ensure that the notifiable and regulatory works are carried out in accordance with the Schedule of the Regulation. Dust control and suppression measures are also provided in the Schedule.

2.2.5 The proposed construction works for the proposed Project are both regulatory and notifiable works due to activities including material stockpiling and dusty material handling as potential sources of fugitive dust emissions as detailed under Parts I to IV of the Schedule on Dust Control Requirements.

Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation

2.2.6 The Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation, which aims to control emissions from non-road mobile machinery (NRMMs) to improve air quality, became effective on 1 June 2015. NRMMs include non-road vehicles, as well as mobile machines and equipment (regulated machines) such as crawler cranes, excavators and air compressors.

2.2.7 Under the regulation, regulated machines have to comply with the Stage IIIA emission standards of the European Union (EU). It also requires all regulated machines sold or leased for use in Hong Kong to bear an approval or exemption label issued to them by the EPD, started from 1 September 2015. It restricts specified activities and locations including construction sites, designed waste disposal facilities and specified processes to use only NRMMs that bear an approval or exemption label issued to them by the EPD, with effect from 1 December 2015.

Air Pollution Control (Fuel Restriction) Regulations

2.2.8 The Air Pollution Control (Fuel Restriction) Regulations was enacted in 1990 to impose legal control on the type of fuels allowed for use and their sulphur contents in commercial and industrial processes to reduce sulphur dioxide ($SO_2$) emissions. In April 2025, the Air Pollution Control (Fuel Restriction) Regulations was amended to tighten the control requirements of liquid fuels. The Regulations does not apply to any fuel-using equipment that is used or operated in premises used solely as a dwelling, or is used or operated in or on a vessel, motor vehicle, railway locomotive or aircraft.

Hong Kong Planning Standard and Guidelines (HKPSG)

2.2.9 Potential air quality impacts associated with the surrounding road carriageways and chimney emission from industrial stack shall be evaluated in accordance with the guidelines set out in HKPSG.

2.2.10 **Table 2.2** below is the extract of Table 3.1 in Chapter 9 "Environment" of Hong Kong Planning Standard and Guidelines (HKPSG) stating the recommended minimum horizontal buffer distance against pollution sources generated from road & highways and industrial areas.

**Table 2.2 Guidelines on Usage of Open Space Site**

| Pollution Source | Parameter | Buffer Distance | Permitted Uses |
|---|---|---|---|
| Road and Highways | Type of Road | | |
| | Trunk Road and Primary Distributor | >20 m | Active and passive recreational uses |
| | | 3 – 20 m | Passive recreational uses |
| | | <3 m | Amenity areas |
| | District Distributor | >10 m | Active and passive recreational uses |
| | | <10 m | Passive recreational uses |
| | Local Distributor | >5 m | Active and passive recreational uses |
| | | <5 m | Passive recreational uses |
| | Under Flyovers | | Passive recreational uses |
| Industrial Areas | Difference in Height between Industrial Chimney Exit and the Site | | |
| | <20 m | >200 m | Active and passive recreational uses |
| | | 5 – 200 m | Passive recreational uses |
| | 20 – 30 m (*) | >100 m | Active and passive recreational uses |
| | | 5 – 100 m | Passive recreational uses |
| | 30 – 40 m | >50 m | Active and passive recreational uses |
| | | 5 – 50m | Passive recreational uses |
| | >40 m | >10 m | Active and passive recreational uses |
| Construction and Earth Moving Activities | - | <50 m | Passive recreational uses |
| | | >50 m | Active and passive recreational uses |

*Note:*

(i) *In situations which the height of chimneys is not known, use the set of guidelines marked with an asterisk for preliminary planning purpose and refine as and when more information is available.*

(ii) *The buffer distance is the horizontal, shortest distance from the boundary of the industrial lot, the position of existing chimneys or the edge of road kerb, to the boundary of open space sites.*

(iii) *The guidelines are generally applicable to major industrial areas but NOT individual large industrial establishment which are likely to be significant air pollution sources. Consult EPD should be consulted when planning open spaces close to such establishments.*

(iv) *Amenity areas are permitted in any situation.*

## 2.3 Construction Phase

Impact Brought during Construction Phase

2.3.1 Construction activities will bring potential temporary air quality impact to the surrounding area. Significant emissions are not anticipated from air pollutants other than dust - NO2, SO2, and CO, etc. as the number of on-site diesel/petroleum fuelled machinery (1-2 machineries) to be used for construction works is limited owing to the small size of the work site with an area of 1,852 $m^2$. However, electric power supply shall be provided for on-site machinery as far as practicable and diesel generators shall be avoided to minimize the gaseous and PM emissions. Travelling of the dump trucks is another potential source of construction dust. At this planning application stage, there is no detailed information on the construction program; however, with reference to other similar scale projects, there is likely to be around 2 dump trucks per hour during the site formation stage of the Proposed Development. Watering the haul road

and the site once per hour would be implemented to minimize the potential dust emission during the traveling of the dump trucks within the site.

2.3.2 Furthermore, there is a potential concurrent project "Proposed Public Housing Development at Wu Shan Road" within the 500m study area from the site boundary which would contribute to the cumulative impact during the construction phase. According to the available public information, the tentative completion year of the potential concurrent project would be 2025/26. Nevertheless, with the adoption of good practices, it is expected that emission of construction fugitive dust can be kept to an acceptable level. In addition, the applicant will liaise with the relevant parties of the concurrent project, if any, to avoid any heavy dusty activities to be conducted at the same time to minimize the cumulative dust impact at the area. The location of the potential concurrent project is shown in **Figure 2**.

Representative Air Sensitive Receivers

2.3.3 There are a number of village houses, planned public housing development, golf centre, sitting-out area and riding school located within 500m of the Proposed Development. The representative ASRs are tabulated below. The relative location and distance between the representative ASRs and the Subject Site can be referred to **Figure 3**.

**Table 2.3 Representative ASRs during Construction Phase**

| Ref | Descriptions | Type | Use | Distance from the Project Boundary |
|---|---|---|---|---|
| A1 | Tuen Mun Golf Centre | Existing | Recreation | ~212m |
| A2 | Public Housing Development at Wu Shan Road | Planned | Residential | ~302m |
| A3 | Hung Lau Sitting-out Area | Existing | Recreation | ~107m |
| A4 | Tuen Mun Public Riding School | Existing | Education | ~216m |
| A5 | Tsing Shan Tsuen San Shek Wan South | Existing | Residential | ~256m |

2.3.4 It is necessary to adopt a management strategy for controlling the construction dust generated from the construction of the Proposed Development. Air quality control measures for avoiding and minimising the potential impacts shall be carried out.

Control Measures Recommended during Construction Phase

2.3.5 Appropriate dust reduction measures shall be adopted as required under the Air Pollution Control (Construction Dust) Regulation. Essential dust mitigation measures must be implemented to minimize the potential dust impact. Dust impact shall be effectively mitigated by inclusion of appropriate contract clauses for dust minimisation in the work contracts. Mitigation measures shall include:

- dump trucks for material transport should be totally enclosed using impervious sheeting;

- any excavated dusty materials or stockpile of dusty materials should be covered entirely by impervious sheeting or sprayed with water so as to maintain the entire surface wet, and recovered or backfilled or reinstated within 24 hours of the excavation or unloading;
- the stockpiled malodorous materials should be removed from Application Site as soon as possible, and they should be covered entirely by plastic tarpaulin sheets;
- dusty materials remaining after a stockpile is removed should be wetted with water;
- the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with e.g. concrete, bituminous materials or hardcore or similar;
- stockpile of dusty materials to be either covered entirely by impervious sheeting, placed in an area sheltered on the top and the 3 sides; or sprayed with water so as to maintain the entire surface wet;
- all dusty materials to be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet;
- vehicle speed to be limited to 10 km/hr except on completed access roads;
- the portion of road leading only to a construction site that is within 30 m of a designated vehicle entrance or exit should be kept clear of dusty materials;
- every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites;
- the load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure that the dusty materials would not leak from the vehicle;
- the working area of excavation should be sprayed with water immediately before, during and immediately after (as necessary) the operations so as to maintain the entire surface wet; and
- use of effective dust screens, sheeting or netting to be provided to enclose dry scaffolding which may be provided from the ground floor level of the building or if a canopy is provided at the first floor level, from the first floor level, up to the highest level (maximum four floors for this Project) of the scaffolding where scaffolding is erected around the perimeter of a building under construction.

2.3.6 In addition to the dust control measures described above, dust suppression measures stipulated in the Air Pollution Control (Construction Dust) Regulation and good site practices listed below shall be carried out to further minimize construction dust impact:

- Plan site layout so that machinery and dust causing activities (e.g. haul roads and stockpiling areas) are located away from receptors as far as possible;
- Consider connecting construction plant and equipment to main electricity supply and avoid use of diesel generators and diesel-powered equipment as far as practicable;
- Provision of not less than 2.4m high hoarding from ground level along site boundary where adjoins a road, streets or other accessible to the public except for a site entrance or exit;
- Implement phasing of the excavation work to avoid large scale excavation at the same time in vicinity of nearby ASRs; and
- Erect solid screens or barriers around dusty activities,etc.

2.3.7 A monitoring programme could also be instigated to monitor the construction process in order to enforce dust controls and modify methods of works to reduce the dust emission down to an acceptable level.

2.3.8 Good site management is important for reducing potential air quality impact down to an acceptable level. As a general guidance, the contractor shall maintain high standard of site management to prevent potential emission of fugitive dust emission. Loading, unloading, handling and storage of fuel, raw materials, products, wastes or by-products should also be carried out in a manner so as to minimise the release of visible dust emission.

2.3.9 A high standard of site management 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 without generating fugitive dust emissions. The material shall be handled properly to prevent fugitive dust emission before cleaning.

2.3.10 "Recommended Pollution Control Clauses for Construction Contracts" is available on EPD website. It contains the recommended air pollution control measures to be implemented by the contractor during the construction stage.

## 2.4 Operation Phase

Review on Odour Impact

2.4.1 All sewage and wastewater generated from the proposed development would be treated by the proposed underground septic tank and treated effluent would be percolated to surrounding subsoil in the soakaway pit. Further sewerage treatment arrangement will be submitted to Environmental Protection Department for approval at the detailed design stage. In view of that the development and effluent volume are small in scale (1 residential unit with flow rate of 0.7$m^3$ per day); with distance of ~31m between the proposed septic tank and proposed development; with distance of >100m between Subject Site and nearby ASRs; no exhaust on the proposed underground septic tank; the system is same as that adopted in the previous approved Holiday Camp application (A/TM/469) and all the requirement as stipulated in ProPECC PN 1/23 would be followed, it is anticipated that the proposed underground septic tank would not cause any adverse odour impact to the proposed development and nearby ASRs.

Review on Industrial Emission Impact

2.4.2 Onsite surveys were conducted on 27 June 2025 to verify the presence of chimneys. There was no chimney identified within 200m from the boundary of Proposed Development. As such, it is anticipated that the Proposed Development would not be subject to adverse industrial emission impact.

Review on Vehicular Emission Impact

2.4.3 In accordance with above table as stipulated in HKPSG, the minimum requirements on the buffer distance from Lung Fu Road and Lung Mun Road is >10m, from San Shek Wan Road and Proposed Access Road is >5m. Transport Department (TD)'s confirmation on the road types is provided in **Appendix 2**.

**Table 2.4 Buffer Distances between Kerb Side of Concerned Road Links and Proposed Air Sensitive Uses**

| Road Name | Road Type[1] | Recommended Buffer Distance (m) | Shortest Horizontal Distances Between Kerb Side of Concerned Road Links and the Application Site (m) |
|---|---|---|---|
| Lung Fu Road | Primary Distributor | >20m | ~70m |
| Lung Mun Road | District Distributor | >10m | ~211m |
| San Shek Wan Road | Local Distributor | >5m | ~79m |
| Proposed Access Road | Local Distributor | >5m | ~4.7m |

*Note:*
*[1] The road type of roads is made reference to the Annual Traffic Census 2024 and confirmed by TD.*

2.4.4 As shown in **Table 2.4** and **Figure 4,** the recommended buffer distance requirement for Lung Fu Road, Lung Mun Road and San Shek Wan Road in the HKPSG would be complied. For the proposed access road, a small portion of the application site is within 5m buffer distance of the access road, however, no air sensitive uses (including fresh air intake, openable window, and open space for recreational use, etc.) would be located within 5m buffer distance, the shortest separation between the proposed access road and existing air sensitive receiver (ASR A1) is about 143m. In conclusion, there would be no air sensitive uses within the above-mentioned buffer zones. Since the recommended minimum buffer distance of the vehicular emission in the HKPSG can be met, the future residents and occupants of Proposed Development and existing air sensitive receivers will not be subject to insurmountable vehicular emission impact.

# 3. NOISE IMPACT ASSESSMENT

## 3.1 Introduction

3.1.1 This section assesses the potential industrial noise and road traffic noise impacts on the noise sensitive uses of the Proposed Development. Practical mitigation measures are proposed to mitigate the potential noise impacts, where necessary.

## 3.2 Industrial Noise Impact Assessment

3.2.1 Desktop studies and onsite surveys have been conducted to identify the potential industrial noise sources within 300m assessment area. According to the observation from onsite surveys, Tuen Mun Riding School Substation and Sports Centre Archery Cum Gateball Court (outdoor PA system) to the south of the Application Site, Tuen Mun Recreation and Sports Centre (outdoor PA system) to the northeast of the Application Site are identified. Their location is shown in **Figure 9**.

3.2.2 Onsite surveys were conducted on 27 June and 24 November 2025, no noticeable noise / PA system sound was observed along the boundary of Tuen Mun Riding School Substation, Sports Centre Archery Cum Gateball Court, Tuen Mun Recreation and Sports Centre. In addition, the direct line of sight between proposed development and identified industrial noise sources is blocked by natural terrain (Approximate from 24mPD to 38mPD), and the separation distance of at least 177m from the Application Site to the nearest industrial noise source (i.e. Sports Centre Archery Cum Gateball Court). In view of the hindered line of sight and long separation distance, it is anticipated that the Proposed Development would not be subject to adverse industrial noise impact. Location of the industrial noise sources and separation distance from the Application Site is shown in **Figure 9**.

## 3.3 Railway Noise Impact Assessment

3.3.1 According to the desktop studies and onsite survey conducted on 27 June 2025, light rail transit as a potential noise source is identified with distance of ~200m, located to the southeast of the Application Site. However, the direct line of sight between proposed development and identified light rail (e.g. Butterfly Station) is blocked by natural terrain (Approximate 40mPD or higher). In view of the separation distance of 25m is met and existing topographic screening, it is anticipated that the Proposed Development would not be subject to adverse railway noise impact. Location of the light rail transit and separation distance from the Application Site is shown in **Figure 5**.

## 3.4 Road Traffic Noise Impact Assessment

3.4.1 Assessment Criteria

3.4.1.1 Noise standards are recommended in the HKPSG for planning against possible noise impact from road traffic.

3.4.1.2 Domestic dwellings of the Proposed Development will rely on openable window for ventilation. According to the guidelines, the maximum noise level from road traffic, measured in terms of $L_{10}$ (1-hr), is recommended to be 70 dB(A) at typical facades of new domestic dwellings.

3.4.2 Assessment Methodology

3.4.2.1 The methodology involves the prediction of future noise impacts on Noise Sensitive Receivers (NSRs) arising from road traffic of the existing and future road carriageways in the 300m assessment area. The 300m assessment area is shown in **Figure 6**.

3.4.2.2 The U.K. Department of Transport's procedure "Calculation of Road Traffic Noise" was applied to predict the hourly $L_{10}$ noise level generated from road traffic at selected representative facades (NSRs) of the Proposed Development. The predicted noise levels were then compared with the HKPSG noise criterion for assessing the impact.

3.4.2.3 Based on the tentative completion year of Proposed Development (Year 2031), traffic forecast for the Year 2046 on the road carriageways in the vicinity of the Proposed Development, which has the maximum traffic projection within 15 years from the completion of the Proposed Development, was provided by CKM (the project traffic consultant) for prediction of the worst-case traffic noise impact. The projected traffic flows and vehicle composition are shown in **Appendix 2**.

3.4.3 Road Characteristics

3.4.3.1 All roads surrounding the Application Site are assumed with a speed limit of 50km/hr with an impervious surface.

3.4.4 Noise Sensitive Receivers

3.4.4.1 The representative facades with openable windows/doors were identified as NSRs in the assessment. Locations of proposed NSRs are shown in **Figure 7**. The assessment points are taken at 1.2 m above the floors of the selected storey and 1m away from the facades of openable windows.

3.4.5 Review of Road Traffic Noise Impact for Proposed Development

3.4.5.1 A road traffic noise impact assessment has been prepared to estimate the traffic noise level at all representative NSRs.

3.4.6 The assessment results show that full compliance rate is achieved. Maximum predicted traffic noise level is 70 dB(A), which complies with the 70 dB(A) noise criterion as listed in HKPSG for residential units. Therefore, no adverse road traffic noise impact is anticipated at the proposed NSRs.

3.4.6.1 The predicted road traffic noise result is summarised in **Appendix 3**.

# 4. WATER QUALITY ASSESSMENT

## 4.1 Introduction

4.1.1 This section presents the water quality impact assessment for the construction and operational phases of the Project. Potential impacts have been identified and their significance on the Water Sensitive Receivers (WSRs) evaluated. The location of these WSRs can be referred to **Figure 8**. Appropriate mitigation measures and good site practices are recommended, where necessary, to reduce the potential water quality impacts in order to control the residual impacts to acceptable levels.

## 4.2 Environmental Legislation, Standards and Guidelines on Construction Phase Water Quality Impact

4.2.1 Construction activities may induce potential water quality impact due to the discharge of the effluent generated from the construction site. Effluent discharges from construction site are subject to control under the Water Pollution Control Ordinance and the Technical Memorandum Standards for Effluents Discharged in Drainage and Sewerage Systems, Inland and Coastal Water issued by EPD. Information in the ProPECC PN2/24 Construction Site Drainage will also be considered to provide some basic environmental guidelines for handling and disposal of construction site discharges.

## 4.3 Construction Phase Water Quality Impacts

4.3.1 Site construction activities will inevitably have the potential to generate wastewater. As such works should be carried out in such a manner as to minimize potential impacts on the water quality. Pollution sources could include:

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

Construction Runoff and Drainage

4.3.2 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, concrete washout and drainage from dust suppression sprays, fuel, oil and lubricants from construction vehicles and other equipment.

4.3.3 Sufficient silt removal facilities should be installed to settle out sediment prior to discharge. Such facilities shall be properly designed in accordance with guidelines from the Civil Engineering and Development Department (CEDD) to achieve the desired mitigating effect. Typically, a detention time not less than 5 minutes for maximum design flow of inlet should achieve adequate sediment removal. Channels or earth berm or sand bag barriers should be provided on site to properly direct surface runoff to such silt removal facilities. Sediment traps, channels and manholes should be maintained and the deposited silt and grit should be removed on regular basis so that potential impacts on WSR can be minimized.

Sewage Effluent from Construction Site

4.3.4 Water pollution due to site facilities e.g. toilets could be source of pollution if appropriate measures are not implemented properly in respect of storage and discharge.

4.3.5 In this construction site, portable chemical toilets will be provided. Chemical toilets should be provided at a minimum rate of about 1 per 50 workers. The facility should be serviced and cleaned by a specialist contractor at regular intervals. Sewage generated from the construction workforce will be contained in chemical toilets and be tanked away. Therefore, no adverse water quality impact is anticipated on WSR.

Liquid Spillage

4.3.6 To prevent spillage of fuel oils or other polluting fluids at sources, it is recommended that all the stocks should be stored inside proper containers and sited on sealed areas, preferably surrounded by bunds.

4.3.7 "Recommended Pollution Control Clauses for Construction Contracts" (RPCC) also recommends appropriate wastewater control measures to be implemented at the construction site by the contractor. The RPCC is available on EPD website.

4.3.8 The quality of the discharge wastewater should meet the standards specified in the Technical Memorandum – Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters. The above proposed mitigation measures and control measures should be implemented and an environmental monitoring and audit should be carried out to ensure the effectiveness of the proposed mitigation measures and subsequently ensure the water quality of the nearby water sensitive receivers would not be adversely affected by the construction of the project.

## 4.4 Best Management Practices (BMPs) for Stormwater Discharge

4.4.1 The BMPs given in the ProPECC PN 2/24 shall be implemented in controlling water pollution during the whole construction phase to minimize the impact on WSR. The main practices provided in the above-mentioned document (i.e. ProPECC PN 2/24) are also summarized in the following paragraphs which should be implemented by the contractor during the construction phase, where practicable:

- High loading of suspended solids (SS) in construction site runoff will be prevented through proper site management by the contractor;

- The boundary of critical work areas will be surrounded by ditches or embankment. Accidental release of soil or refuse into the adjoining lands should be prevented by the provision of site hoarding or earth bunds, etc. at the site boundary. These facilities should be constructed in advance of the site formation works and roadworks;

- Consideration will be given to plan construction activities to allow the use of natural topography of the Project Site as a barrier to minimize uncontrolled non-point discharge of construction runoff;

- Temporary ditches, earth bunds should be provided to facilitate controlled discharge of runoff into storm drains via sand/ silt removal facilities such as sand traps and sedimentation basins. Oil and grease removal facilities should also be provided where appropriate, for example, in area near plant workshop/ maintenance areas;

- Sedimentation basins and sand traps designed in accordance with the requirements of ProPECC Note PN 2/24 should be installed at the construction site for collecting surface runoff;

- Sand and silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly by the contractor, and at the onset of and after each rainstorm to ensure that these facilities are functioning properly;

- Slope exposure should be minimized where practicable especially during the wet season. Exposed soil surfaces should be protected from rainfall through covering the temporarily exposed slope surfaces or stockpiles with tarpaulin or the like;

- Haul roads should be protected by crushed rock, gravel or other granular materials (i.e. hard paved) to minimize discharge of contaminated runoff;

- Slow down water run-off flowing across exposed soil surfaces;

- Plant workshop/ maintenance areas should be bonded and constructed on a hard standing. Sediment traps and oil interceptors should be provided at appropriate locations;

- Manholes (including newly constructed ones) should be adequately covered or temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system;

- Construction works should be programmed to operate in dry seasons and minimize soil excavation works where practicable during the rainy days;

- Chemical stores will be contained (bonded) to prevent any spills from contact with water bodies. All fuel tanks and/ or storage areas should be provided with locks and be sited on hard surface;

- Chemical waste arising from the Project Site should be properly stored, handled, treated and disposed of in compliance with the requirements stipulated under the Waste Disposal (Chemical Waste) (General) Regulation;

- Drainage facilities must be adequate for the controlled release of storm flows;

- Vehicle wheel washing facilities should be provided at the site exit such that mud, debris, etc. attached to the vehicle wheels or body can be washed off before the vehicle leaves the work site;

- Section of the road between the wheel washing bay and the public road will be paved to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains; and

- Bentonite slurries, if any to be generated, shall 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 meet the respective applicable effluent standards for discharges into sewers, storm drains or the receiving waters.

## 4.5 Potential Operation Phase Water Quality Impacts

4.5.1 According to the major operation phase activities in the Proposed Development, the key potential water quality impact is due to the surface runoff and treated effluent discharge from the Proposed Development.

4.5.2 The management and mitigation strategy of the potential water quality impact is addressed below, with appropriate environmental control measures recommended.

4.5.3 Best practices as stated in ProPECC PN 1/23 "Drainage Plans Subject to Comment by the Environmental Protection Department" shall be followed. It states out the handling,

treatment and disposal of various effluent discharges to stormwater drains and foul sewers during the operation phase. Some examples of the recommendations listed in the ProPECC PN 1/23 are as below.

- Drainage in covered carparks should be connected to foul sewers via petrol interceptors;
- Disposal of commercial and industrial wastewater by injection into the ground (e.g. by soakaway pits) is normally not allowed; and
- All wastewater collected from a restaurant kitchen, including that from basins, sinks and floor drains, should be discharged via a grease trap capable of providing at least 20 minutes retention during peak flow.

## 4.6 Surface Runoff Discharge/ Stormwater Discharge

4.6.1 During operation, the irrigation runoff and surface runoff during rainfall events, which is known as non-point source of pollution, may be the cause potential water quality impact. Fallen leaves, particles, litter from open areas, which is a source of organic and nutrient pollutants, can be washed into the drainage system during heavy rainfall if it is not properly controlled. Pollutants, contributed by non-point source are often bound or adsorbed onto particles, thus an effective stormwater management system will be required for the removal of pollution sources prior to rainstorm and the provision of degritting/screening facilities will be required for sediment collection. As the particles settle out, the associated pollutants will also settle out and removed from stormwater.

4.6.2 Under normal condition, runoff carrying pollutants will not be generated in low rainfall intensity, but increased runoff may occur during heavy rainfall condition. The first flush flow would carry most of the pollutants and the subsequent overland flow generated from rainstorms is expected to be uncontaminated. Thus, prevention of "first flush" pollution in stormwater runoff will be an effective way in controlling pollution at source and to abate pollutants.

4.6.3 Relevant assessment on the total peak flow of stormwater of the Proposed Development and the capacity of proposed drainage system are provided in a separate Drainage Proposal.

## 4.7 Sewage Effluent from Proposed Development

4.7.1 At present, there is no existing or planned public sewer for connections in the vicinity of the Application Site. Given that the development is small in scale. All sewage and wastewater generated from the proposed development would be treated by the proposed underground septic tank and treated effluent would be percolated to surrounding subsoil in the soakaway pit. This system is same as that adopted in the previous approved Holiday Camp application (A/TM/469) and all the requirement as stipulated in ProPECC PN 1/23 would be followed. It is expected that the operation of the proposed development would not cause operational phase water quality impact. Further sewerage treatment arrangement will be submitted to Environmental Protection Department for approval at the detailed design stage.

4.7.2 There will not be any greywater recycling activities planned due to hygienic considerations.

## 4.8 Implementation of Best Management Practices (BMPs)

4.8.1 Surface runoff can be controlled by good drainage design and implementation of BMPs. The Proposed Development shall adopt the following BMPs.

Runoff Control

4.8.2 Site drainage system of the development shall be reviewed regularly in such way that surface runoff shall be directed towards the internal access road. If necessary, additional paved U-channels with screening facilities shall also be provided along the edge of Proposed Development to avoid uncontrolled spillage of runoff.

Prevention of Pollution at Source

4.8.3 Regular cleaning and sweeping of road surface/ open areas is suggested so as to minimize exposure of pollutants to stormwater. The road surface/ open area cleaning should also be carried out prior to occurrence of rainstorm.

4.8.4 With the above measures, the amount of pollutants at source has been largely reduced/ avoided as far as possible so that the impact on WSR would not be adverse.

Devices for Removal of Pollutants

4.8.5 In addition to the above, screening facilities such as standard gully grating and trash grille, with spacing which is capable of screening off large substances such as fallen leaves and rubbish should be provided at the inlet of drainage system as well as at upstream location of the u-channels. It is expected that most of the large substances in stormwater runoff would be removed with such devices so as to prevent it from entering the drainage system. Road gullies with standard design should be incorporated during the detailed design to remove particles present in stormwater runoff.

4.8.6 In the event of emergency (e.g. car accident) where there is a major spillage of oil, chemical or fuel, dispersants or firefighting foam, etc., a system of contaminant bunding will be implemented as appropriate.

Management Measures

4.8.7 Good management measures such as regular cleaning and sweeping of road surface/ open areas is suggested. The road surface/ open area cleaning should also be carried out prior to occurrence of rainstorm.

4.8.8 Stormwater gullies and ditches provided among the Proposed Development will be regularly inspected and cleaned by the property management company.

4.8.9 With the removal of pollutants, the pollution levels from stormwater would be much reduced, and given the stochastic nature of non-point source pollution and the proposed management measures, there will be no significant impact expected on WSR.

4.8.10 With appropriate management measures in place, the risk of untreated sewage effluent discharge to North Western Control Zone due to emergency events is considered to be negligible.

# 5. WASTE MANGEMENT

## 5.1 Introduction

5.1.1 This section presents an assessment of the potential waste management issues in connection with construction and operation of the Project. The options for waste minimization, reuse, recycling, collection, transport and disposal of wastes arising from the construction and demolition work have been examined. Where appropriate, procedures for waste reduction and management are considered and environmental control measures for avoiding and minimising the potential impacts are recommended.

5.1.2 Recommended Pollution Control Clauses for Construction Contracts published by Environmental Protection Department would be implemented during the construction phase of the proposed development. Waste generated from the Proposed Development would be properly controlled and adverse waste management would not be anticipated.

## 5.2 Relevant Legislation, Standards & Guidelines

5.2.1 In carrying out the assessment, reference has been made to the following relevant Hong Kong legislation governing waste management and disposal. Directly relevant legislation include:

1. The Waste Disposal Ordinance (Cap. 354) and subsidiary legislation such as the Waste Disposal (Chemical Waste) (General) Regulation, and the Waste Disposal (Clinical Waste) (General) Regulation, set out requirements for the storage, handling and transportation of all types of wastes;
2. Land (Miscellaneous Provisions) Ordinance (Cap 28); and
3. Public Health and Municipal Services Ordinance (Cap 132) – Public Cleansing and Prevention of Nuisance Regulation – control of disposal of general refuse.

5.2.2 Other relevant documents and guidelines that are applicable to waste management and disposal include:

4. PNAP 243 ADV-19 - Construction and Demolition Waste;
5. Development Bureau Technical Circular (Works) No. 8/2010 - Enhanced Specification for Site Cleanliness and Tidiness;
6. ETWB TCW No. 22/2003A - Additional Measures to Improve Site Cleanliness and Control Mosquito Breeding on Construction Sites;
7. Development Bureau Technical Circular (Works) No. 6/2010 - Trip-ticket System for Disposal of Construction and Demolition Materials;
8. WBTC No. 19/2001 - Metallic Site Hoardings and Signboards;
9. Works Bureau Technical Circular No. 12/2000 - Fill Management;
10. Works Branch Technical Circular No. 2/93 - Public Dumps;
11. Works Branch Technical Circular No. 2/93B - Public Filling Facilities; and
12. Project Administration Handbook for Civil Engineering concerning Management of Construction and Demolition Materials Including Rock.

## 5.3 Identification and Evaluation of Potential Waste Impact during Construction Phase

5.3.1 The construction activities to be carried out for the proposed Project would generate a variety of wastes that can be divided into distinct categories based on their composition and ultimate method of disposal. The identified waste types include:

- Construction and Demolition (C&D) materials;
- Chemical waste; and
- General refuse.

C&D Materials

5.3.2 C&D materials comprise mainly of unwanted materials, including surplus materials arising from excavations that are generated from the works (e.g. site clearance, site formation works, excavation work for basement). Inert soft C&D materials comprise of soil, sand, clay, slurry, etc., while hard C&D materials comprise of crushed concrete, asphalt, rock, etc. The amount of non-inert C&D materials generated during site clearance would be minor (as there is little vegetation at the Subject Site). C&D materials may comprise different types of materials, including:

- Non-inert C&D materials (e.g. bamboo, paper, metal, glass, plastic, packaging wastes, etc.) decompose and are not suitable for land reclamation. Non-inert C&D materials should be reused or recycled as far as possible. For those non-inert C&D materials that cannot be reused or recycled should be disposed of at landfill as last resort;
- Inert C&D materials do not decompose (e.g. soil, rock debris, rubble earth, concrete, etc.) and is suitable to reuse as filling materials for land reclamation and site formation. Inert C&D materials could be reused on-site as filling materials. For those inert C&D materials that cannot be reused should be disposed at a Public Fill Reception Facilities.

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

5.3.4 Inert C&D materials should be re-used on-site (e.g for backfilling) if it is practical and/or disposed of at public filling area or other CEDD designated public fill reception facilities. Non-inert C&D materials (i.e. C&D waste) should be re-used or recycled. For those that cannot be reused or recycled, they should be disposed of at designated landfill sites as last resort.

5.3.5 The Contractor(s) should be responsible for ensuring that all on-site wastes will be collected by approved waste collectors and appropriate measures should be undertaken to minimise adverse impacts to the surrounding environment, such as dust generation. The Contractor(s) must also ensure that all necessary waste disposal permits have been obtained before actions.

5.3.6 Prior to disposal of non-inert C&D materials, it is recommended that wood, steel, glass and other metals will be collected separately for re-use and/or recycling and inert C&D materials utilized as fill materials to minimize the quantity of waste to be disposed of at the Public Fill Reception Facilities and landfill.

Chemical Waste

5.3.7 Construction plant and equipment will require regular maintenance and servicing, which would generate waste such as solvents, lubrication oil and fuel, etc. Chemical wastes arising during the construction phase may pose serious environmental, health and safety hazards if not stored and disposed of in an appropriate manner.

5.3.8 It is difficult to quantify the amount of chemical wastes as it will solely depend on the contractor's on-site maintenance practice and the quantities of plant and vehicles utilized at the construction site. Nevertheless, it is anticipated that the quantity of chemical waste such as lubrication oil and solvent produced from equipment maintenance would be less than hundred litres per month.

5.3.9 The contractor is required to register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.

5.3.10 Storage, handling, transport and disposal of chemical waste should be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste published by the EPD. Chemical wastes such as wasted solvents, lubrication oil and fuel, etc. will need special handling and storage arrangements and should be collected by licensed collectors for subsequent disposal and appropriate treatment at licensed waste disposal facilities, for example the Chemical Waste Treatment Centre (CWTC) in Tsing Yi. Mitigation and control requirements for chemical waste are provided in the "Recommended Pollution Control Clauses for Construction Contracts" available in EPD website mentioned the handling, storage and disposal of chemical wastes. With good management and site particles, adverse environmental impacts should not result.

General Refuse

5.3.11 Throughout the construction stage, the workforce would generate general refuse comprising food scraps, waste paper, empty containers, etc. Release of general refuse into watercourses or marine waters should not be permitted as introduction of these wastes is likely to have detrimental effects on water quality in the area. Effective collection of site wastes would be required to prevent waste materials being blown around by wind, flushed or leached into the marine environment, and odour nuisance. The work sites may also attract pests and vermin if the waste storage area is not well maintained and cleaned regularly. Disposal of refuse at sites other than approved waste transfer or disposal facilities can also result in similar impacts. The number of work force to be employed for the Project is around 10. Based on the generation rate of 0.65kg/person/day, the estimated total refuse generated per day (maximum) would be about 6.5kg/day.

5.3.12 Recyclable materials (i.e. paper, plastic bottles and aluminium cans) will be collected separately for recycling, in order to reduce the amount of general refuse to be disposed into the landfill. Adequate number of enclosed waste containers will be provided to avoid over-spillage of waste. The non-recyclable refuse will be placed in bags and stored in enclosed containers, and disposed of on a daily basis to the designated landfill. Given that the quantity of general refuse to be disposed is 6.5kg per day, no adverse impact on the operation of these waste disposal facilities is anticipated. With the implementation of the recommended waste management practices at the site, adverse environmental impacts would not arise from the storage, handling and transportation of refuse.

5.3.13 Preliminary quantity estimation of construction waste involved and disposal method is summarised in the **Table 5.1** below.

**Table 5.1 Summary of Estimated Construction Waste and Disposal Method**

| Waste Material Type | | Estimated Quantity Generated | Disposal Method |
|---|---|---|---|
| Inert C&D Materials | Excavation | ~6500 $m^3$ | To be reused or recycled on site or in other projects; and delivered to Public Fill Reception Facilities for other beneficial reuse |
| | Construction of New Buildings/Structures | ~500 $m^3$ | |
| Non-inert C&D Materials | Excavation | ~500 $m^3$ | To be reused, recycled or disposed of at landfill as the last resort |
| | Construction of New Buildings/Structures | ~80 $m^3$ | |
| Chemical Waste | - | Less than hundred litres /month (preliminary estimate) | For treatment at licensed facilities |
| General Refuse | - | 6.5kg/day (preliminary estimate, assuming there are 10 workers at any one time with generation rate of 0.65kg per worker per day) | Disposal to landfill |

## 5.4 Waste Disposal and Mitigation Measures

5.4.1 Waste generated by construction activities should be properly sorted and certain waste management requirements must be followed to minimize the impacts arising because of the generation, storage, handling, transport and disposal of wastes. Good site management and control can reduce the generation of "mixed waste". For unavoidable wastes, reuse, recycling and optimal disposal are most practical when segregation occurs on the construction site, categorized as follows:

- Inert C&D materials for reuse on-site or delivering to Public Fill Reception Facilities for beneficial reuse at other projects;
- Non-inert C&D materials for reuse or recycle or disposal at landfill as last resort;
- Chemical waste for treatment at licensed facilities; and
- General refuse for disposal at landfill.

C&D Material

5.4.2 Proper storage and site practices should be adopted to minimize the damage to, or contamination of, C&D materials that may reduce their recyclability and suitability for disposal in public fill reception facilities. The inert C&D materials shall be reused in earth filling, reclamation or site formation works. The non-inert C&D materials shall be reused or recycled and, as the last resort, disposed of at landfills.

5.4.3 Appropriate measures should also be employed to minimize windblown litter and dust during transportation by either covering trucks with tarpaulin or transporting wastes in enclosed containers. Waste should only be disposed at licensed sites. Resident site staff and the contractors should develop procedures to ensure that illegal disposal of waste does not occur. In addition, waste storage areas within the Project should be well maintained and cleaned regularly to prevent cross-contamination. The disposal of inert C&D materials and non-inert C&D materials to public fill reception facilities/sorting

facilities respectively through a trip-ticket system, while general refuse will be disposed of at landfill.

Chemical Waste

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

General Refuse

5.4.5 For general refuse, mitigation measures should include provision of a collection area where waste can be sorted, stored and loaded prior to removal from the site during construction phase.

5.4.6 In additional, with the implementation of the recommended mitigation measures in the "Recommended Pollution Control Clauses for Construction Contracts" available in EPD website, the potential environmental impacts resulting from the storage, handling and transportation of inert C&D materials, non-inert C&D materials, chemical wastes and general site wastes would not be anticipated. Below are the examples of the relevant measures:-

Waste Minimisation

- The Contractor shall submit to the Architect/Engineer for approval a waste management plan with appropriate mitigation measures including the allocation of an area for waste segregation, as part of the Environmental Management Plan to the Architect/Engineer for approval in accordance with ADV-19 and shall ensure that the day-to-day site operations comply with the approved waste management plan.
- The Contractor shall minimise the generation of waste from his work. Avoidance and minimisation of waste generation can be achieved through changing or improving design and practices, careful planning and good site management.
- The Contractor shall ensure that different types of wastes are segregated on-site and stored in different containers, skips or stockpiles to facilitate reuse/recycling of waste and, as the last resort, disposal at different outlets as appropriate.
- The reuse and recycling of waste shall be practised as far as possible.
- The Contractor shall record the amount of wastes generated, recycled and disposed of (including the disposal sites).
- The Contractor shall use a trip ticket system for the disposal of C&D materials to any designated public filling facility and/or landfill.

Waste Nuisance Control

5.4.7 The Contractor shall not permit any sewage, waste water or effluent containing sand, cement, silt or any other suspended or dissolved material to flow from the Site onto any adjoining land or allow any waste matter (or refuse) which is not part of the final product from waste processing plants to be deposited anywhere within the Site (or onto any adjoining land). He shall arrange removal of such matter from the site (or any building erected or to be erected thereon) in a proper manner to the satisfaction of the Engineer in consultation with the Director of Environmental Protection.

Chemical Waste Control

- The Contractor shall observe and comply with the Waste Disposal (Chemical Waste) (General) Regulation.
- The Contractor shall apply for registration as chemical waste producer under the Waste Disposal (Chemical Waste) (General) Regulation when chemical waste is

produced. All chemical waste shall be properly stored, labelled, packaged and collected in accordance with the Regulation.

## 5.5 Identification and Evaluation of Potential Impact during Operational Phase

5.5.1 During operational phase of the proposed development, since the proposed use is residential only, disposal of chemical, livestock and clinical waste are not anticipated. Instead, general waste is anticipated to be the major type of waste generated during the operation of the proposed development.

5.5.2 Release of general refuse into watercourses or marine waters should not be permitted as introduction of these wastes is likely to have detrimental effects on water quality in the area. Effective collection of site wastes is suggested to prevent waste materials being blown around by wind, flushed or leached into the marine environment, and odour nuisance.

General Refuse

5.5.3 During operational phase of the Proposed Development, general refuse is anticipated to be the major type of waste generated by the occupants of Proposed Development. With reference to the latest data from "Monitoring of Solid Waste in Hong Kong 2023" by EPD, the per capita disposal rate of domestic waste is 0.89 kg/person/day (Plate 2.7 of Waste Statistics for 2023) and the recovery rate for domestic waste is 21% (Plate 3.2 of Waste Statistics for 2023). The Proposed Development consists of about around 3 residential population. By applying this figure to the projected population from the site after full occupation, the estimated daily waste generation will be around 3.38 kg/day (i.e. 0.89 / (1-21%) x 3), in which approximately 2.67 kg/day of waste (i.e. 0.89 x 3) would be disposed, and 0.71 kg/day of waste (i.e. 3.38-2.67) would be recovered.

5.5.4 For general waste such as metal, paper, plastic and glass, recycling bins for each type of wastes will be placed at prominent locations such as areas near main entrance to reduce waste disposal amount. Also, the waste collection frequency is recommended to be at least once a day to reduce chances of hygiene issue.

5.5.5 For wastes such as leftover, an adequate number of enclosed waste containers will be provided to avoid over-spillage of waste. Also, leftover will be placed in bags and stored in enclosed containers, and disposed of on a daily basis to the designated landfill. In addition, the project proponent is recommended to deliver leftover generated to Organic Resources Recovery Centre (ORRC) or installation of food waste recycling machines for composting treatment, etc. Therefore, the chances of odour nuisance and hygiene issue are reduced.

5.5.6 As the generation rate of the general refuse at the proposed development is anticipated to be similar to those of the domestic use in Hong Kong, with the implementation of the above measures, the adverse impact from the waste disposal of the operational phase is not anticipated.

## 5.6 Environmental Monitoring & Audit Requirements

5.6.1 The foregoing assessment has concluded that proper handling, storage, collection, transportation and disposal of waste materials generated during construction of the Project will not give rise to adverse impacts to nearby sensitive receivers.

5.6.2 Whilst no specific environmental monitoring requirements are considered necessary, it is recommended that during the construction phase, site inspections and supervisions of waste management procedures and auditing of the effectiveness of implemented mitigation measures should be undertaken on a regular basis.

5.6.3 These tasks shall be scheduled in a Waste Management Plan ("WMP") to be prepared by the contractor and updated regularly. The WMP shall be submitted to the

Architect/Engineer for approval. A summary of the site audits shall be presented in the monthly EM&A reports.

## 5.7 Conclusion and Recommendation

5.7.1 The potential impacts of wastes arising from the construction and operation of the Proposed Development have been assessed. The construction activities will generate a variety of wastes including materials from site clearance, excavated materials, construction wastes, chemical and general refuse.

5.7.2 The generation rate of the general refuse at the proposed development is anticipated to be similar to those of the domestic use in Hong Kong, with the implementation of the above measures, the adverse impact from the waste disposal of the operational phase is not anticipated.

5.7.1 Recommended Pollution Control Clauses for Construction Contracts published by Environmental Protection Department would be implemented during the construction phase of the proposed development.

5.7.2 With the recommended waste management practices put in place, no unacceptable impacts associated with waste management during the construction and operation phase are envisaged.

# 6. LAND CONTAMINATION

## 6.1 Scope of Work

6.1.1 The aim of this study is to assess the potential land contamination impact under the Proposed Development due to the previous land uses and/ or the existing operations.

## 6.2 Assessment Criteria

6.2.1 The following guidelines published by EPD have been followed:

- Guidance Manual for Use of Risk-based Remediation Goals (RBRGs) for Contaminated Land Management (Guidance Manual), EPD, Revised in April 2023;
- Guidance Note for Contaminated Land Assessment and Remediation (Guidance Note), EPD, Revised in April 2023; and
- Practice Guide for Investigation and Remediation of Contaminated Land (Practice Guide), EPD, Revised in April 2023.

6.2.2 As the RBRGs and the Practice Guide are the latest guidelines promulgated for use in April 2023, the RBRGs criteria and the requirements stated in the Practice Guide will be adopted in this Land Contamination Review.

## 6.3 Review of Historical and Current Available Information

6.3.1 The Application Site is a natural terrain and currently zoned as "Recreation" under the approved Tuen Mun Outline Zoning Plan No. S/TM/41.

6.3.2 Historical aerial photos of the Application Site have been reviewed to identify if any possible land contamination related activities or uses have been carried out. **Table 6.1** shows the description of each aerial photos. Besides, the original version of each aerial photo is presented in **Appendix 4**.

**Table 6.1 Landuse Summary of Proposed Development**

| Period/ Year | Description |
|---|---|
| 1949 | The whole Application Site was a natural terrain. |
| 1961 | The land use of the whole Application Site remained unchanged. |
| 1980 | The land use of the whole Application Site remained unchanged. |
| 2001 | The land use of the whole Application Site remained unchanged. |
| 2021 | The land use of the whole Application Site remained unchanged. |
| 2024 | The land use of the whole Application Site remained unchanged. |

6.3.3 From the landuse summary and aerial photos, the Application Site has been a natural terrain since 1949 and no landuse change related to potential contamination works and activities is observed. Therefore, land contamination issue within the Application Site is not anticipated. Further site investigation is not required.

# 7. CONCLUSION

7.1.1 The key environmental issues associated with both operation and construction phase of the Application Site are qualitatively discusses in this report.

Air Quality

7.1.2 With sufficient buffer distance from the surrounding road network and Proposed New Access Road, and there would be no air sensitive uses within the buffer zones, the future occupants of the Proposed Development will not be subject to adverse vehicular emission impact.

7.1.3 There was no chimney identified within 200m from the site boundary of Application Site. As such, it is anticipated that Proposed Development would not be subject to adverse industrial emission impact.

7.1.4 All sewage and wastewater generated from the proposed development would be treated by the proposed underground septic tank and treated effluent would be percolated to surrounding subsoil in the soakaway pit. Further sewerage treatment arrangement will be submitted to Environmental Protection Department for approval at the detailed design stage. In view of that the development and effluent volume are small in scale(1 residential unit with flow rate of 0.7$m^3$ per day); with distance of ~31m between the proposed septic tank and proposed development; with distance of >100m between Subject Site and nearby ASRs; no exhaust on the proposed underground septic tank; the system is same as that adopted in the previous approved Holiday Camp application (A/TM/469) and all the requirement as stipulated in ProPECC PN 1/23 would be followed, it is anticipated that the proposed underground septic tank would not cause any adverse odour impact to the proposed development and nearby ASRs.

Noise

7.1.5 There was no industrial noise source identified within 300m from the boundary of Proposed Development. As such, it is anticipated that the Proposed Development would not be subject to adverse industrial noise impact.

7.1.6 Onsite surveys were conducted on 27 June and 24 November 2025, no noticeable noise / PA system sound was observed along the boundary of Tuen Mun Riding School Substation, Sports Centre Archery Cum Gateball Court, Tuen Mun Recreation and Sports Centre. In addition, the direct line of sight between proposed development and identified industrial noise sources is blocked by natural terrain (Approximate from 24mPD to 38mPD), and the separation distance of at least 177m from the Application Site to the nearest industrial noise source (i.e. Sports Centre Archery Cum Gateball Court). In view of the hindered line of sight and long separation distance, it is anticipated that the Proposed Development would not be subject to adverse industrial noise impact.

7.1.7 According to the desktop studies and onsite surveys conducted in June 2025, light rail transit as a potential noise source is identified with distance of ~200m, located to the southeast of the Application Site. However, the direct line of sight between proposed development and identified light rail (e.g. Butterfly Station) is blocked by natural terrain (Approximate 40mPD or higher). In view of the separation distance of 25m is met and existing topographic screening, it is anticipated that the Proposed Development would not be subject to adverse railway noise impact.

7.1.8 A road traffic noise impact assessment has been carried out for the Proposed Development and existing NSRs. According to the result of base scenario at Proposed Development, the predicted noise level of all selected NSRs would comply with the relevant Noise Control Ordinance standard. Therefore, no adverse road traffic noise impact is anticipated on the Proposed Development.

Water Quality

7.1.9 With proper implementation of the recommended mitigation measures, good construction site practices as recommended in relevant regulatory guidelines, adverse water quality impacts are not expected at the identified WSRs.

7.1.10 An underground septic tank is proposed to handle the sewage generation by the Proposed Development during the operation phase. With appropriate management measures in place, it is anticipated that the Proposed Development would not pose significant impact on the water quality of identified WSRs.

Waste Management

7.1.11 With the recommended waste management practices put in place, no unacceptable impacts associated with waste management during the construction and operation phases are envisaged.

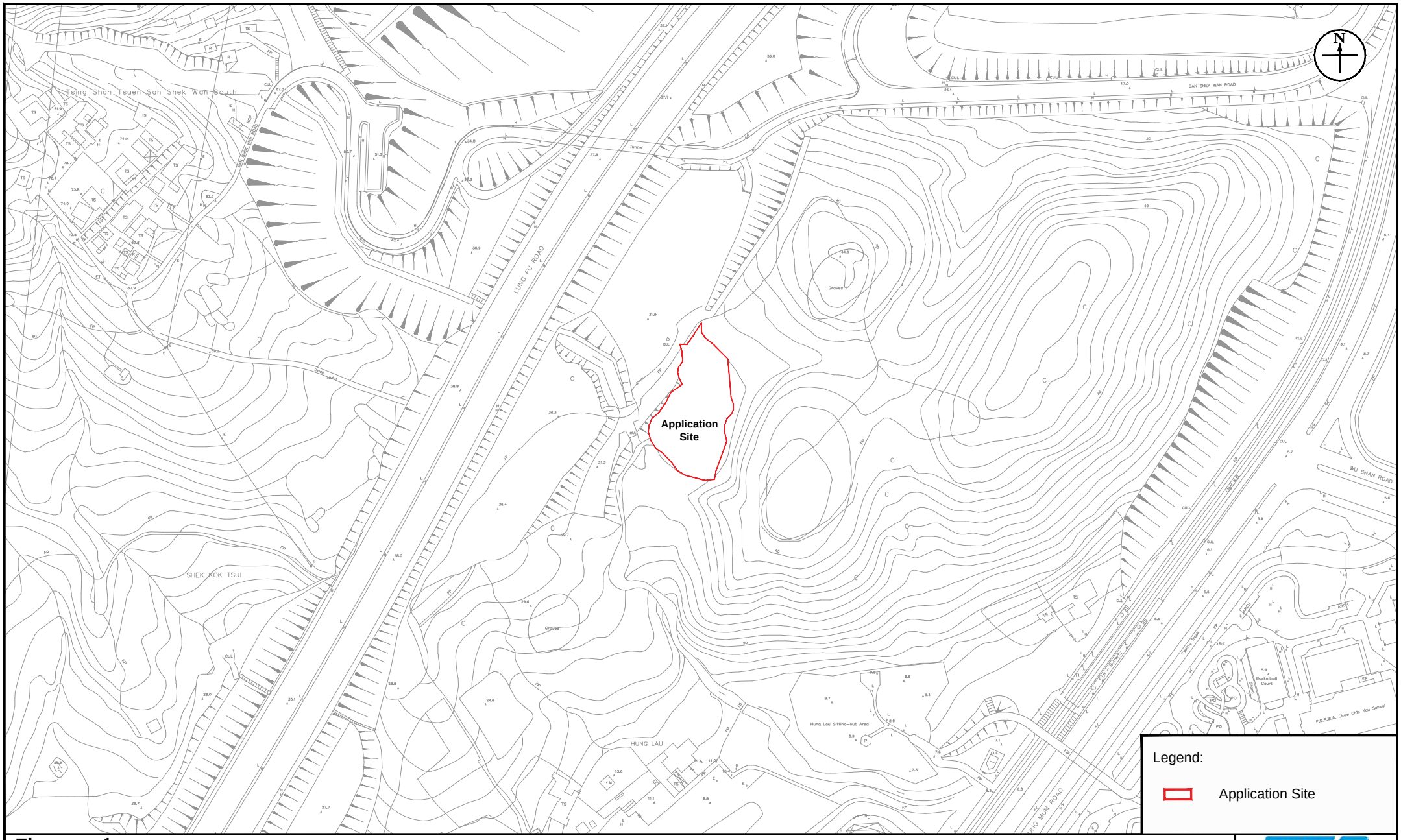
7.1.12 The generation rate of the general refuse at the proposed development is anticipated to be similar to those of the domestic use in Hong Kong, with the implementation of the above measures, the adverse impact from the waste disposal of the operational phase is not anticipated

Land Contamination

7.1.13 The Application Site has been a natural terrain since 1949 and no landuse change related to potential contamination works and activities is observed. Therefore, land contamination issue within the Application Site is not anticipated.

7.1.14 The environmental assessment study confirms the acceptability of Proposed Development from environmental point of view.

**Figures**




| | |
|---|---|
| **Figure:** 1 | RAMBOLL |
| **Title:** Location of the Application Site and its Environs | Drawn by: TL<br>Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.0<br>Date: Aug 2025 |

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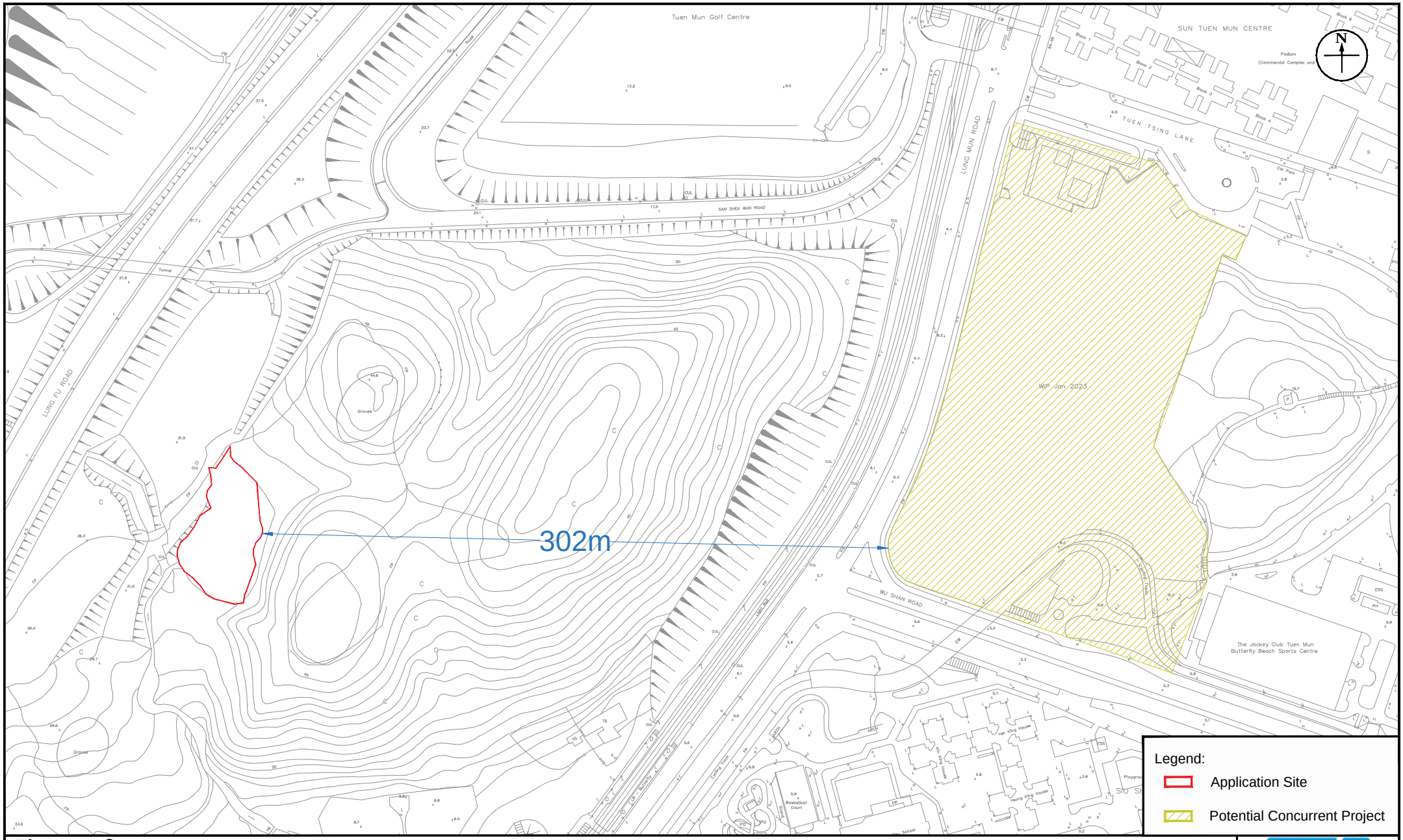


**Figure:** 2

**Title:** Location of the Potential Concurrent Project

**Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories

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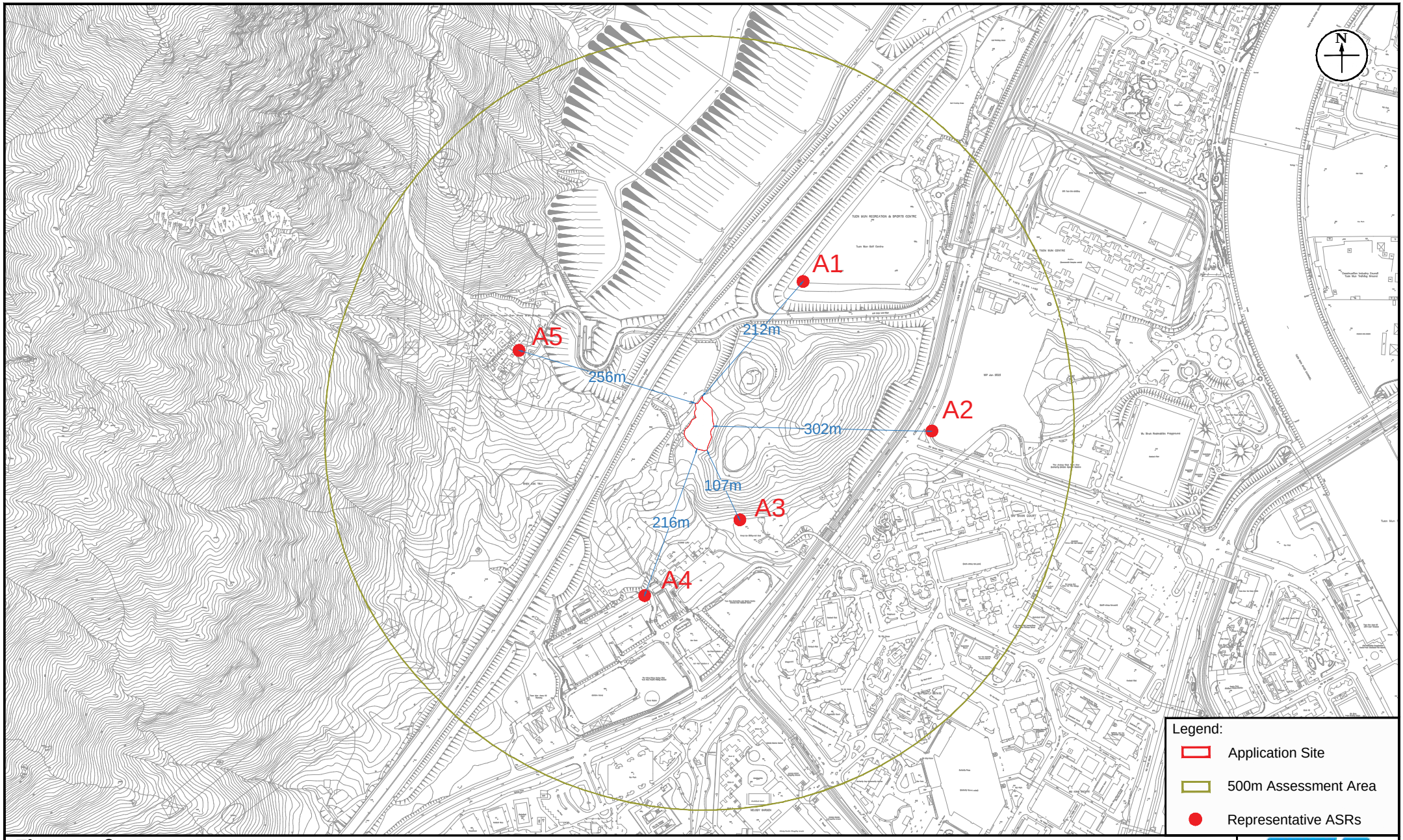


**Figure:** 3

**Title:** Location of the Representative Air Sensitive Receivers

**Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories

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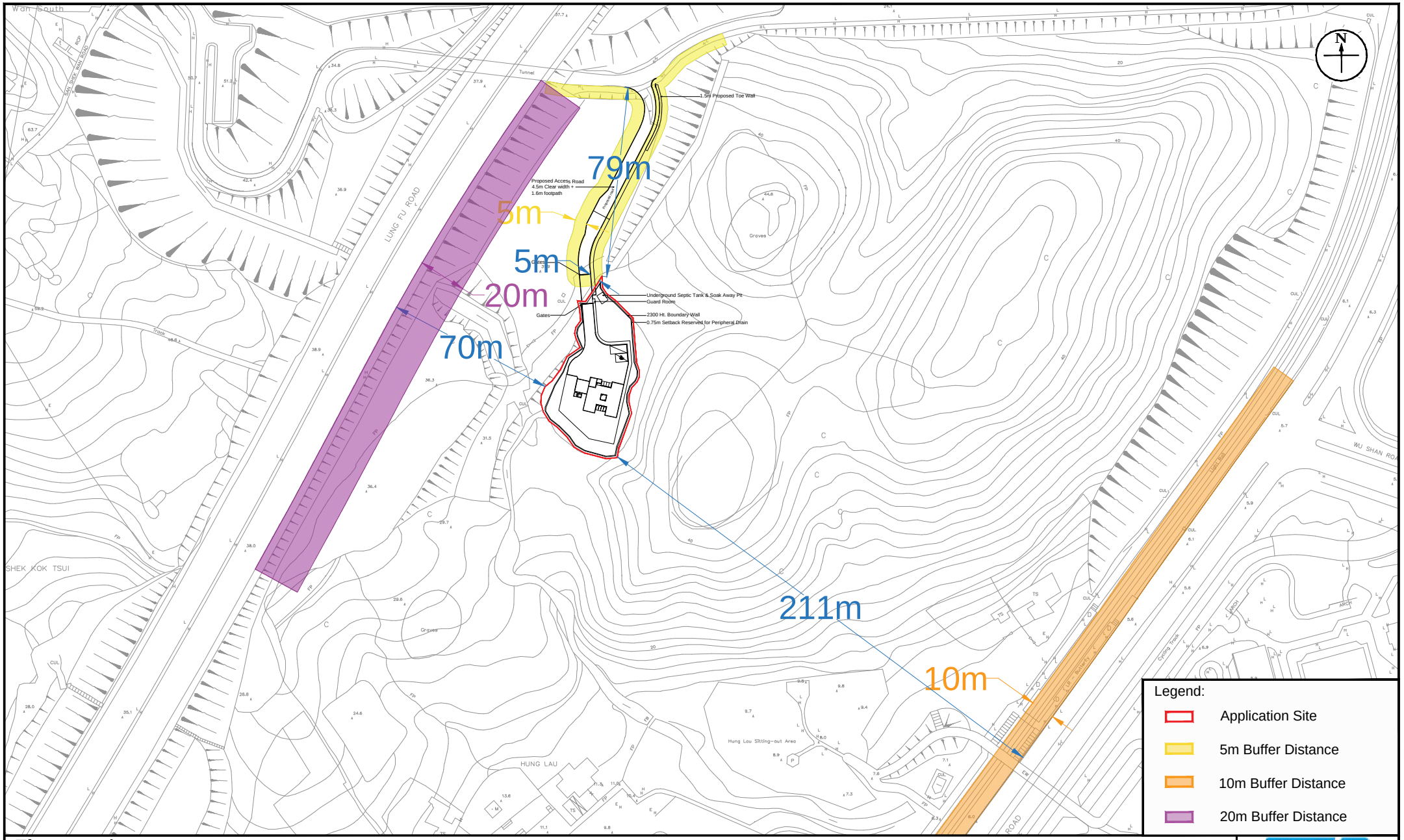


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| **Figure:** 4 | RAMBOLL |
| **Title:** Buffer Distance between the Proposed Development and the Kerb Side of the Nearest Carriageway | Drawn by: TL<br>Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.1<br>Date: Nov 2025 |

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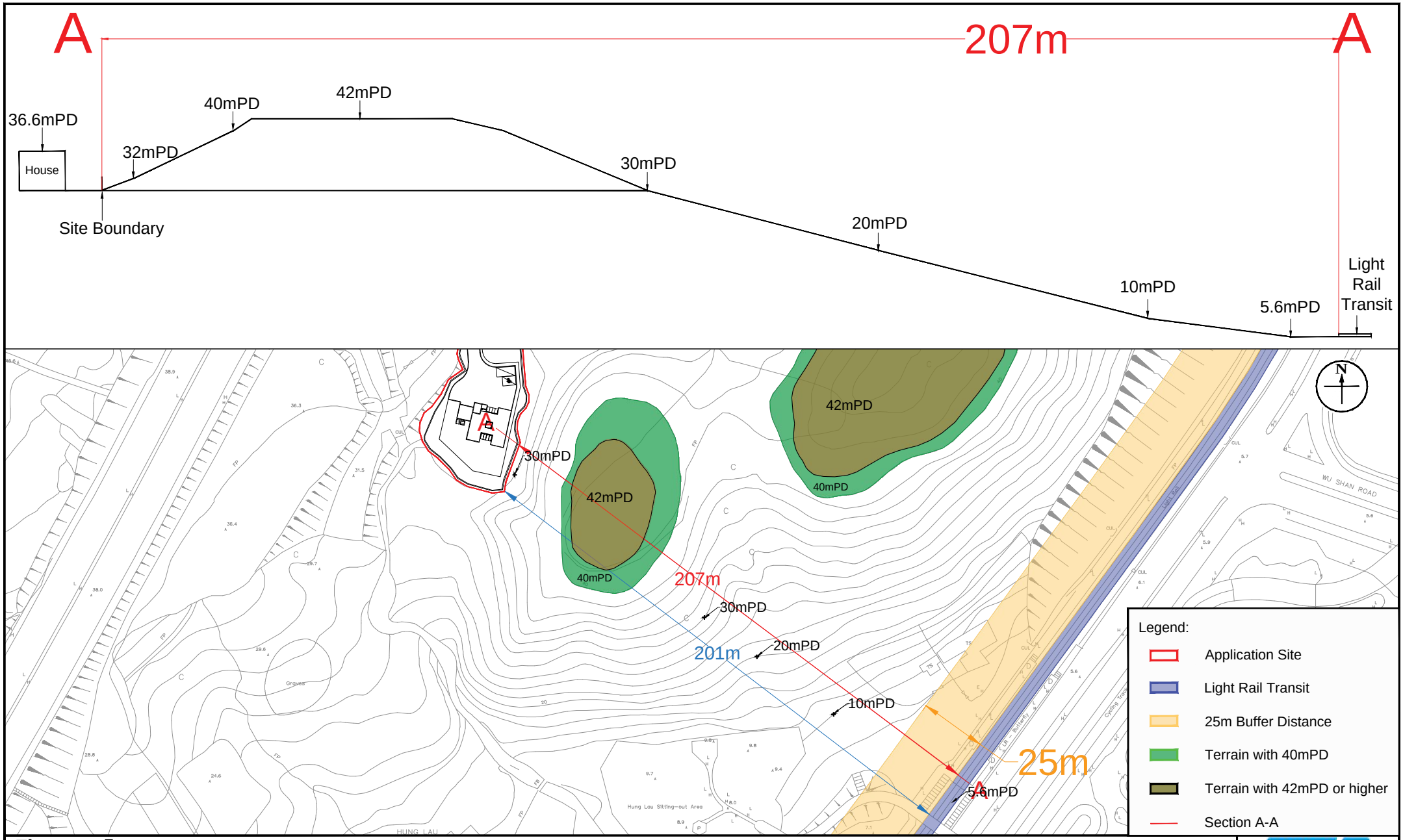


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| **Figure:** 5 | RAMBOLL |
| **Title:** Location of Light Rail Transit and Separation Distance from the Application Site | Drawn by: TL<br>Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.0<br>Date: Aug 2025 |

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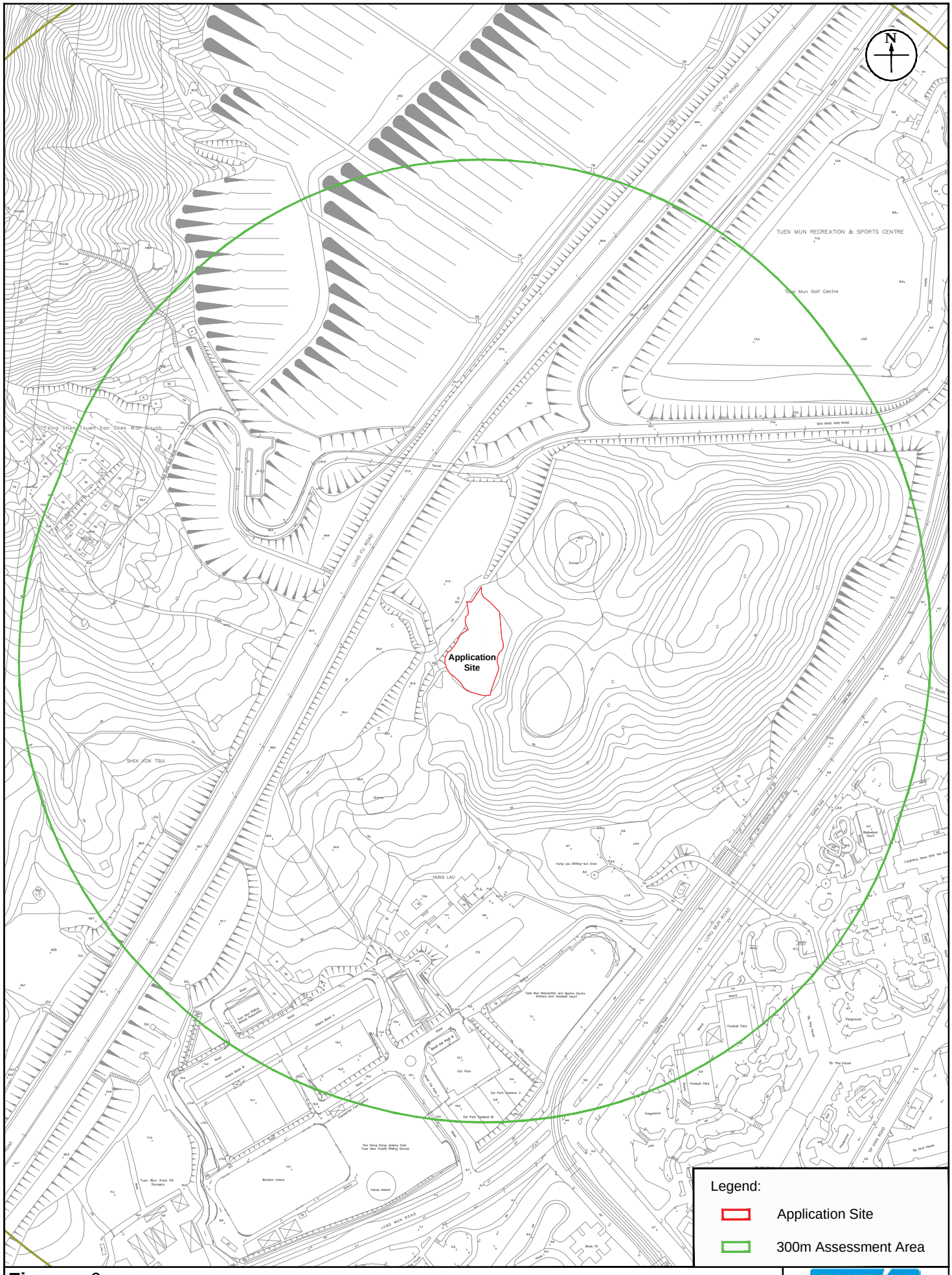


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| **Figure:** 6 | RAMBOLL |
| **Title:** 300m Assessment Area from the Application Site | Drawn by: TL |
| | Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.0 |
| | Date: Aug 2025 |

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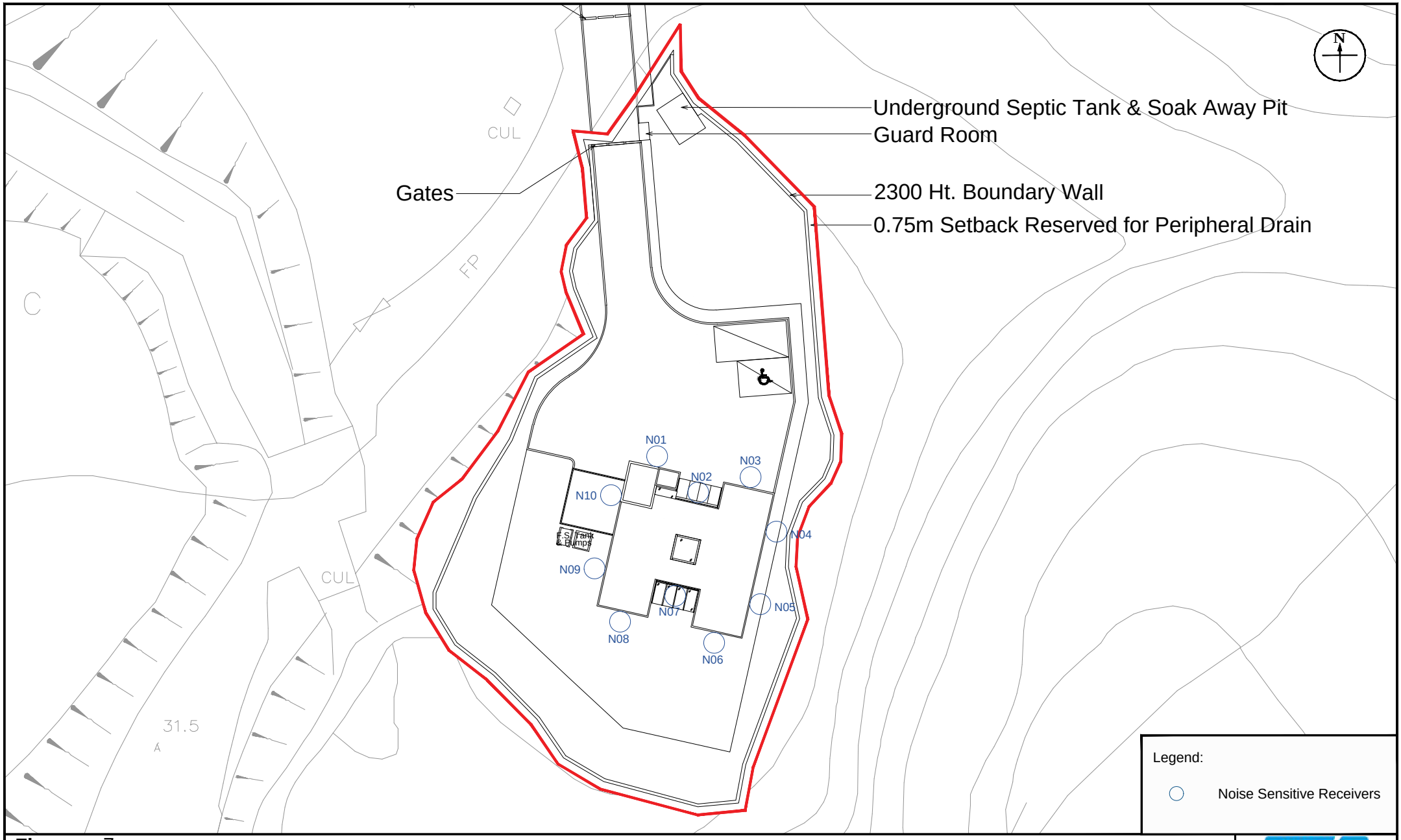


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| **Figure:** 7 | RAMBOLL |
| **Title:** Location of Proposed Noise Sensitive Receivers | Drawn by: TL<br>Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.0<br>Date: Aug 2025 |

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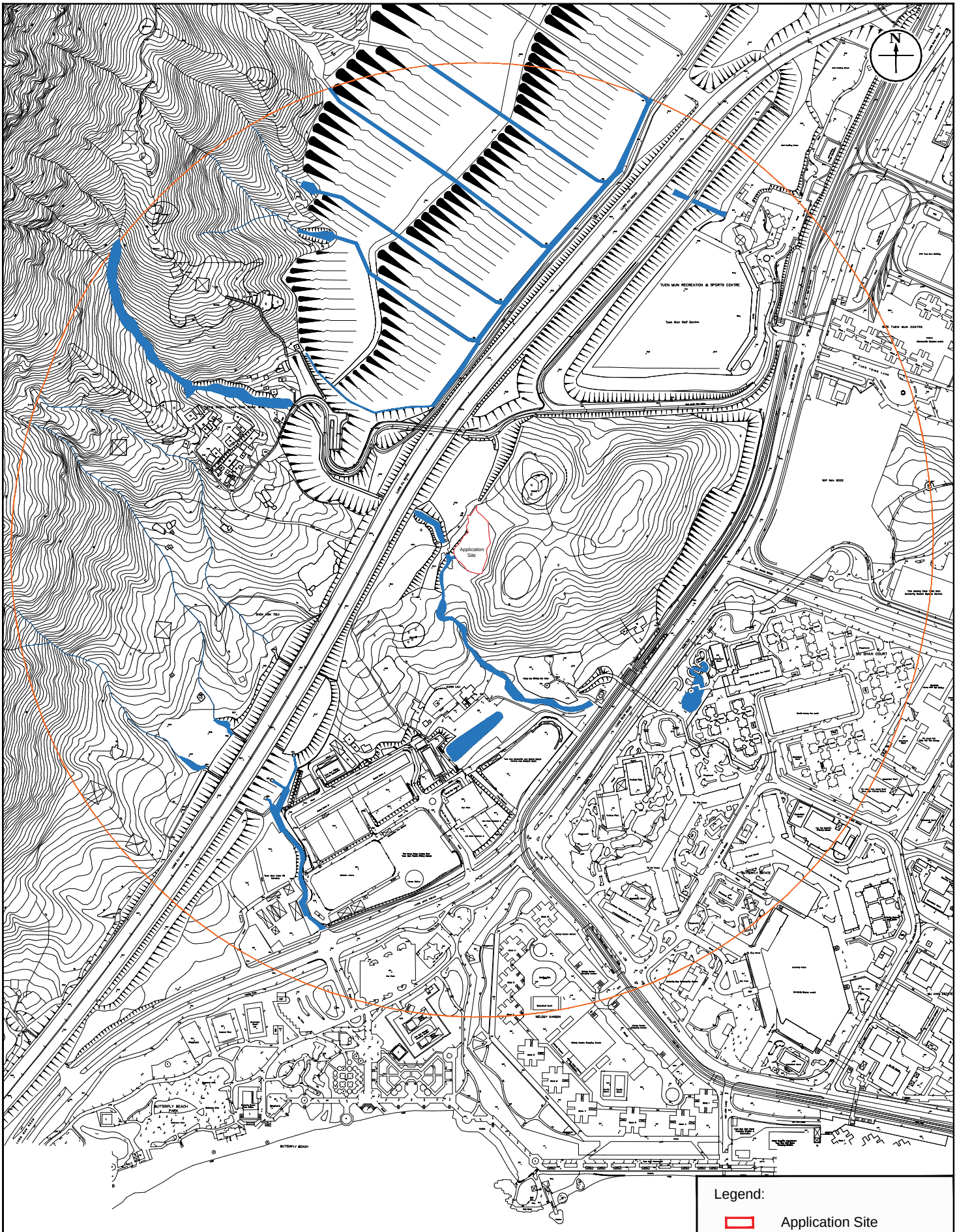


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| **Figure:** 8 | RAMBOLL |
| **Title:** Locations of Representative Water Sensitive Receivers | Drawn by: TL |
| | Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.0 |
| | Date: Aug 2025 |

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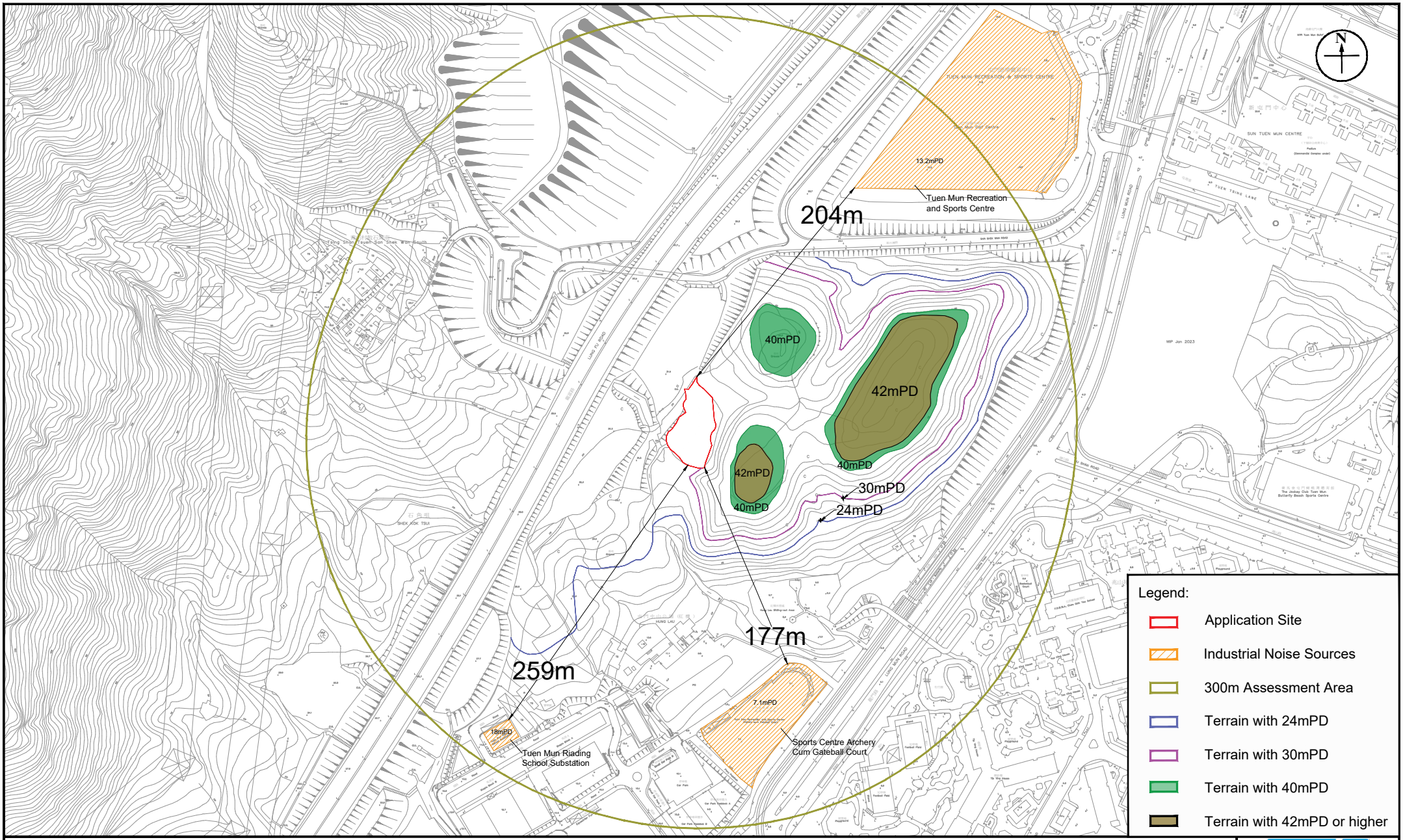


**Figure:** 9

**Title:** Location of Industrial Noise Sources and Separation Distances from the Application Site

**Project:** Proposed Residential Development at T.M.T.L. 550, Tuen Mun, New Territories

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| Rev.: | 2.2 |
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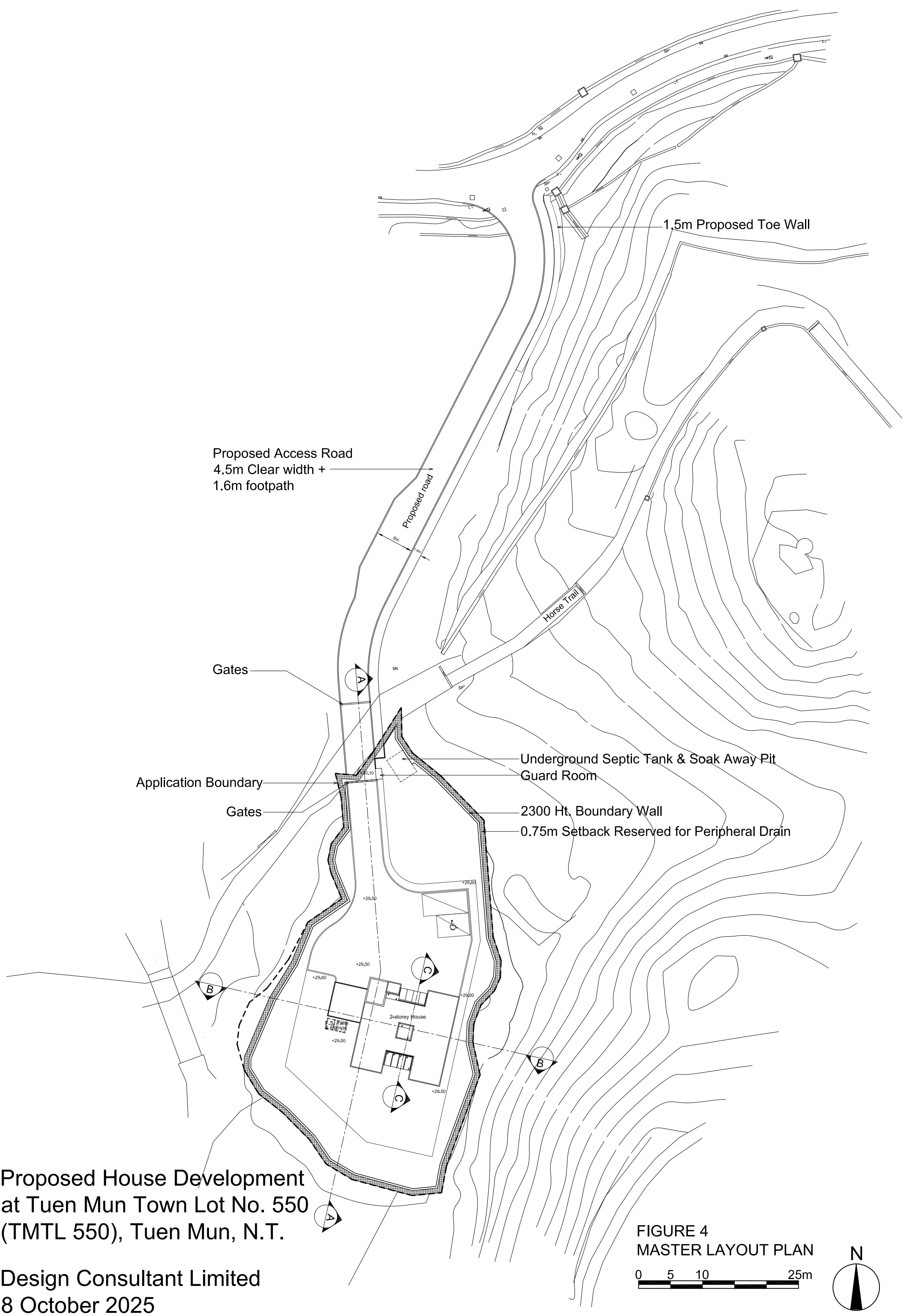
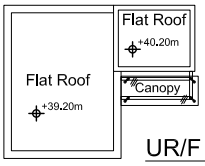
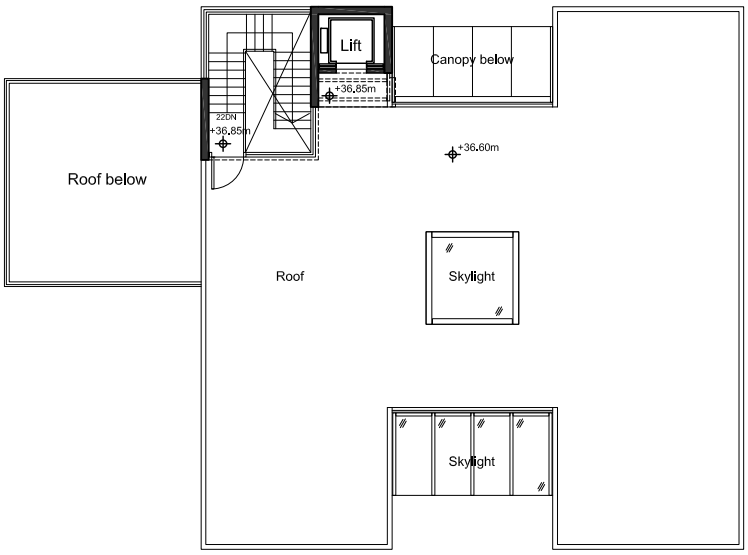
**Appendix 1 Master Layout Plan and Section**


1.5m Proposed Toe Wall
Proposed Access Road
4.5m Clear width +
1.6m footpath
Proposed road
6m
1.6m
Horse Trail
Gates
A
SR
SR*
Underground Septic Tank & Soak Away Pit
Guard Room
Application Boundary
Gates
2300 Ht. Boundary Wall
0.75m Setback Reserved for Peripheral Drain
+29.60
+29.50
+29.60
+29.50
+29.60
+29.50
C
B
2-storey House
F.S. Tank & Pumps
B
C
A
Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.
Design Consultant Limited
8 October 2025
FIGURE 4
MASTER LAYOUT PLAN
0 5 10 25m
N




UR/F Plan



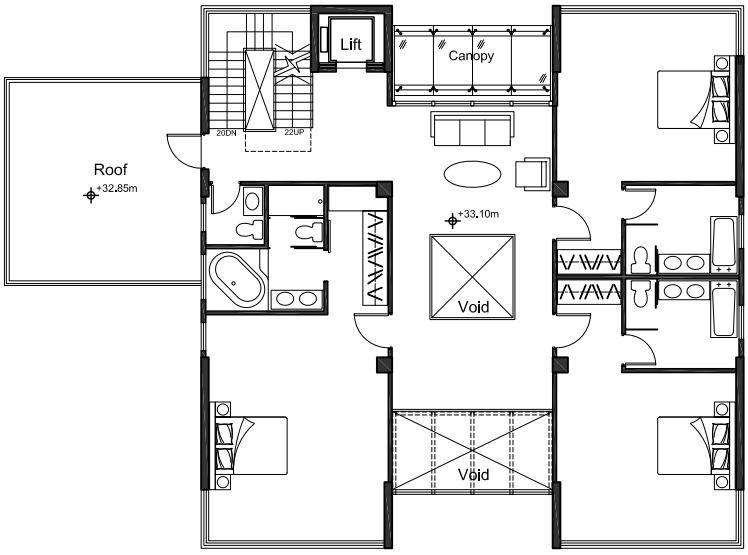

R/F Plan

## GFA & Plot Ratio Calculation

Total GFA
= G/F 189.135 + 0.949 (Guardroom)
[Exemption for F.S. Tank & Pumps Enclosure, Carport (28.60), and area covered by canopy (8.181) to be applied to BD and LD]
+ 1/F 180.316
[Exemption for 1/F Void near South Elevation (8.819) & R/F Stair Hood and Lift (17.723) to be applied to BD and LD]
= 370.400 m2

Site Area
= 1852 m2

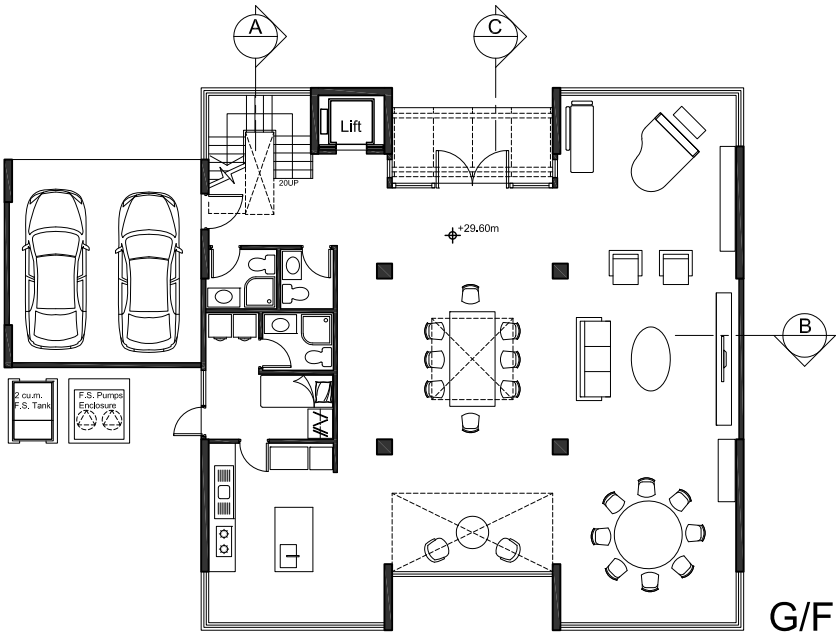
Plot Ratio
= 370.400 / 1852
= 0.2000




1/F Plan

## Site Coverage Calculation

Site Coverage
= (217.735 + 0.949)
[Exemption for area covered by canopy (8.181) to be applied]
/ 1852 x 100%
= 11.808% < 20%




G/F Plan

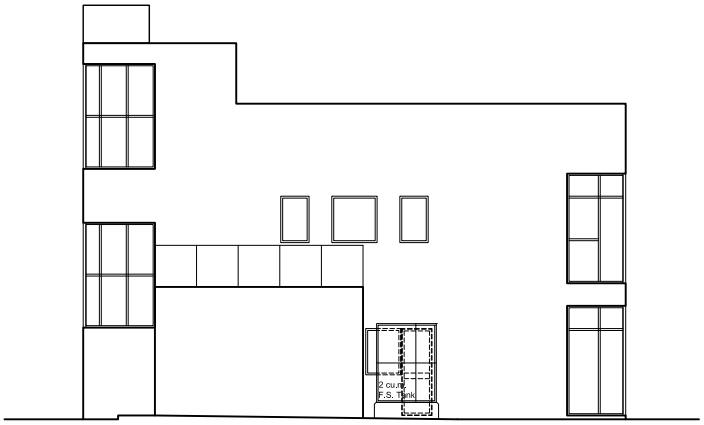
Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.

Design Consultant Limited
8 October 2025

FIGURE 5
FLOOR PLAN

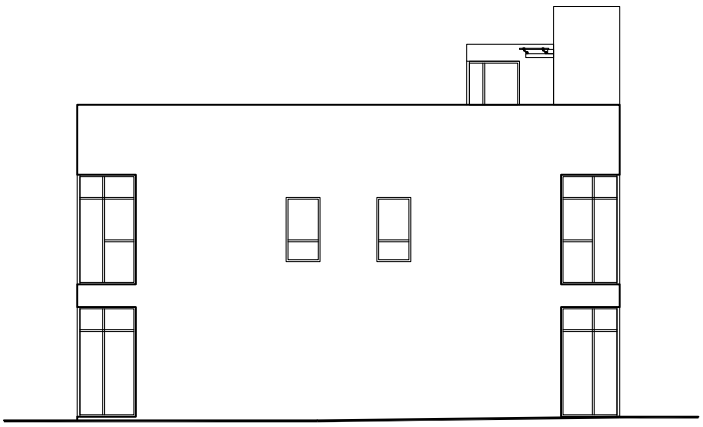
0 2 4 6 8 10m

N




West Elevation

South Elevation



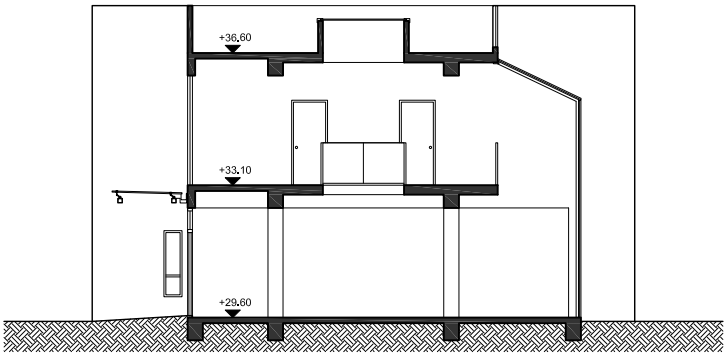
East Elevation

North Elevation

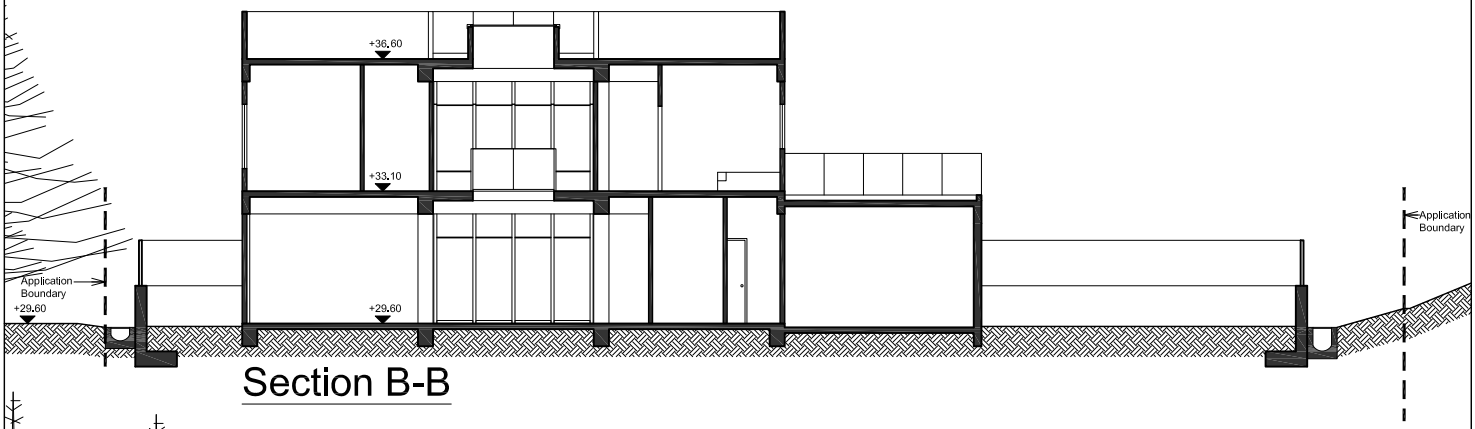
Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.

Design Consultant Limited
7 July 2025

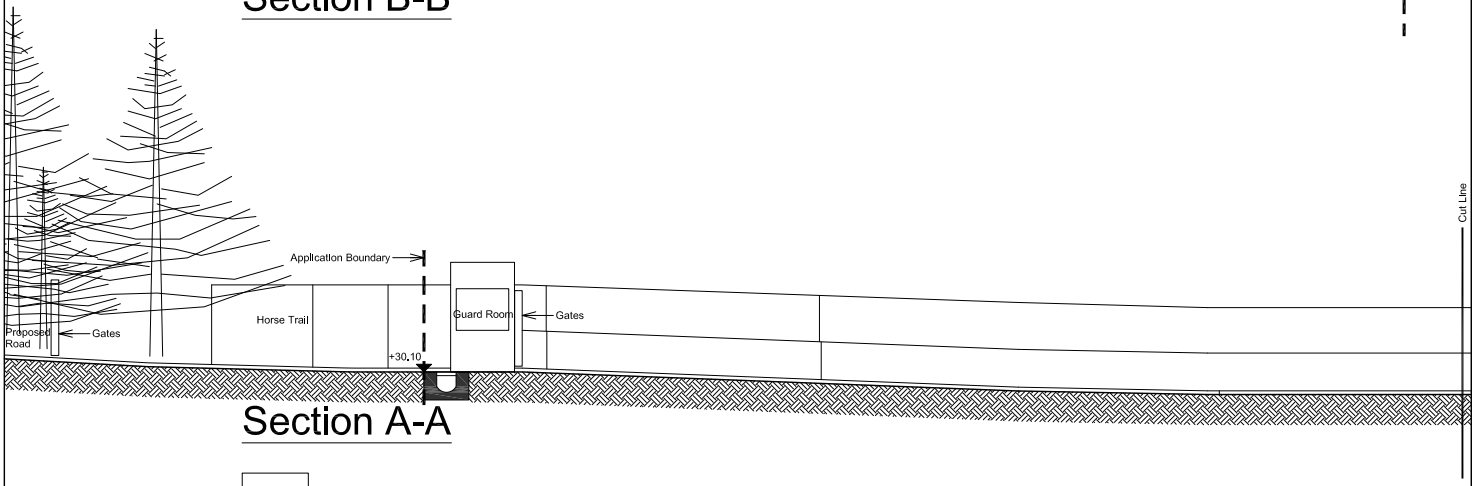
0 2 4 6 8 10m



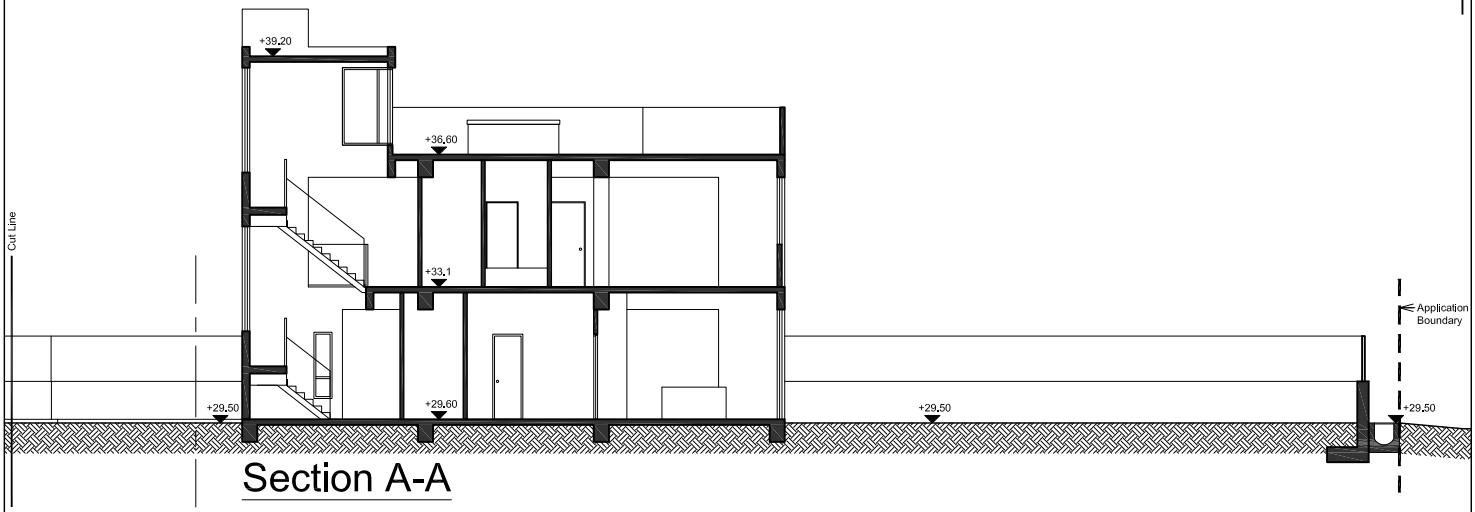

Section C-C




Section B-B




Section A-A




Section A-A

Proposed House Development
at Tuen Mun Town Lot No. 550
(TMTL 550), Tuen Mun, N.T.

Design Consultant Limited
7 July 2025

0 2 4 6 8 10m

**Appendix 2 Traffic Forecast**

**From:** Po Fong LEE <pofonglee@td.gov.hk>
**Sent:** Monday, November 17, 2025 3:27 PM
**To:** CKM Asia
**Cc:** Wai Ka LAW
**Subject:** Re: Section 16 Planning Application for Residential Development at T.M.T.L. 550, Tuen Mun, New Territories (TPB ref.: A/TM/601) - road type
**Attachments:** item 1 - A_TM_601_EPD comments.pdf

Dear Tommy,
The current road types are as follows:
1) Lung Fu Road – Primary Distributor
2) Lung Mun Road between Wu Chui Road and Tuen Mun Chek Lap Kok Link & Lung Fu Road – Local Distributor
Lung Mun Road between Wu Shan Road and Wu Chui Road - District Distributor
3) San Shek Wan Road – Local Distributor
4) The Proposed Assess Road between San Shek Wan Road and the Subject Site – Local Distributor

Regards,
LEE Po-fong, Bobo
E/TMW, TE(NTW)
Transport Department
Tel: 2399 2261

From: "CKM Asia" <mail@ckmasia.com.hk>
To: "pofonglee@td.gov.hk" <pofonglee@td.gov.hk>
Date: 12/11/2025 11:26 am
Subject: Section 16 Planning Application for Residential Development at T.M.T.L. 550, Tuen Mun, New Territories (TPB ref.: A/TM/601) - road type

---

**Attn: Transport Department – Ms. LEE Po Fong, Bobo (Engr/Tuen Mun West)**

Dear Ms. Lee,

We refer to comment 1.8 from Environmental Protection Department for the captioned project (see attached **item 1**), requested for road type for 4 roads. It is much appreciated if you could confirm if you agree to the road type, which we have assumed for the 4 roads as follows:

1) Lung Fu Road – Primary Distributor
2) Lung Mun Road – District Distributor
3) San Shek Wan Road – Local Distributor
4) The Proposed Assess Road between San Shek Wan Road and the Subject Site – Local Distributor

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

Thank you for your attention.

Regards.
Tommy Law
CKM Asia Limited
Traffic and Transportation Planning Consultant
21st Floor, Methodist House
36 Hennessy Road
Wan Chai, Hong Kong
Tel: (852) 2520 5990
Fax: (852) 2528 6343
Email: mail@ckmasia.com.hk
Website: www.ckmasia.com.hk

**By Fax**
(Fax No.: 2528 6343)

運輸署
Transport Department

本署檔案 Our Ref. : (00LG6) in 010-160-574-NR-TM-044
來函檔號 Your Ref. : J7406/3
電 話 Tel. : 2399 2261
圖文傳真 Fax : 2381 3799
電 郵 Email :

3 December 2025

[redacted]

Dear Mr. CHIN,

**Section 16 Planning Application -**
**Proposed Housing Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, New Territories (TPB ref: A/TM/601)**

I refer to your letter under reference dated 10 November 2025 regarding the caption.

Please note that the Noise Impact Assessment is not under our purview. We are not in a position to provide comments on the traffic figures tailor-made for the environmental assessment purposes.

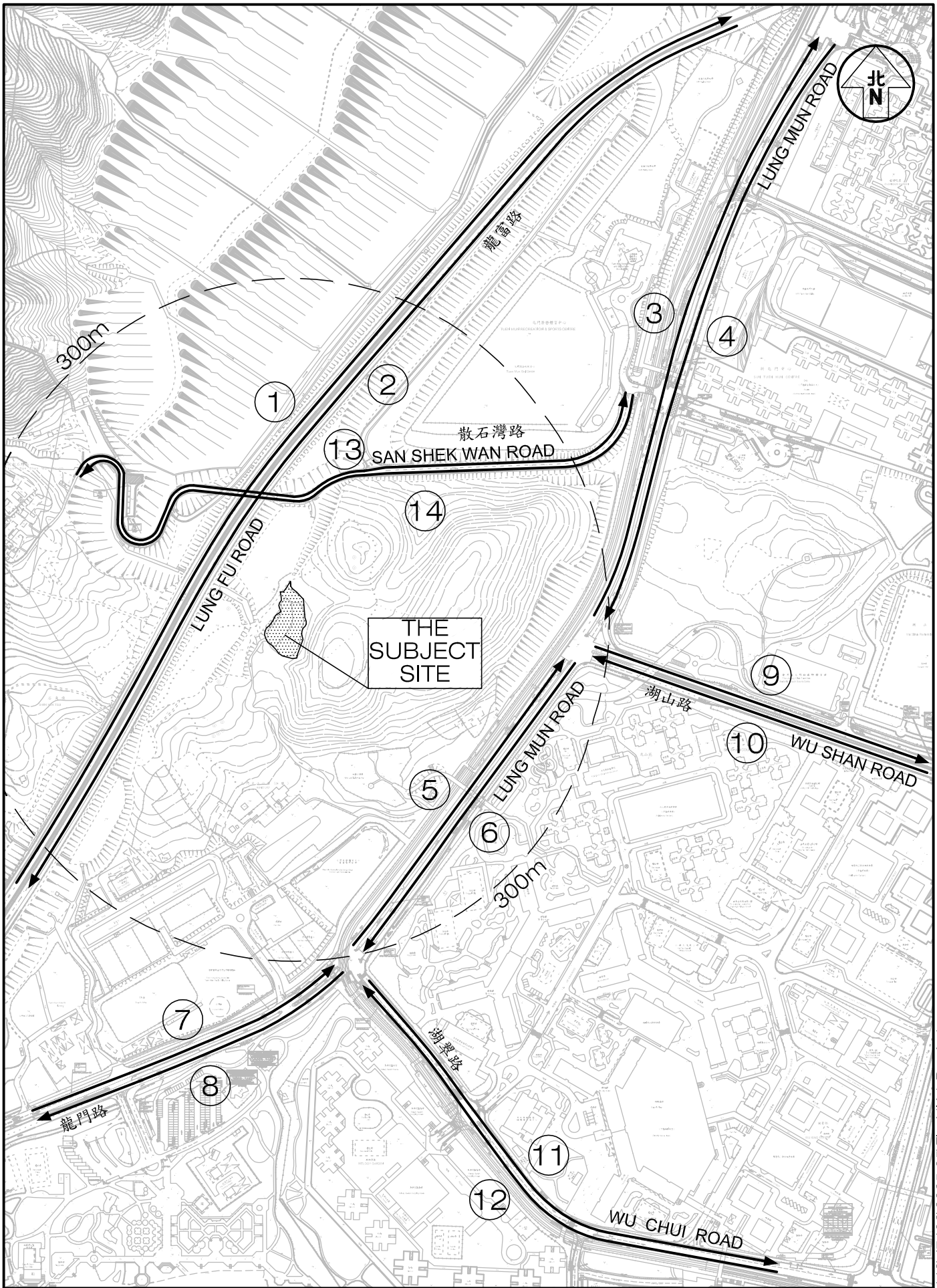
Notwithstanding the above, please note that we would have no objection in principle to the methodology for traffic forecast if it is the same as that adopted in the traffic impact assessment for the captioned project and the base year observed traffic data and road descriptions tally with those for traffic impact assessment. For example, 2024 ATC should be adopted in Table 3.

Should there be any discrepancy in the traffic data and the methodology for traffic forecast between traffic impact assessment and the subject assessment, please highlight for our consideration.

Yours faithfully,

(Bobo LEE)
for Commissioner for Transport

新界分區辦事處
NT Regional Office
九龍聯運街三十號旺角政府合署七樓
7th Floor, Mong Kok Government Offices, 30 Luen Wan Street, Kowloon.
圖文傳真 Fax No.: 2381 3799 (新界區) (NTRO)
網址 Web Site: http://www.td.gov.hk




| | | | | | |
|---|---|---|---|---|---|
| Project Title: SECTION 16 PLANNING APPLICATION FOR HOUSE DEVELOPMENT AT T.M.T.L. 550, TUEN MUN, NEW TERRITORIES | Job No. J7406 | Figure No. NIA1 | | | Scale in A4 1 : 5000 |
| | Designed by L C H | Drawn by N C M | Checked by K C | Revision A | Date 15 AUG 2025 |
| Figure Title: LOCATION OF TRAFFIC DATA | CKM Asia Limited [redacted] | | | | |

T:\JOBs\J7400-J7449\J7406\2025 05\Fig NIA1 RevA.dwg

**YEAR 2046 TRAFFIC FORECAST** **Date: 31 JULY 2025** **Job No.: J7406**

| No. | Road | From | To | 2046 AM Peak Hour Traffic Flows | | | |
|---|---|---|---|---|---|---|---|
| | | | | Veh/hr | Vehicle Type for Noise Assessment (%) | | |
| | | | | | PV | HV | Total |
| L001 | Lung Fu Road NB | Wong Chu Road | Lung Mun Road | 1100 | 66% | 34% | 100% |
| L002 | Lung Fu Road SB | Wong Chu Road | Lung Mun Road | 1250 | 63% | 37% | 100% |
| L003 | Lung Mun Road NB | Tuen Tsing Lane | Wu Shan Road | 1000 | 74% | 26% | 100% |
| L004 | Lung Mun Road SB | Tuen Tsing Lane | Wu Shan Road | 1050 | 64% | 36% | 100% |
| L005 | Lung Mun Road NB | Wu Shan Road | Wu Chui Road | 700 | 77% | 23% | 100% |
| L006 | Lung Mun Road SB | Wu Shan Road | Wu Chui Road | 1150 | 63% | 37% | 100% |
| L007 | Lung Mun Road NB | Wu Chui Road | Lung Fu Road | 450 | 83% | 17% | 100% |
| L008 | Lung Mun Road SB | Wu Chui Road | Lung Fu Road | 750 | 62% | 38% | 100% |
| L009 | Wu Shan Road EB | Lung Mun Road | Wu King Road | 400 | 78% | 22% | 100% |
| L010 | Wu Shan Road WB | Lung Mun Road | Wu King Road | 800 | 72% | 28% | 100% |
| L011 | Wu Chui Road EB | Lung Mun Road | Tip King Road | 400 | 66% | 34% | 100% |
| L012 | Wu Chui Road WB | Lung Mun Road | Tip King Road | 300 | 67% | 33% | 100% |
| L013 | San Shek Wan Road EB | San Shek Wan San Tsuen | Lung Mun Road | 50 | 86% | 14% | 100% |
| L014 | San Shek Wan Road WB | Lung Mun Road | San Shek Wan San Tsuen | 50 | 83% | 17% | 100% |

Note: "LV" includes motorcycle, private car and taxi
"HV" includes light / medium / heavy goods vehicle, public / private light bus, non-franchised bus and franchised bus

**YEAR 2046 TRAFFIC FORECAST** **Date: 31 JULY 2025** **Job No.: J7406**

| No. | Road | From | To | 2046 PM Peak Hour Traffic Flows | | | |
|---|---|---|---|---|---|---|---|
| | | | | Veh/hr | Vehicle Type for Noise Assessment (%) | | |
| | | | | | PV | HV | Total |
| L001 | Lung Fu Road NB | Wong Chu Road | Lung Mun Road | 1400 | 63% | 37% | 100% |
| L002 | Lung Fu Road SB | Wong Chu Road | Lung Mun Road | 1100 | 63% | 37% | 100% |
| L003 | Lung Mun Road NB | Tuen Tsing Lane | Wu Shan Road | 950 | 59% | 41% | 100% |
| L004 | Lung Mun Road SB | Tuen Tsing Lane | Wu Shan Road | 950 | 71% | 29% | 100% |
| L005 | Lung Mun Road NB | Wu Shan Road | Wu Chui Road | 1100 | 65% | 35% | 100% |
| L006 | Lung Mun Road SB | Wu Shan Road | Wu Chui Road | 800 | 69% | 31% | 100% |
| L007 | Lung Mun Road NB | Wu Chui Road | Lung Fu Road | 850 | 65% | 35% | 100% |
| L008 | Lung Mun Road SB | Wu Chui Road | Lung Fu Road | 250 | 65% | 35% | 100% |
| L009 | Wu Shan Road EB | Lung Mun Road | Wu King Road | 600 | 80% | 20% | 100% |
| L010 | Wu Shan Road WB | Lung Mun Road | Wu King Road | 350 | 69% | 31% | 100% |
| L011 | Wu Chui Road EB | Lung Mun Road | Tip King Road | 550 | 71% | 29% | 100% |
| L012 | Wu Chui Road WB | Lung Mun Road | Tip King Road | 250 | 63% | 37% | 100% |
| L013 | San Shek Wan Road EB | San Shek Wan San Tsuen | Lung Mun Road | 50 | 91% | 9% | 100% |
| L014 | San Shek Wan Road WB | Lung Mun Road | San Shek Wan San Tsuen | 50 | 80% | 20% | 100% |

Note: "LV" includes motorcycle, private car and taxi
"HV" includes light / medium / heavy goods vehicle, public / private light bus, non-franchised bus and franchised bus

**Appendix 3 Traffic Noise Impact Assessment Result for the Proposed NSRs**

**Proposed House Development at T.M.T.L. 550,Tuen Mun, New Territories**

**Predicted Road Traffic Noise Level at Proposed Representative Noise Sensitive Receivers**

**1. Base Case (AM)**

| Floor | mPD | House 1 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N01 | N02 | N03 | N04 | N05 | N06 | N07 | N08 | N09 | N10 |
| G/F | 29.60 | 66 | 63 | 65 | 59 | 57 | 62 | 53 | 63 | 66 | 67 |
| 1/F | 33.10 | 67 | 64 | 66 | 61 | 59 | 63 | 57 | 65 | 68 | 68 |
| Max. Noise Level | | 67 | 64 | 66 | 61 | 59 | 63 | 57 | 65 | 68 | 68 |
| No. of Exceedance | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| No. of Exceedance Unit | | 0 | | | | | | | | | |
| No. of Unit | | 1 | | | | | | | | | |

| | |
|---|---|
| Max. Noise Level | 68 |
| Compliance Rate | 100% |

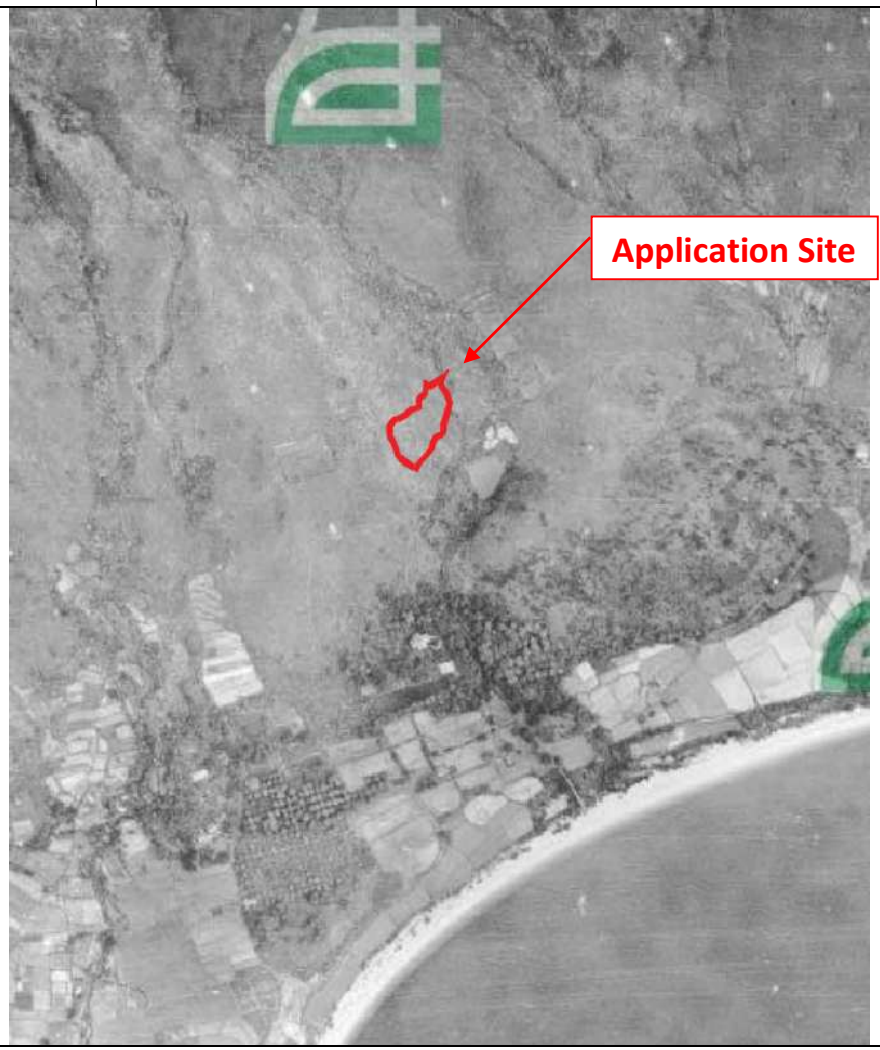
Remarks:

Shaded cell denotes noise level exceeding the limit of 70 dB(A)


Confidential

**Appendix 4 Aerial Photos for Land Contamination Assessment**

# Aerial Photos for Land Contamination Assessment

| Year | Aerial Photo |
|---|---|
| **1949**<br>Photo No.: 81A_125-5070 |  |

**1961**

Photo No.: F43_625-0147

**1980**

Photo No.: 30633

**2001**

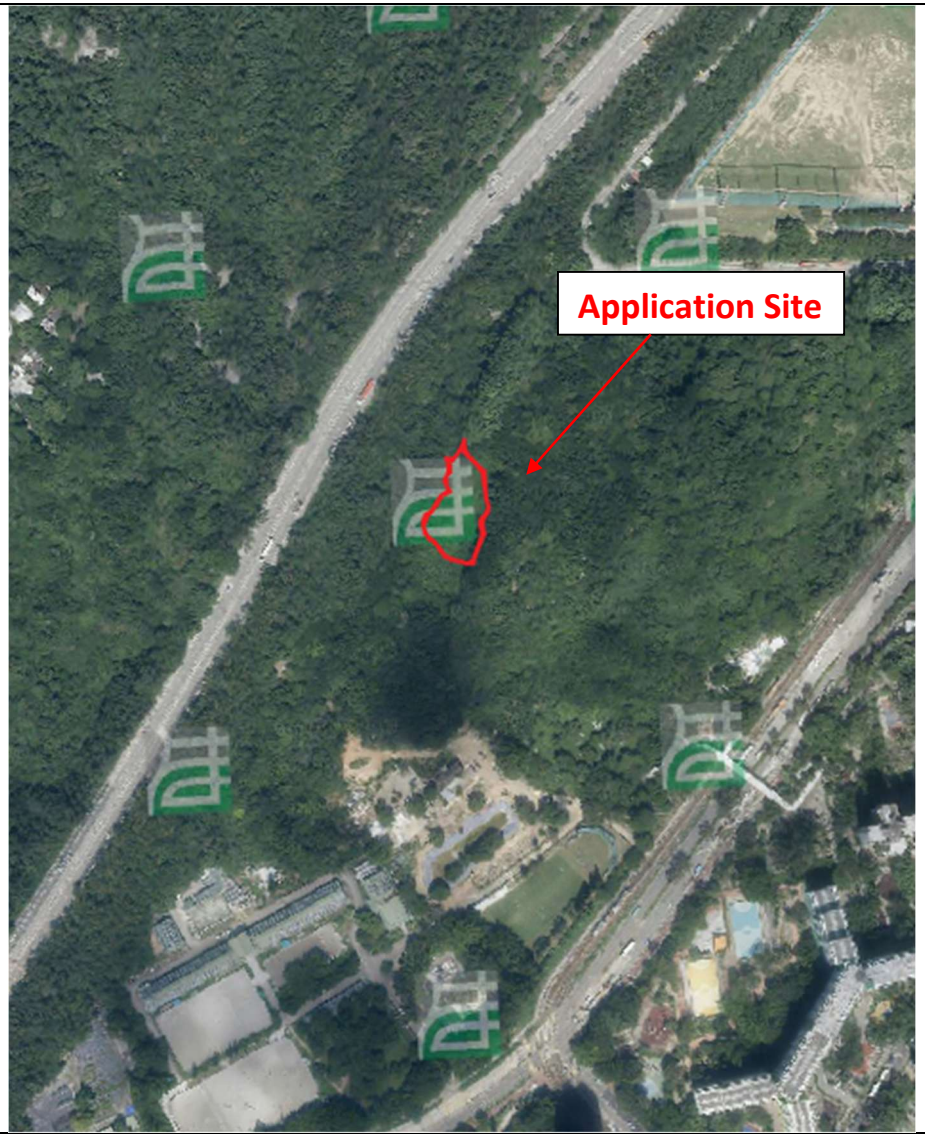
Photo No.: CW31699

**2021**

Photo No.: E129466C

**2024**

Photo No.: E228839C



# Annex B

Replacement Pages of the Landscape Proposal with Tree Survey Report
Replacement Page of the Planning Statement

***Existing Trees***

2.7 The site is vacant. Refers to the recent topographical survey update of existing tree location, there is no tree (base level) exactly located within the site. However, there are 3 nos. of existing trees, A149, A150 and A162 which located on/very close to the site boundary, and which have been contained in the previous and the recent tree survey. The main trunk of these existing trees and majority of their crown spread are seriously leaning into the site, which will be affected by the roadworks or site formation works for proposed boundary wall/ retaining wall and/or periphery drainage system which are required by the proposed development. Besides, another 20 trees (including Tree A136 and A147) are observed along the existing track connecting San Shek Wan Road and the site which will be affected by the proposed EVA/new access road to the site.

2.8 No registered Old and Valuable Trees (DEVB TC(W) No. 5/2020 Registration and Preservation of Old and Valuable Trees) and no protected specimen under Endangered Species of Animals and Plants Ordinance Cap. 586, the Rare and Precious Plants of Hong Kong (Status in China), and under China Plant Red Data Book exists on site or being affected.

2.9 Existing trees condition and their treatment as result of proposed development refer to **Appendix A Tree Survey Report.**

2.10 Having considered the tree species, which are weedy trees, poor condition of these affected trees, trees have unrecoverable defects, the affected trees are not suitable candidate for tree transplanting, and therefore tree felling is recommended. According to the tree survey findings, unrecoverable defects are frequently found in many existing trees. Defects include seriously leaning, epicormic sprouts, unbalanced crown/form, exposed and restricted rooting area that are unfavourable and not recommended to be retained. The proposal concludes that 17 trees are required of tree felling plus the removal of 6 weedy trees, *Leucaena leucocephala*. Trees of low amenity value and/or having defects will be replaced by a combination of high-quality broadleaf and ornamental trees in the proposed development.

2.11 The new tree planting proposal intends to create a good quality of green environment for future residents with proper and good quality planting establishment. A total of 17 new trees of heavy standard stocks would be planted with 1:1 replanting ratio (17 trees felled: 17 new trees planted) with excluding the removal of 6 no. of *Leucaena leucocephala*.

2.12 The selection of good quality species will enhance the visual amenity of the site, improves bio-diversity in the local landscape context and provides a high-quality living environment for the future residents. Tree planting opportunities have been maximised within the proposed development in balance with the provision of other facilities, utilities and traffic layout arrangement necessarily required for the residents. Implementation of planting proposal will create a high-quality living environment, and will establish the character and identity for the future development. With the full establishment of the planting proposal, the local landscape context and visual amenity would be enhanced.

## 3.0 Project Description

3.1 The site is proposed for a house development comprises of a 2-storey house, a guard room, an underground septic tank, car parking spaces and associated landscape areas. The development also involves an EVA/new access road connecting to San Shek Wan Road.

## 4.0 Landscape Design Proposal

4.1 The concept underpinning the landscape design of proposed development is to provide a synthesis between the contemporary design philosophy and sustainable development

## 3.0 Existing Vegetation

3.1 The site is vacant. Refers to the recent topographical survey update of existing tree location, there is no tree (base level) exactly located within the site. However, there are 3 nos. of existing trees, A149, A150 and A162 which located on/very close to the site boundary, and which have been contained in the previous and the recent tree survey. The main trunk of these existing trees and majority of their crown spread are seriously leaning into the site, which are potentially affected by the roadworks or site formation works for proposed boundary wall/ retaining wall and/or periphery drainage system which are required by the proposed development. Besides, another 20 trees (including Tree A136 and a147) are observed along the existing track connecting San Shek Wan Road and the site which are potentially affected by the proposed EVA/new access road to the site.

3.2 A total of 7 tree species were identified in the survey. About 26% of existing trees are self-seeded weedy trees, *Leucaena leucocephala.* Another 43% are also self-seeded trees with prolific nature, such as *Bauhinia variegata and Macaranga tanarius* var. tomentosa. The remaining are fruit trees, native/ exotic plantation species that are commonly found in Hong Kong and are few in numbers. **Table A2.1** below listed the tree species surveyed and their relative abundance. Tree composition contains 3 native species and the other 4 are exotic species which accounts for 21% and 79% of total tree number respectively.

3.3 No registered Old and Valuable Trees (DEVB TC(W) No. 5/2020 Registration and Preservation of Old and Valuable Trees) and no protected specimen under Endangered Species of Animals and Plants Ordinance Cap. 586, the Rare and Precious Plants of Hong Kong (Status in China), and under China Plant Red Data Book exists on site or being affected.

3.3 The existing tree locations are illustrated on **Annex III – Tree Treatment Plan**. Identification of tree species, form and health condition of these trees are reviewed in the following paragraphs and listed in **Annex II - Tree Treatment Schedule**. A **Photographic Record of Existing Trees** is enclosed in **Annex IV.**

**Table A2.1 Summary of Existing Tree Species**

| Botanical Name | Chinese Name | No. of Trees | % | Native (N)/ Exotic (E) |
|---|---|---|---|---|
| *Artocarpus heterohpyllus* | 波蘿蜜 | 4 | 18% | E |
| *Bauhinia variegata* | 宮粉羊蹄甲 | 7 | 31% | E |
| *Eucalyptus torelliana* | 毛葉桉 | 1 | 4% | E |
| *Leucaena leucocephala* | 銀合歡 | 6 | 26% | E |
| *Macaranga tanarius* var. tomentosa | 血桐 | 3 | 13% | N |
| *Mallotus paniculatus* | 白楸 | 1 | 4% | N |
| *Sterculia lanceolata* | 假蘋婆 | 1 | 4% | N |
| **Total** | | **23** | **100%** | |

3.4 The average DBH of the surveyed trees is about 295mm, with average height of 8.3m and average crown spread of 6.4m which indicates their fast growing nature of weedy trees or fruit trees. **Figure A2.1 Existing Tree Size Distribution** below shows that about half of existing trees have a DBH less than 300mm which indicates that they are relatively young and are trees recently self-seeded in the area. The fruit tree/ weedy tree, such as *Artocarpus heterohpyllus* and *Leucaena leucocephala,* have larger DBH over 500mm regarding their fast growing nature. Given the dense growing condition, the average crown spread of the plantation species on slope is relatively small while their tree growth is constrained by adjacent trees, low live crown ratio and “lion tail”/ “poor taper” are common evidence observed on these trees.

slope, given that the proposed scheme has been maximised the tree preservation opportunities.

***Tree Felling***

3.4 The site is vacant for years, there is no tree (base level) exactly located within the site. However, there are 3 nos. of existing trees A149, A150 and A162 which located on/very close to the site boundary, and which have been contained in the previous and the recent tree survey. The main trunk of these existing trees and majority of their crown spread are seriously leaning into the site, which are inevitably affected by the roadworks or site formation works for proposed boundary wall/ retaining wall and/or periphery drainage system which are required by the proposed development. Besides, another 20 trees (including Trees A136 and A147) are observed along the existing track connecting San Shek Wan Road and the site which will be affected by the proposed EVA/new access road to the site.

4.3 Having considered the tree species, which are weedy trees, poor condition of these affected trees, trees have unrecoverable defects, the affected trees are not suitable candidate for tree transplanting, and therefore tree felling is recommended.

4.4 According to the tree survey findings, unrecoverable defects are frequently found in the majority of existing trees. Defects include seriously leaning, epicormic sprouts, unbalanced crown/form, exposed and restricted rooting area that are unfavourable and not recommended to be retained. The proposal concludes that 17 trees are required of tree felling plus the removal of 6 weedy trees, *Leucaena leucocephala.*

4.5 The removal of trees will be compensated and replaced by high quality broadleaf/evergreen/ornamental trees and suitable greening treatment in proposed development by maximising the landscape and greening opportunities. Upon full establishment of proposed planting, the local landscape context will be enhanced.

## 5.0 New Tree Planting Concept

5.1 As described above, the loss of existing trees will be replaced by broadleaf/evergreen/ ornamental trees creating a good quality residential landscape that would enhance the visual amenity of the local context, benefiting both the future residents, pedestrians and their neighbourhoods. The New Tree Planting Concept is presented in **Appendix V**. The planting proposal has sought to:

- Provide physical and visual integration with the surrounding neighbourhoods.
- Provide screening of the built-form and softening the development edge.
- Provide quality and sustainable residential environment for the future residents.
- Provide compensation for felling of existing trees.
- Maximise opportunities for the planting of new tree as well as other forms of greening measures; and
- Using native or locally adopted trees and shrubs to fill in planting areas would improve biodiversity and ecological health, creates a more harmonious aesthetic with the surrounding landscape.

5.2 The planting proposal provides a green environment, good quality communal spaces, and good quality planting establishment for the proposed development. A total of 17 new trees will be planted within the site for compensate the tree loss with excluding the removal of 6 nos. of *Leucaena leucocephala*. A replanting ratio in term of quantity of minimum 1:1 would be achieved (17 trees felled: 17 new planted). Heavy standard size tree stock will be utilised to create an instant greening effect. This proposal has been maximised the opportunity of greening within the development.

5.4 The selection of good quality species will enhance the local landscape context upon full establishment. These trees form part of the overall landscape design proposal which will be further developed during the detailed design stage of the project. A summary of the new tree planting proposal is provided in **Table A5.1** below.

**Table A5.1 Tree Planting Mix**

| Botanical Name | Heavy Standard Tree Size for reference only DBH (mm) x Height (mm) x Spread (mm) | Spacing (mm) | Indicative number of tree to be planted |
|---|---|---|---|
| **Tree** | | | |
| **Bischofia javanica* | 100 x 5500 x 4000 | 5000 | 13 |
| *Osmanthus fragrans* | 100 x 4000 x 3500 | 4000 | 4 |

Note:* denotes native tree species.

5.5 Trees with Heavy Standard are defined as follow:

**Heavy Standard:**

- A sturdy straight stem at least 2000mm high from the root collar to the lowest branch;
- Total height above the root collar exceeding 3500mm but not exceeding 6000mm;
- Stem diameter exceeding 75mm but not exceeding 150mm measured at a height of 1300mm from the root collar;
- According to the species, either a well-balanced branching head, or a well-defined straight and upright leader with branches growing out from the stem with good symmetry, and a minimum length of 800mm;
- A rootball not less than 750mm in diameter and 400mm in depth;
- Grown in a container not less than 750mm in diameter and 600mm in depth; and
- Free from any kind of pest, fungi, disease and parasitic plants.

5.6 The height of all trees shall be measured above the root collar, and the diameter of all stems to be measured at a height of 1300m above ground level.

## 6.0 Conclusion

6.2 The site is vacant. Refers to the recent topographical survey update of existing tree location, there is no tree (base level) exactly located within the site. However, there are 3 nos. of existing trees, A149, A150 and A162 which located on/very close to the site boundary, and which have been contained in the previous and the recent tree survey. The main trunk of these existing trees and majority of their crown spread is seriously leaning into the site, which will be affected by the roadworks or site formation works for proposed boundary wall/ retaining wall and/or periphery drainage system which are required by the proposed development. Besides, another 20 trees (including Tree A136 and A147) are observed along the existing track connecting San Shek Wan Road and the site which will be affected by the proposed EVA/new access road to the site.

6.3 No rare or protected tree species (Cap 96 refers) is found to exist in the site. No registered Old and Valuable Trees (DEVB TC(W) No. 5/2020 Registration of Old and Valuable Trees, and Guidelines for their Preservation) is found in the survey.

6.4 Having considered the retention of exiting trees surrounding the site, the access road alignment, the boundary wall/ retaining wall treatment and drainage proposal, have been carefully planned to minimise the effect on the existing trees in particular those on vegetated slope, given that the proposed scheme has been maximised the tree preservation opportunities.

6.5 Having considered the tree species, which are weedy trees, poor condition of these affected trees, trees have unrecoverable defects, the affected trees are not suitable candidate for tree transplanting, and therefore tree felling is recommended. According to the tree survey findings, unrecoverable defects are frequently found in many existing trees. Defects include seriously leaning, epicormic sprouts, unbalanced crown/form, exposed and restricted rooting

impact on horse riders and horses, electronic gates will be installed on both sides of the intersecting points so that the drivers must stop and check the traffic condition before entering the horsing trail. Besides, warning signs will also be erected for drivers and horse riders to alert them to pay attention at the road intersection point. Safety measures will also be adopted during the road widening / improvement works of the proposed access road. The Applicant is also committed to arrange ongoing communication and meetings with relevant parties/departments to address their concerns and implement respective measures to handle any further potential issues.

4.7 The car parking spaces provided for the proposed development will comply with the requirement under the HKPSG. The proposed house will provide two proposed parking spaces for private vehicles (2.5m x 5m) for residents / visitors located at the carport at the G/F of the proposed house. One disabled parking space (3.5m x 5m) and 1 loading/unloading space (3.5m x 7m) for light goods vehicle (LGV) will be provided to the north of the proposed house. A security guard will be present at the guard room to manage the traffic flow.

## 5. TECHNICAL ASSESSMENTS

### Tree Survey, Landscape and Tree Preservation Proposal

5.1 A Landscape Proposal and Tree Survey Report (see **Appendix 1**) is prepared by ADI Limited to assess the potential landscape impact on the Application Site and to provide landscape design of the proposed residential development.

Tree Survey

5.2 The Application Site has been vacant for years with no tree exactly located within the site. However, 3 existing trees (Artocarpus heterohpyllus) are located on / very close to the site boundary and seriously leaning into the site, which would be affected by the roadworks or site formation works for the proposed development. Besides, the proposed access road from San Shek Wan Road to the Application Site would affect another 20 trees outside the Application Site. All of the affected trees are not registered old and valuable trees and with generally fair to poor health conditions. Having considered the species and condition of these affected trees, they are not suitable candidates for tree transplanting, therefore, felling of the above 23 trees is recommended.

5.3 The new tree planting proposal intends to create a good quality of green environment for future residents with proper and good quality planting establishment. A total of 17 new trees of heavy standard stocks would be planted with 1:1 replanting ratio (17 trees felled: 17 new trees planted), with exclusion of the removal of 6 nos. of weedy trees, Leucaena leucocephala.

Landscape Design Proposal

5.4 The landscape design concept for the proposed residential development provides a synthesis between the contemporary design philosophy and sustainable design principle responding to both site context and the proposed nature of the development, and respects the surrounding landscape features. The proposed scheme aims to provide a high-quality living environment for the future residents. The landscape area will be designed with contemporary design language and sustainable principles which will provide private relaxing and recreational space for the residents. A leisure lawn with benches and embraced with trees is set at the front court creating share and comfortable environment for relaxing as well as an intimate garden courtyard for the residents. Upon full establishment of greening measures in the landscape design proposal, the proposed greenery coverage within the development will not be less than 555.6 sq.m. (about 30% of the total site area of 1,852 sq.m.), which complies with the 30% OZP greenery requirement under the subject “REC” zone.

羅迅測計師行
Lawson David & Sung
SURVEYORS LIMITED

RICS
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property professionalism w

宋梓華 Sung Tze Wah FRICS FHKIS MSISV MCIREA ACIArb R.P.S.(GP)
吳恆廣 Ng Hang Kwong, BBS FRICS FHKIS R.P.S.(GP) Honorary World Valuer (WAVO)
宋樹鴻 Sung Shu Hung FRICS MHKIS R.P.S.(GP)(PD) MCIREA MHIREA BSc (Hons)
Consultant :
劉志光 Lau Chi Kwong FRICS FHKIS ALS MHKIUS R.P.S.(LS)(PFM) MSc
李霧儀 Lee Mo Yi MPIA RPP MUDD BA (Hons)
林桂金 Daniel K.K. Lam MRICS MHKIS MCIREA R.P.S.(GP) BSc
趙慧姿 Chiu Wai Chi MRICS MHKIS MSc BBus (MKtg)
陳志凌 Elwyn C. Chan RPE PMgr CEnv FIHE FCIOB MICE MHKIE MSOE FCMI MCIArb MSc
潘孝維 Pun How Wai B.Arch.HK RIBA

**By Email and Hand**

Date : 23 December 2025
Your Ref.: TPB/A/TM/601
Our Ref. : LDS/PLAN/7145

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

Dear Sir/Madam,

**Application for Planning Permission for**
**Proposed House at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T.**
**(Application No. A/TM/601)**

We refer to the comments from Environmental Protection Department on the captioned application and submit herewith our response in **Table 1** and replacement pages of Environmental Assessment for your consideration.

Should there be any queries, please contact our Ms. Cannis Lee or Ms. Yancy Fung at [redacted]

Yours faithfully,
For and on behalf of
**Lawson David & Sung Surveyors Limited**

Encl.

c.c. DPO/TM&YLW (Attn.: Mr. Aiden Chu) – By Email
Client



[redacted]

**Table 1: S.16 Planning Application No. A/TM/601 - Proposed House at Tuen Mun Town Lot No. 550, Tuen Mun, New Territories.**

Response to Comments on Environmental Assessment Report (R8944_2.2)

| | EPD's Comments | The Consultant's Responses |
|---|---|---|
| **Noise** | | |
| 1.1 | **S.1.4.3** - Add "24 November 2025" as one of the site visits dates. | Site visits were conducted on 27 June and 24 November 2025 to identify whether there is any potential industrial noise source in the vicinity (i.e. 300m) of the Application Site. |
| 1.2 | **Figure 9** - Correct the spelling of "Tuen Mun Riading School Substation" to "Tuen Mun Riding School Substation." | Figure 9 has been revised. |
| 1.3 | Noted that the TD's endorsement on the RTNIA methodology is provided in the Appendix 2. Please record and make reference at the appropriate section in the main text, e.g. S.3.4.2, that TD has no adverse comment on the subject methodology and their reply record is given in Appendix 2. The traffic consultant should also confirm that TD's endorsed methodology has been strictly adopted in preparing the traffic forecast and so the validity of the traffic data. | Transport Department (TD) has no adverse comment on the methodology for the traffic forecast, and the Project Traffic Consultant confirms that TD's endorsed methodology has been strictly adopted in preparing the traffic forecast. The TD endorsed traffic forecast, TD's endorsement and Project Traffic Consultant's confirmation are shown in Appendix 2. |
| **Water Quality** | | |
| 2.1 | **S.4.1.1 and Figure 8** –<br>2.1.1 2.1.1 Please tabulate the WSRs, the table shall include the WSR ID, description, type (natural watercourse, modified watercourse, channelized, pond etc), status (active, abandon) and estimated distance to the site. And, please indicate the WSR in the figure.<br>2.1.2 For those watercourses in close proximity to the project site, the applicant is recommended to follow standard Recommended Pollution Control Clauses during construction phase and comply with the requirement in ProPECC PN 1/23 during operation. Appropriate additional mitigation measures shall be implemented where necessary. | - Table showing the details of WSR are summarized in Table 4.1, and WSR indication has been provided in Figure 8.<br>- S4.2.2 and S4.3.3 has been updated for those watercourses in close proximity to the project site.<br>S4.2.2 "The Professional Persons Environmental Consultative Committee Practice Note 1/23 Drainage Plans subject to Comment by the Environmental Protection Department (ProPECC PN 1/23) provides guidelines for Drainage Plans of the Proposed Development; whereby domestic sewage should be discharged to a foul water sewer and surface water should be discharged via rainwater pipes to stormwater drains during operation phase." |



Confidential

| | | |
|---|---|---|
| | | <u>Construction works in close proximity to inland watercourses</u><br>S4.3.3 "Construction activities such as site formation, earthwork and excavation within the Project site have the potential to impact nearby inland watercourses through the release of discharges and runoff laden with suspended solids and other pollutants. Mitigation measures should be devised and implemented for construction work that is in close proximity to natural rivers (i.e. WSR 1) and streams, alternation or diversion of within or in close proximity to the project site would be conducted, in order to reduce the potential for construction site discharges polluting the receiving water quality." |
| 2.2 | **S.4.3.5 –** Please review whether the minimum rate of provision of portable toilet at 1 per 25 workers or 1 per 50 workers would be more appropriate. | In this construction site, portable chemical toilets will be provided. Chemical toilets should be provided at a minimum rate of about 1 per 25 workers. |
| 2.3 | **S.4.7.1** –<br>2.1.3 Please supplement the estimated ADWF, and refer the location of the septic tank and soakaway pit (ST/S) in the project site with appropriate figure.<br>2.1.4 The ST/S shall comply with the requirement delineated in the Appendix D of ProPECC PN 1/23 and shall be duly certified by an Authorized Person that the ST/S should be an acceptable means for sewage collection, treatment and disposal. | Further sewerage treatment arrangement will be submitted to Environmental Protection Department for approval at the detailed design stage. In view of that the development and effluent volume are small in scale(1 residential unit with flow rate of 0.7$m^3$ per day) and with distance of ~31m between the proposed septic tank and proposed house development (as shown in Figure 10), this system is same as that adopted in the previous approved Holiday Camp application (A/TM/469), all the requirement as delineated in Appendix D of ProPECC PN 1/23 would be followed, and septic tank and soakaway pit (ST/S) shall be duly certified by an Authorized Person that the ST/S should be an acceptable means for sewage collection, treatment and disposal. |



Confidential

Noise

1.4.3 Site visits were conducted on 27 June and 24 November 2025 to identify whether there is any potential industrial noise source in the vicinity (i.e. 300m) of the Application Site. No industrial activities are identified in the vicinity.

1.4.4 The identified noise source in the vicinity of the Application Site is the road traffic noise from nearby road network. Practical noise mitigation measures should be recommended where required in order to satisfy the requirement of the Hong Kong Planning Standards and Guidelines (HKPSG).

Water Quality

1.4.5 For the construction and operation phase, potential water quality impact arising from the Application Site on the Water Sensitive Receiver in the vicinity (i.e. 500m) of the site boundary of Application Site will be discussed in **Section 4**. Practical mitigation measures should be recommended, where necessary, to reduce the potential water quality impacts in order to control the residual impacts to acceptable levels.

Waste Management

1.4.6 Potential waste management issues in connection with construction and operation of the Project will be discussed in **Section 5**. It also recommends mitigation measures to alleviate impacts, where necessary.

Land Contamination

1.4.7 The historical landuse and existing condition have been studied for the purpose to identify if there is/was any potentially land contaminating activity held onsite, and actions recommended to be taken afterwards. A land contamination appraisal is included in **Section 6.**

3.4.2 Assessment Methodology

3.4.2.1 The methodology involves the prediction of future noise impacts on Noise Sensitive Receivers (NSRs) arising from road traffic of the existing and future road carriageways in the 300m assessment area. The 300m assessment area is shown in **Figure 6**.

3.4.2.2 The U.K. Department of Transport's procedure "Calculation of Road Traffic Noise" was applied to predict the hourly $L_{10}$ noise level generated from road traffic at selected representative facades (NSRs) of the Proposed Development. The predicted noise levels were then compared with the HKPSG noise criterion for assessing the impact.

3.4.2.3 Based on the tentative completion year of Proposed Development (Year 2031), traffic forecast for the Year 2046 on the road carriageways in the vicinity of the Proposed Development, which has the maximum traffic projection within 15 years from the completion of the Proposed Development, was provided by CKM (the project traffic consultant) for prediction of the worst-case traffic noise impact. Transport Department (TD) has no adverse comment on the methodology for the traffic forecast, and the Project Traffic Consultant confirms that TD's endorsed methodology has been strictly adopted in preparing the traffic forecast. The TD endorsed traffic forecast, TD's endorsement and Project Traffic Consultant's confirmation are shown in **Appendix 2**.

3.4.3 Road Characteristics

3.4.3.1 All roads surrounding the Application Site are assumed with a speed limit of 50km/hr with an impervious surface.

3.4.4 Noise Sensitive Receivers

3.4.4.1 The representative facades with openable windows/doors were identified as NSRs in the assessment. Locations of proposed NSRs are shown in **Figure 7**. The assessment points are taken at 1.2 m above the floors of the selected storey and 1m away from the facades of openable windows.

3.4.5 Review of Road Traffic Noise Impact for Proposed Development

3.4.5.1 A road traffic noise impact assessment has been prepared to estimate the traffic noise level at all representative NSRs.

3.4.6 The assessment results show that full compliance rate is achieved. Maximum predicted traffic noise level is 70 dB(A), which complies with the 70 dB(A) noise criterion as listed in HKPSG for residential units. Therefore, no adverse road traffic noise impact is anticipated at the proposed NSRs.

3.4.6.1 The predicted road traffic noise result is summarised in **Appendix 3**.

# 4. WATER QUALITY ASSESSMENT

## 4.1 Introduction

4.1.1 This section presents the water quality impact assessment for the construction and operational phases of the Project. Potential impacts have been identified and their significance on the Water Sensitive Receivers (WSRs) evaluated. The location of these WSRs can be referred to **Figure 8**. Appropriate mitigation measures and good site practices are recommended, where necessary, to reduce the potential water quality impacts in order to control the residual impacts to acceptable levels.

4.1.2 The details of the WSR are summarized in **Table 4.1**.

**Table 4.1 Details of the WSR**

| WSR ID | Description | Type | Status | Estimated Distance (m) |
|---|---|---|---|---|
| WSR 1 | Natural River | Natural Watercourse | Active | 4m |
| WSR 2 | Pond | Pond | Active | 259m |
| WSR 3 | Pond | Pond | Active | 157m |
| WSR 4 | nullah | Channelized watercourse | Active | 286m |
| WSR 5 | Natural Meander | Natural Watercourse | Active | 367m |
| WSR 6 | Natural Meander | Natural Watercourse | Active | 317m |
| WSR 7 | Natural Meander | Natural Watercourse | Active | 232m |
| WSR 8 | Natural River | Natural Watercourse | Active | 102m |
| WSR 9 | nullah | Channelized watercourse | Active | 122m |
| WSR 10 | nullah | Channelized watercourse | Active | 415m |

## 4.2 Environmental Legislation, Standards and Guidelines on Construction Phase Water Quality Impact

4.2.1 Construction activities may induce potential water quality impact due to the discharge of the effluent generated from the construction site. Effluent discharges from construction site are subject to control under the Water Pollution Control Ordinance and the Technical Memorandum Standards for Effluents Discharged in Drainage and Sewerage Systems, Inland and Coastal Water issued by EPD. Information in the ProPECC PN2/24 Construction Site Drainage will also be considered to provide some

basic environmental guidelines for handling and disposal of construction site discharges.

4.2.2 The Professional Persons Environmental Consultative Committee Practice Note 1/23 Drainage Plans subject to Comment by the Environmental Protection Department (ProPECC PN 1/23) provides guidelines for Drainage Plans of the Proposed Development; whereby domestic sewage should be discharged to a foul water sewer and surface water should be discharged via rainwater pipes to stormwater drains during operation phase.

## 4.3 Construction Phase Water Quality Impacts

4.3.1 Site construction activities will inevitably have the potential to generate wastewater. As such works should be carried out in such a manner as to minimize potential impacts on the water quality. Pollution sources could include:

- General construction activities;
- Construction works in close proximity to inland watercourses;
- Construction runoff and drainage;
- Sewage effluent from construction site; and
- Liquid spillage, e.g. oil, diesel and solvents etc.

General Construction Activities

4.3.2 Debris and rubbish generated on site shall be collected, handled and disposed of properly. All fuel tanks shall be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. Open storm water drains and culverts near the works area shall be covered to block the entrance of large debris and refuse.

Construction works in close proximity to inland watercourses

4.3.3 Construction activities such as site formation, earthwork and excavation within the Project site have the potential to impact nearby inland watercourses through the release of discharges and runoff laden with suspended solids and other pollutants. Mitigation measures should be devised and implemented for construction work that is in close proximity to natural rivers (i.e. WSR 1) and streams, alternation or diversion of within or in close proximity to the project site would be conducted, in order to reduce the potential for construction site discharges polluting the receiving water quality.

Construction Runoff and Drainage

4.3.4 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, concrete washout and drainage from dust suppression sprays, fuel, oil and lubricants from construction vehicles and other equipment.

4.3.5 Sufficient silt removal facilities should be installed to settle out sediment prior to discharge. Such facilities shall be properly designed in accordance with guidelines from the Civil Engineering and Development Department (CEDD) to achieve the desired mitigating effect. Typically, a detention time not less than 5 minutes for maximum design flow of inlet should achieve adequate sediment removal. Channels or earth berm or sand bag barriers should be provided on site to properly direct surface runoff to such silt removal facilities. Sediment traps, channels and manholes should be

maintained and the deposited silt and grit should be removed on regular basis so that potential impacts on WSR can be minimized.

Sewage Effluent from Construction Site

4.3.6 Water pollution due to site facilities e.g. toilets could be source of pollution if appropriate measures are not implemented properly in respect of storage and discharge.

4.3.7 In this construction site, portable chemical toilets will be provided. Chemical toilets should be provided at a minimum rate of about 1 per 25 workers. The facility should be serviced and cleaned by a specialist contractor at regular intervals. Sewage generated from the construction workforce will be contained in chemical toilets and be tanked away. Therefore, no adverse water quality impact is anticipated on WSR.

Liquid Spillage

4.3.8 To prevent spillage of fuel oils or other polluting fluids at sources, it is recommended that all the stocks should be stored inside proper containers and sited on sealed areas, preferably surrounded by bunds.

4.3.9 "Recommended Pollution Control Clauses for Construction Contracts" (RPCC) also recommends appropriate wastewater control measures to be implemented at the construction site by the contractor. The RPCC is available on EPD website.

4.3.10 The quality of the discharge wastewater should meet the standards specified in the Technical Memorandum – Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters. The above proposed mitigation measures and control measures should be implemented and an environmental monitoring and audit should be carried out to ensure the effectiveness of the proposed mitigation measures and subsequently ensure the water quality of the nearby water sensitive receivers would not be adversely affected by the construction of the project.

## 4.4 Best Management Practices (BMPs) for Stormwater Discharge

4.4.1 The BMPs given in the ProPECC PN 2/24 shall be implemented in controlling water pollution during the whole construction phase to minimize the impact on WSR. The main practices provided in the above-mentioned document (i.e. ProPECC PN 2/24) are also summarized in the following paragraphs which should be implemented by the contractor during the construction phase, where practicable:

- High loading of suspended solids (SS) in construction site runoff will be prevented through proper site management by the contractor;

- The boundary of critical work areas will be surrounded by ditches or embankment. Accidental release of soil or refuse into the adjoining lands should be prevented by the provision of site hoarding or earth bunds, etc. at the site boundary. These facilities should be constructed in advance of the site formation works and roadworks;

- Consideration will be given to plan construction activities to allow the use of natural topography of the Project Site as a barrier to minimize uncontrolled non-point discharge of construction runoff;

- Temporary ditches, earth bunds should be provided to facilitate controlled discharge of runoff into storm drains via sand/ silt removal facilities such as sand traps and sedimentation basins. Oil and grease removal facilities should also be provided where appropriate, for example, in area near plant workshop/ maintenance areas;

4.5.2 The management and mitigation strategy of the potential water quality impact is addressed below, with appropriate environmental control measures recommended.

4.5.3 Best practices as stated in ProPECC PN 1/23 "Drainage Plans Subject to Comment by the Environmental Protection Department" shall be followed. It states out the handling, treatment and disposal of various effluent discharges to stormwater drains and foul sewers during the operation phase. Some examples of the recommendations listed in the ProPECC PN 1/23 are as below.

- Drainage in covered carparks should be connected to foul sewers via petrol interceptors;
- Disposal of commercial and industrial wastewater by injection into the ground (e.g. by soakaway pits) is normally not allowed; and
- All wastewater collected from a restaurant kitchen, including that from basins, sinks and floor drains, should be discharged via a grease trap capable of providing at least 20 minutes retention during peak flow.

## 4.6 Surface Runoff Discharge/ Stormwater Discharge

4.6.1 During operation, the irrigation runoff and surface runoff during rainfall events, which is known as non-point source of pollution, may be the cause potential water quality impact. Fallen leaves, particles, litter from open areas, which is a source of organic and nutrient pollutants, can be washed into the drainage system during heavy rainfall if it is not properly controlled. Pollutants, contributed by non-point source are often bound or adsorbed onto particles, thus an effective stormwater management system will be required for the removal of pollution sources prior to rainstorm and the provision of degritting/screening facilities will be required for sediment collection. As the particles settle out, the associated pollutants will also settle out and removed from stormwater.

4.6.2 Under normal condition, runoff carrying pollutants will not be generated in low rainfall intensity, but increased runoff may occur during heavy rainfall condition. The first flush flow would carry most of the pollutants and the subsequent overland flow generated from rainstorms is expected to be uncontaminated. Thus, prevention of "first flush" pollution in stormwater runoff will be an effective way in controlling pollution at source and to abate pollutants.

4.6.3 Relevant assessment on the total peak flow of stormwater of the Proposed Development and the capacity of proposed drainage system are provided in a separate Drainage Proposal.

## 4.7 Sewage Effluent from Proposed Development

4.7.1 At present, there is no existing or planned public sewer for connections in the vicinity of the Application Site. Given that the development is small in scale. All sewage and wastewater generated from the proposed development would be treated by the proposed underground septic tank and treated effluent would be percolated to surrounding subsoil in the soakaway pit. In view of that the development and effluent volume are small in scale(1 residential unit with flow rate of 0.7$m^3$ per day) and with distance of ~31m between the proposed septic tank and proposed house development (as shown in **Figure 10**), this system is same as that adopted in the previous approved Holiday Camp application (A/TM/469), all the requirement as delineated in Appendix D of ProPECC PN 1/23 would be followed, and septic tank and soakaway pit (ST/S) shall be duly certified by an Authorized Person that the ST/S should be an acceptable means for sewage collection, treatment and disposal. It is expected that the operation of the proposed development would not cause operational phase water quality impact.

4.7.2 There will not be any greywater recycling activities planned due to hygienic considerations.

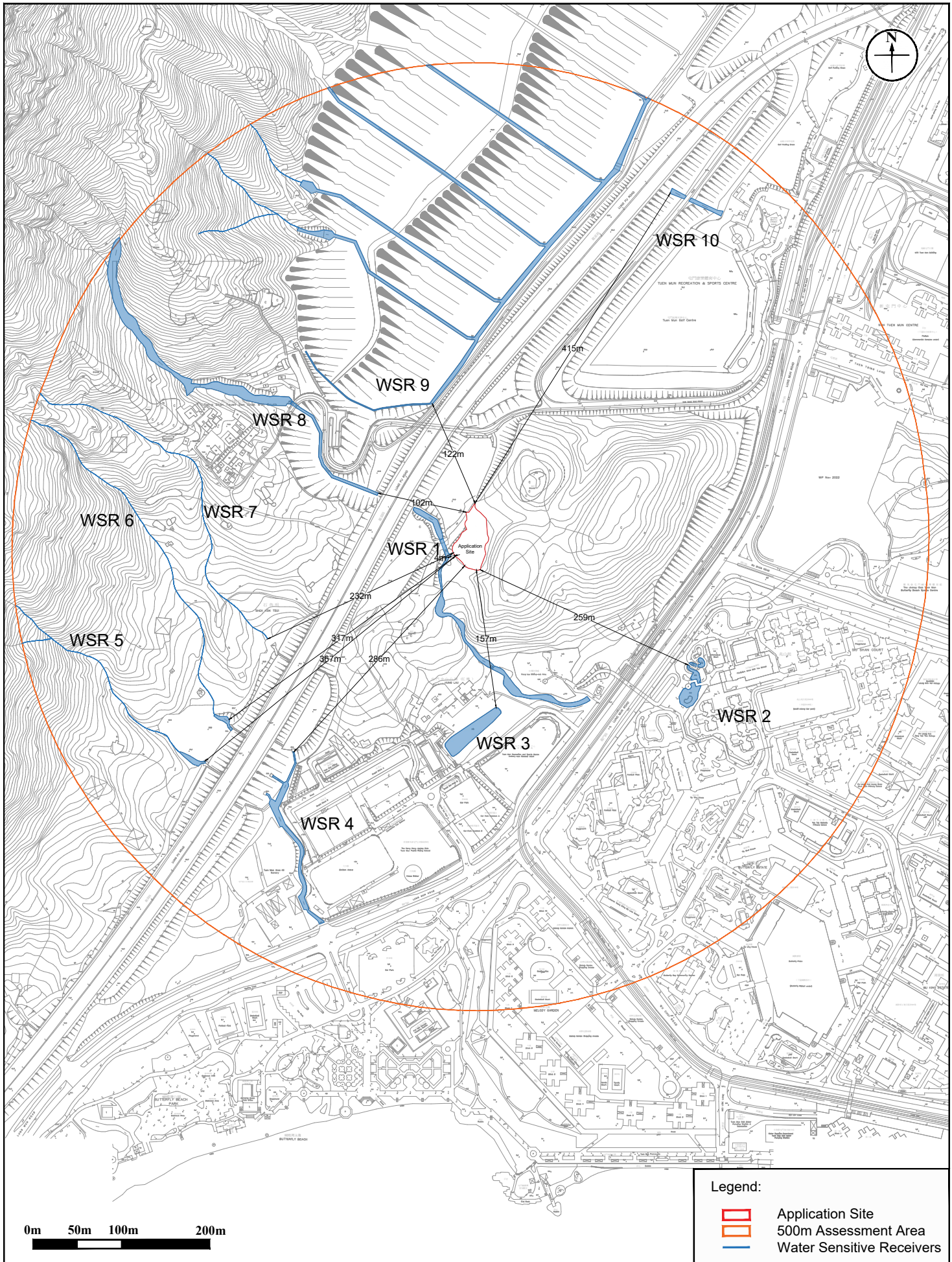


**Figure:** 8

**Title:** Locations of Representative Water Sensitive Receivers

**Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories

RAMBOLL

Drawn by: TL

Checked by: TC

Rev.: 2.2

Date: Dec 2025

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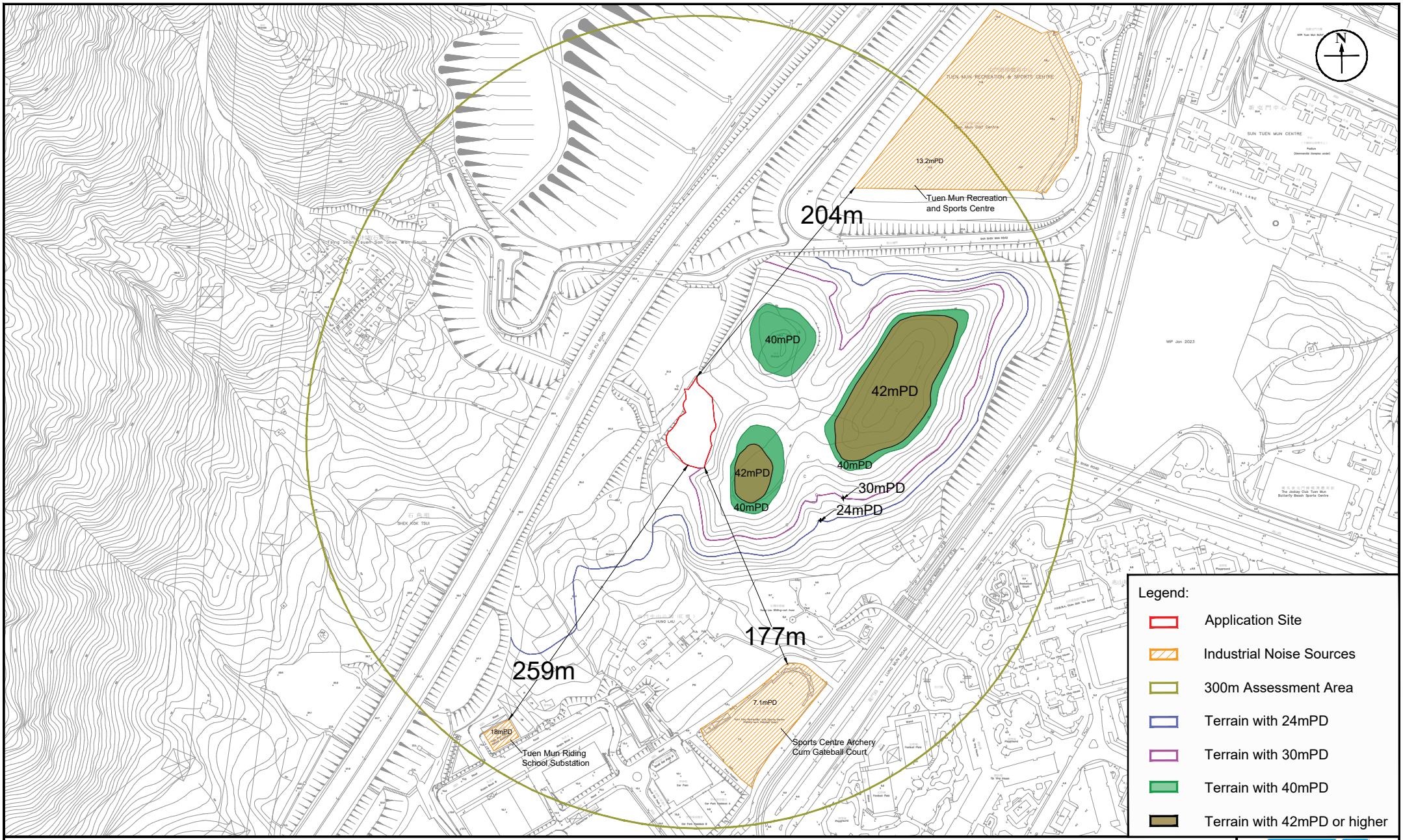


**Figure:** 9

**Title:** Location of Industrial Noise Sources and Separation Distances from the Application Site

**Project:** Proposed Residential Development at T.M.T.L. 550, Tuen Mun, New Territories

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| Drawn by: | TL |
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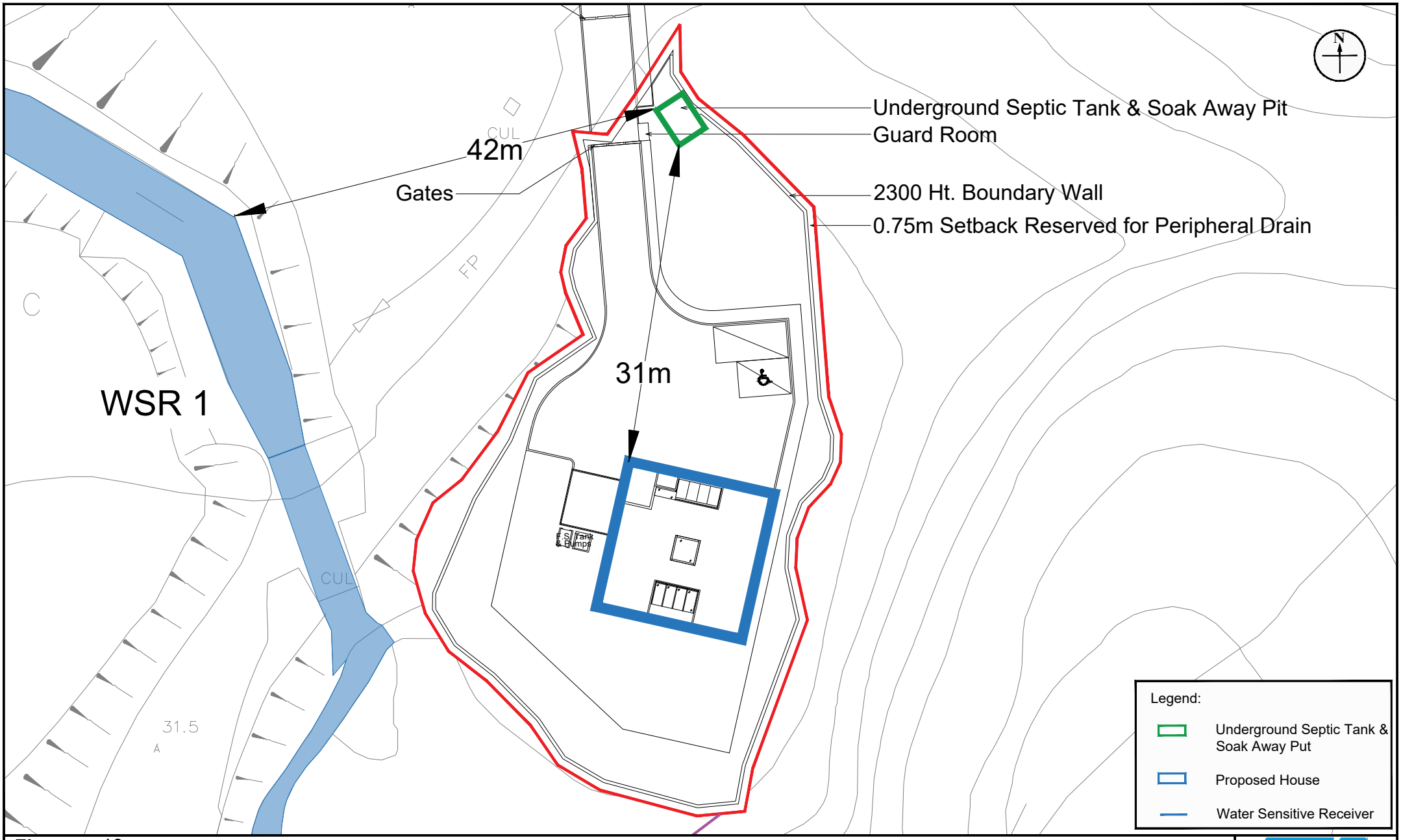


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| **Figure:** 10 | RAMBOLL |
| **Title:** Location of Underground Septic Tank & Soak Away Pit | Drawn by: TL |
| | Checked by: TC |
| **Project:** Proposed House Development at T.M.T.L. 550, Tuen Mun, New Territories | Rev.: 2.3 |
| | Date: Dec 2025 |

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**Appendix 2 Traffic Forecast**

CKM ASIA LIMITED 陳錦敏亞洲有限公司
Traffic and Transportation Planning Consultants 交通及運輸策劃顧問

Our Ref: J7406/4

22 December 2025

[redacted]

**Attn: Mr Tony Ling**

Dear Mr. Ling,

**Section 16 Planning Application –**
**Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. (TPB ref.: A/TM/601)**

**Traffic Forecast for Noise Impact Assessment (NIA)**

We refer to the following correspondences pertaining to the traffic forecast in support of NIA for the captioned project:

i. Letter dated 10 November 2025 (CKM ref: J7406/3) to Transport Department with the traffic forecasting methodology and traffic forecast; and
ii. Fax record dated 3 December 2025 from Transport Department with ***"no objection in principle"*** to the methodology of the traffic forecast for NIA.

We would like to confirm that the traffic forecast for NIA enclosed in our Letter (CKM ref.: J7406/3) is produced strictly in accordance to the traffic forecasting methodology agreed by Transport Department.

Thank you for your attention.

Yours sincerely

Tommy Law
Senior Traffic Engineer

Encl. 2 attachments

KIM\LCH

[redacted]

Item i –
Letter dated 10 November 2025
to Transport Department

**CKM ASIA LIMITED 陳錦敏亞洲有限公司**

*Traffic and Transportation Planning Consultants 交通及運輸策劃顧問*

Our Ref: J7406/3

10 November 2025

Transport Department
NT Regional Office
Traffic Engineering (NTW) Division
Tuen Mun Section
7/F, Mongkok Government Offices,
30 Luen Wan Street, Mongkok, Kowloon.

**Attn: Ms. LEE Po Fong, Bobo (Engr/Tuen Mun West)**
(BY POST & EMAIL: pofonglee@td.gov.hk)

Dear Ms. Lee,

**Section 16 Planning Application -**
**Proposed House Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, N.T. (TPB ref: A/TM/601)**

**Traffic Forecast for Traffic Noise Impact Assessment**

CKM Asia Limited, a traffic and transportation planning consultancy firm, is engaged by the Owner of the captioned lot to produce the year 2046 traffic data for the purpose of conducting the Traffic Noise Impact Assessment ("TNIA") by the project Environmental Consultant.

In connection, we write to submit attached Technical Note on Traffic Forecast Methodology for your office review and comment. It is highly appreciated if you can provide your feedback on the traffic forecast methodology to produce year 2046 traffic data, which are solely used for the TNIA at your earliest convenience.

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

Thank you for your attention.

Yours sincerely,

Tommy Law
Senior Traffic Engineer
Encl.

KIM\LCH

[redacted]

# Technical Note on Traffic Forecast Methodology for Traffic Noise Impact Assessment

## 1. BACKGROUND

The Subject Site located at T.M.T.L. 550 near San Shek Wan Road in Tuen Mun. The Owner has the intention to build one 2-storey house with some 370m$^2$ GFA, at the Subject Site (the "Proposed Development").

The location of the Subject Site is shown in **Figure NIA1**.

CKM Asia Limited is the Traffic Consultant engaged by the Owner to produce year 2046 traffic data for the Environmental Consultant to conduct the Traffic Noise Impact Assessment ("TNIA"). This Technical Note summarises the traffic forecast methodology, and the details are presented in paragraphs below.

## 2. TRAFFIC FORECASTING METHODOLOGY

The 2046 traffic data is produced to suit the requirements of the TNIA, as follows:

- the road sections where traffic data is required are located within 300m of the Proposed Development – please refer to **Figure NIA1**
- the 2046 traffic data is classified into 2 categories, including:
  i. Light Vehicles (including motorcycle, private car and taxi)
  ii. Heavy Vehicles (including light / medium / heavy goods vehicle, public / private light bus, non-franchised bus and franchised bus)

The road sections which are located in Tuen Mun and Yuen Long are covered by the "*NTW1*" Base District Traffic Model ("BDTM"). The BDTM has traffic forecasts up to year 2031, and to produce the 2046 traffic data, the traffic flows are estimated with reference to the following:

(a) 2031 traffic flows derived based on the NTW1 BDTM;
(b) estimated traffic growth from 2031 to 2046 based on the higher of:
  (i) 2021 – based Territorial Population and Employment Data Matrix ("TPEDM") data for Tuen Mun District produced by Planning Department;
  (ii) Hong Kong Population Projections 2022 – 2046, published by Census and Statistics Department; and
  (iii) Annual Traffic Census ("ATC") published by Transport Department
(c) other developments in the vicinity of the Proposed Development; and
(d) Traffic generated by the Proposed Development.

Details on Items (b), (c) and (d) are found in the paragraphs below.

***Item (b) Estimated Growth Rate from 2031 to 2046***

*(i) 2021-based TPEDM*

**Table 1** summarises the population and employment data for Tuen Mun District which shows the highest annual growth rate for population is +**1.93%** per annum and for employment is +**2.88%** per annum.

TABLE 1 2021-BASED TPEDM DATA FOR TUEN MUN DISTRICT

| Item | TPEDM Estimation / Projection | | | Annual Growth Rate | | |
|---|---|---|---|---|---|---|
| | 2021 | 2026 | 2031 | 2021 to 2026 | 2026 to 2031 | 2021 to 2031 |
| Population | 506,900 | 557,650 | 586,200 | **1.93%** | 1.00% | 1.46% |
| Employment | 133,400 | 132,450 | 152,650 | -0.14% | **2.88%** | 1.36% |

*(ii) Hong Kong Population Projections 2022 – 2046*

**Table 2** shows that the annual growth rate from 2031 to 2046 is **0.31%**.

TABLE 2 HONG KONG POPULATION PROJECTIONS 2022 – 2046

| Whole Territory Population | | Annual Growth Rate |
|---|---|---|
| Year 2031 | Year 2046 | 2031 to 2046 |
| 7,820,200 | 8,190,400 | **0.31%** |

*(iii) ATC*

**Table 3** shows the historical annual average daily traffic of ATC stations located in the vicinity of the Subject Site, which has an overall average annual growth rate of **0.90%.**

TABLE 3 AADT OF THE STATION IN THE VICINITY OF THE SUBJECT SITE

| Station | 5640 | 5654 | 5839 | 6633 | Overall |
|---|---|---|---|---|---|
| Road | Lung Mun Road | Wu Shan Road | Lung Mun Road | Wu Chui Road | |
| From | Wu Shan Road | Lung Mun Road | Wong Chu Road | Lung Mun Road | |
| To | Wu Chui Road | Wu King Road | Wu Shan Road | Wu Shan Road | |
| 2011 | 12,420 | 6,410 | 17,210 | 8,580 | 44,620 |
| 2012 | 12,340 | 6,370 | 14,530 | 8,480 | 41,720 |
| 2013 | 12,440 | 6,420 | 14,650 | 8,060 | 41,570 |
| 2014 | 12,310 | 6,350 | 14,500 | 7,350 | 40,510 |
| 2015 | 12,410 | 6,350 | 14,380 | 8,190 | 41,330 |
| 2016 | 12,090 | 6,860 | 17,860 | 8,340 | 45,150 |
| 2017 | 11,900 | 6,750 | 18,360 | 8,100 | 45,110 |
| 2018 | 12,190 | 6,920 | 18,810 | 8,540 | 46,460 |
| 2019 | 12,100 | 6,870 | 18,670 | 8,710 | 46,350 |
| 2020 | 12,230 | 7,100 | 17,900 | 7,130 | 44,360 |
| 2021 | 12,990 | 7,610 | 18,940 | 7,670 | 47,210 |
| 2022 | 12,600 | 7,380 | 19,530 | 8,190 | 47,700 |
| 2023 | 12,890 | 7,550 | 19,990 | 9,280 | 49,710 |
| | | | | **Average Annual Growth** | **0.90%** |

To be conservative, the growth rate of **+2.88%** per annum is adopted for the traffic growth between 2031 and 2046.

***Item (c) Other Development in the Vicinity of the Proposed Development***

The major planned development in the vicinity of the Proposed Development are summarized in **Table 4**, and are included in the traffic forecast.

TABLE 4 DETAILS OF MAJOR PLANNED DEVELOPMENT

| Site | Planning Application No. | Address | Use |
|---|---|---|---|
| 1 | A/TM/565 | Government Land in D.D. 138 and D.D. 300, Tuen Mun | Proposed Bus Depots with Ancillary Public Utility Installation (Electricity Substation) |

In addition, the infrastructure and road network considered in the traffic model include the following:

- Wu Shan Road Public Housing Development
- New Lung Fu Road slip road northbound
- New Lung Fu Road slip road southbound
- New slip road from Tuen Mun Road northbound to Hoi Wing Road westbound
- New Tuen Mun Swimming Pool

***Item (d) Traffic Generated by the Proposed Development***

Traffic generation associated with the Proposed Development is calculated based on the trip rates from the Transport Planning and Design Manual published by Transport Department and is presented in **Table 5**.

TABLE 5 TRAFFIC GENERATION OF THE PROPOSED DEVELOPMENT

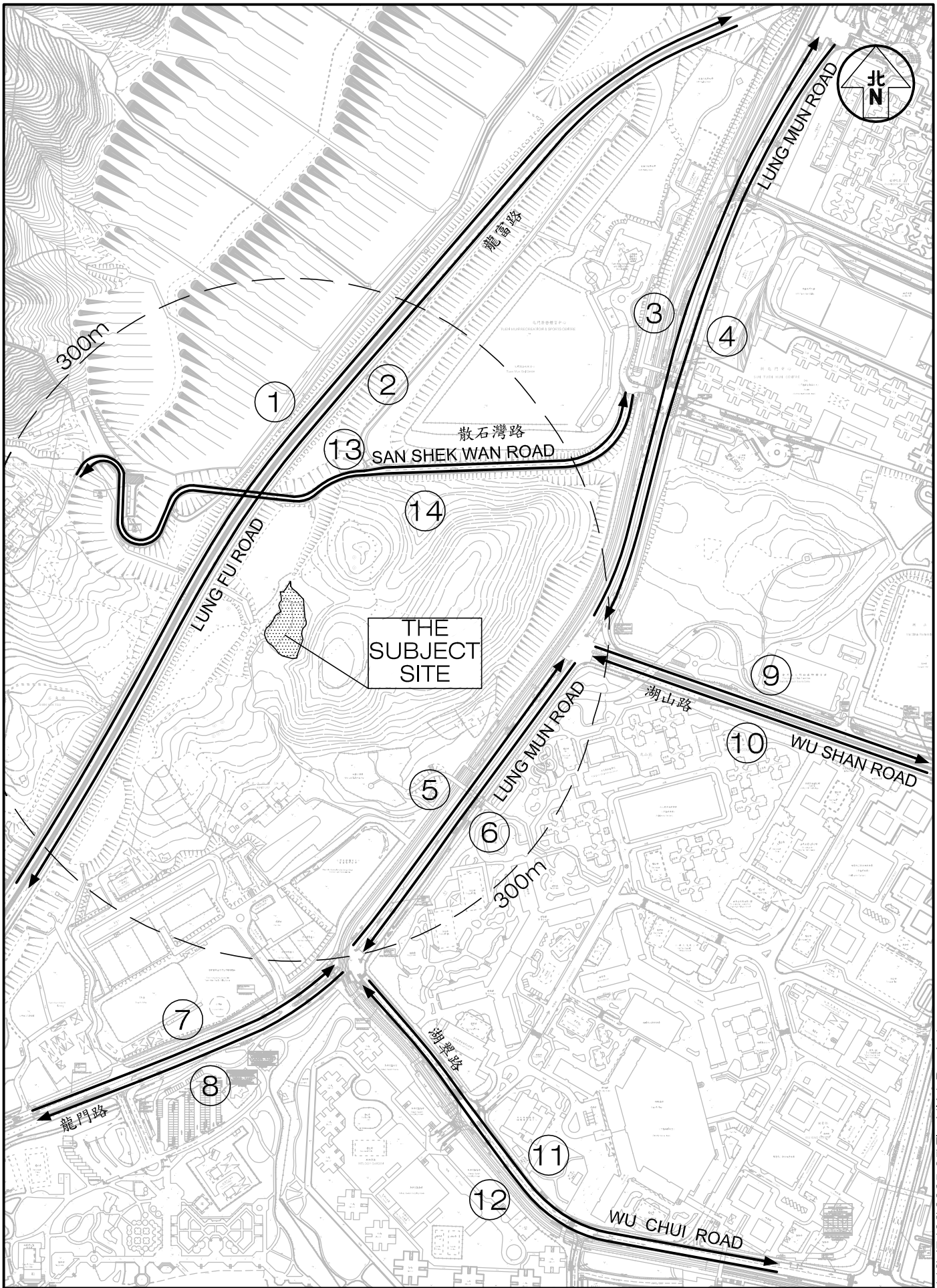
| Item | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | In | Out | 2-way | In | Out | 2-way |
| **Trip Generation Rates for residential use (pcu/hour/flat)[(1)]** | | | | | | |
| Private Housing: low-density / R(C) with an average flat size of 300m$^2$ | 0.2609 | 0.3252 | NA | 0.4074 | 0.2835 | NA |
| **Traffic Generation of Proposed Development (pcu/hour)** | | | | | | |
| Residential Use: 1 house [a] | **1** | **1** | **2** | **1** | **1** | **2** |

Note: [(1)] Mean rates taken from the Transport Planning and Design Manual.

## 3. OUTPUTS OF TRAFFIC FORECAST

After applying the above derived traffic growths to the 2031 BDTM, the 2046 matrices are produced. These 2046 matrices are used for the traffic model assignment in order to produce the 2046 traffic flow which is presented in **Appendix A**.

Figure




| | | | | | |
|---|---|---|---|---|---|
| Project Title: SECTION 16 PLANNING APPLICATION FOR HOUSE DEVELOPMENT AT T.M.T.L. 550, TUEN MUN, NEW TERRITORIES | Job No. J7406 | Figure No. NIA1 | | | Scale in A4 1 : 5000 |
| | Designed by L C H | Drawn by N C M | Checked by K C | Revision A | Date 15 AUG 2025 |
| Figure Title: LOCATION OF TRAFFIC DATA | CKM Asia Limited | | | | |

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# Appendix A
# Year 2046 Traffic Forecast

**YEAR 2046 TRAFFIC FORECAST** **Date: 31 JULY 2025** **Job No.: J7406**

| No. | Road | From | To | 2046 AM Peak Hour Traffic Flows | | | |
|---|---|---|---|---|---|---|---|
| | | | | Veh/hr | Vehicle Type for Noise Assessment (%) | | |
| | | | | | LV | HV | Total |
| L001 | Lung Fu Road NB | Wong Chu Road | Lung Mun Road | 1100 | 66% | 34% | 100% |
| L002 | Lung Fu Road SB | Wong Chu Road | Lung Mun Road | 1250 | 63% | 37% | 100% |
| L003 | Lung Mun Road NB | Tuen Tsing Lane | Wu Shan Road | 1000 | 74% | 26% | 100% |
| L004 | Lung Mun Road SB | Tuen Tsing Lane | Wu Shan Road | 1050 | 64% | 36% | 100% |
| L005 | Lung Mun Road NB | Wu Shan Road | Wu Chui Road | 700 | 77% | 23% | 100% |
| L006 | Lung Mun Road SB | Wu Shan Road | Wu Chui Road | 1150 | 63% | 37% | 100% |
| L007 | Lung Mun Road NB | Wu Chui Road | Lung Fu Road | 450 | 83% | 17% | 100% |
| L008 | Lung Mun Road SB | Wu Chui Road | Lung Fu Road | 750 | 62% | 38% | 100% |
| L009 | Wu Shan Road EB | Lung Mun Road | Wu King Road | 400 | 78% | 22% | 100% |
| L010 | Wu Shan Road WB | Lung Mun Road | Wu King Road | 800 | 72% | 28% | 100% |
| L011 | Wu Chui Road EB | Lung Mun Road | Tip King Road | 400 | 66% | 34% | 100% |
| L012 | Wu Chui Road WB | Lung Mun Road | Tip King Road | 300 | 67% | 33% | 100% |
| L013 | San Shek Wan Road EB | San Shek Wan San Tsuen | Lung Mun Road | 50 | 86% | 14% | 100% |
| L014 | San Shek Wan Road WB | Lung Mun Road | San Shek Wan San Tsuen | 50 | 83% | 17% | 100% |

Note: "LV" includes motorcycle, private car and taxi
"HV" includes light / medium / heavy goods vehicle, public / private light bus, non-franchised bus and franchised bus

**YEAR 2046 TRAFFIC FORECAST** **Date: 31 JULY 2025** **Job No.: J7406**

| No. | Road | From | To | 2046 PM Peak Hour Traffic Flows | | | |
|---|---|---|---|---|---|---|---|
| | | | | Veh/hr | Vehicle Type for Noise Assessment (%) | | |
| | | | | | LV | HV | Total |
| L001 | Lung Fu Road NB | Wong Chu Road | Lung Mun Road | 1400 | 63% | 37% | 100% |
| L002 | Lung Fu Road SB | Wong Chu Road | Lung Mun Road | 1100 | 63% | 37% | 100% |
| L003 | Lung Mun Road NB | Tuen Tsing Lane | Wu Shan Road | 950 | 59% | 41% | 100% |
| L004 | Lung Mun Road SB | Tuen Tsing Lane | Wu Shan Road | 950 | 71% | 29% | 100% |
| L005 | Lung Mun Road NB | Wu Shan Road | Wu Chui Road | 1100 | 65% | 35% | 100% |
| L006 | Lung Mun Road SB | Wu Shan Road | Wu Chui Road | 800 | 69% | 31% | 100% |
| L007 | Lung Mun Road NB | Wu Chui Road | Lung Fu Road | 850 | 65% | 35% | 100% |
| L008 | Lung Mun Road SB | Wu Chui Road | Lung Fu Road | 250 | 65% | 35% | 100% |
| L009 | Wu Shan Road EB | Lung Mun Road | Wu King Road | 600 | 80% | 20% | 100% |
| L010 | Wu Shan Road WB | Lung Mun Road | Wu King Road | 350 | 69% | 31% | 100% |
| L011 | Wu Chui Road EB | Lung Mun Road | Tip King Road | 550 | 71% | 29% | 100% |
| L012 | Wu Chui Road WB | Lung Mun Road | Tip King Road | 250 | 63% | 37% | 100% |
| L013 | San Shek Wan Road EB | San Shek Wan San Tsuen | Lung Mun Road | 50 | 91% | 9% | 100% |
| L014 | San Shek Wan Road WB | Lung Mun Road | San Shek Wan San Tsuen | 50 | 80% | 20% | 100% |

Note: "LV" includes motorcycle, private car and taxi
"HV" includes light / medium / heavy goods vehicle, public / private light bus, non-franchised bus and franchised bus

Item ii –
Fax record dated 3 December 2025
from Transport Department

**By Fax**
(Fax No.: 2528 6343)

運輸署
Transport Department

本署檔案 Our Ref. : (00LG6) in 010-160-574-NR-TM-044
來函檔號 Your Ref. : J7406/3
電 話 Tel. : 2399 2261
圖文傳真 Fax : 2381 3799
電 郵 Email :

3 December 2025

[redacted]

Dear Mr. CHIN,

**Section 16 Planning Application -**
**Proposed Housing Development at Tuen Mun Town Lot No. 550 (TMTL 550), Tuen Mun, New Territories (TPB ref: A/TM/601)**

I refer to your letter under reference dated 10 November 2025 regarding the caption.

Please note that the Noise Impact Assessment is not under our purview. We are not in a position to provide comments on the traffic figures tailor-made for the environmental assessment purposes.

Notwithstanding the above, please note that we would have no objection in principle to the methodology for traffic forecast if it is the same as that adopted in the traffic impact assessment for the captioned project and the base year observed traffic data and road descriptions tally with those for traffic impact assessment. For example, 2024 ATC should be adopted in Table 3.

Should there be any discrepancy in the traffic data and the methodology for traffic forecast between traffic impact assessment and the subject assessment, please highlight for our consideration.

Yours faithfully,

(Bobo LEE)
for Commissioner for Transport

新界分區辦事處
NT Regional Office
九龍聯運街三十號旺角政府合署七樓
7th Floor, Mong Kok Government Offices, 30 Luen Wan Street, Kowloon.
圖文傳真 Fax No.: 2381 3799 (新界區) (NTRO)
網址 Web Site: http://www.td.gov.hk

## Previous s.16 Applications Covering the Application Site (the Site)

***Approved application***

| Application No. | Proposed Development | Date of Consideration | Approval Conditions |
|---|---|---|---|
| *When the Site was zoned "REC"* | | | |
| A/TM/469 | Proposed Holiday Camp | 22.5.2015 | (a) to (e) |

***Rejected application***

| Application No. | Proposed Development | Date of Consideration | Rejection Reasons |
|---|---|---|---|
| *When the Site was zoned "GB"* | | | |
| A/TM/399 | Proposed Houses | 10.9.2010 | (1) to (3) |

Approval Conditions

(a) the submission and implementation of the management plan and operational plan for the vehicles and pedestrians of the holiday camp for passing the horse trail to the proposed holiday camp;
(b) the submission and implementation of tree preservation and landscape proposals including the tree felling and compensation planting proposal in connection with the implementation of the proposed access road;
(c) the submission of an ecological report and the implementation of mitigation measures identified.
(d) the submission of Drainage Impact Assessment and the implementation of mitigation measures identified; and
(e) the submission and implementation of fire services installations, water supplies for fire fighting and emergency vehicular access.

Rejection Reasons

(1) the proposed development was not in line with the planning intention of the "GB" zone which was to define the limits of urban and suburban development areas by natural features and to contain urban sprawl as well as to provide passive recreational outlets. There were no exceptional circumstances in this application that warrant deviation from the general presumption against development for the "GB" zone;
(2) the proposed development did not comply with Town Planning Board Guidelines (TPB PG-No. 10) in that the application would involve extensive clearance of existing natural vegetation and cause adverse landscape impact on the surrounding area; and
(3) the approval of the application would set an undesirable precedent for other similar applications within the "GB" zone. The cumulative effect of approving such applications would result in a degradation of the general environment of the area.

## Previous s.12A Applications Covering the Site

***Partially agreed application***

| Application No. | Proposed Amendment | Date of Consideration |
|---|---|---|
| *When the Site was zoned "GB"* | | |
| Y/TM/11 | To rezone the application site from "GB" and "OU(PRSC)" to "REC" | 5.4.2013 |

***Not agreed application***

| Application No. | Proposed Amendment | Date of Consideration | Rejection Reason |
|---|---|---|---|
| *When the Site was zoned "REC"* | | | |
| Y/TM/31 | To rezone the application site from "REC" to "R(C)" | 16.2.2024 | (1) |

Rejection Reason

(1) given that the application site zoned "REC" is encircled by a larger area zoned "OU(PRSC)" intended primarily for the provision of sports and recreation facilities, it is considered appropriate to retain the "REC" zoning of the site alongside "OU(PRSC)" for recreational developments for the use of the general public. There are no strong justifications for the proposed rezoning for residential development at the site.

## Recommended Advisory Clauses

(a) to note the comments of the District Lands Officer/Tuen Mun, Lands Department (DLO/TM, LandsD) that:

(i) the proposed development will be a house with a design population of three and the house contains a guardroom with a non-domestic gross floor area (GFA) of 0.949$m^2$. The applicant should be reminded that such GFA would be counted as domestic GFA under the land administration regime; and

(ii) the proposed private residential development including the proposed access road and the shifted passing bay does not comply with the lease conditions governing the lot, including but not limited to restrictions relating to user, right-of-way and parking requirements. The lot owner will need to apply to LandsD for a lease modification or land exchange for the implementation of the proposal. The proposal will only be considered upon receipt of a formal application from the lot owner. However, there is no guarantee that the application, if received by LandsD, will be approved. The application will be considered by LandsD acting in the capacity of the landlord at its sole discretion. In the event that the application is approved, it will be subject to such terms and conditions as the Government shall consider appropriate, including, among others, payment of a premium and an administrative fee;

(b) to note the comments of the Director of Leisure and Cultural Services (DLCS) that:

(i) both the Leisure and Cultural Services Department (LCSD) and the Hong Kong Jockey Club Public Riding Schools Limited (HKJCPRS Ltd.) shall not hold responsibility for the liabilities and damages of any vehicle and injury of pedestrians/residents using and passing the horse trail of the Tuen Mun Public Riding School (TMPRS). The project proponent must possess valid third-party insurance to protect both LCSD and HKJCPRS Ltd. against any potential claims that may arise incidentally in the future;

(ii) a detailed management/construction plan with regards to the safety of vehicles and pedestrians/residents must be provided and put in place to the satisfaction of LCSD and HKJCPRS Ltd. before any works commence. No noisy work that may impact the daily operation of TMPRS should be allowed as horses are sensitive animals susceptible to abrupt external environmental influence or changes. Any irrational behaviours of horses may therefore pose a serious threat to them and the riders alike;

(iii) relevant mitigation measures to address the interfacing of the horse trail with the proposed access road should be included in the land lease for strict observance by the lot owner so as to safeguard safety in general;

(iv) in the event that any trees are in direct conflict with the proposed works, relevant authority's approval shall be obtained for their removal in accordance with the prevailing technical circulars. The planting of new vegetation/trees shall not affect the health of horses;

(v) the applicant shall follow and consider all the advice and comments provided by LandsD and Buildings Department (BD) or other relevant Government departments as appropriate; and

(vi) for the sake of horse health, if interference to the horse trail is apparent and inevitable, the applicant should explore the feasibility of building a new horse trail in place of the existing one;

(c) to note the comments of the Chief Highway Engineer/New Territories West, Highways Department (CHE/NTW, HyD) that:

(i) the existing access road connecting the application site (the Site) to San Shek Wan Road is not a public road. It is noted that the road will be upgraded into an access road and the applicant is responsible for its construction, management and maintenance. HyD is not/shall not be responsible for the maintenance of any access connecting the Site to any public roads; and

(ii) adequate drainage measures should be provided to prevent surface water running from the Site to the nearby public roads and drains;

(d) to note the comments of the Chief Town Planner/Urban Design and Landscape, Planning Department (CTP/UD&L, PlanD) that:

(i) approval of the planning application under Town Planning Ordinance does not imply approval of tree preservation/removal scheme under lease. Thus, the applicant should seek comments and approval from the relevant authority on the tree works concerned and/or compensatory/replacement planting proposal, where appropriate; and

(ii) the applicant is reminded that the approval of the planning application does not imply approval of the site coverage of greenery requirements under BD's Practice Notes for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers on Sustainable Building Design Guidelines (PNAP APP-152) and/or under lease. The site coverage of greening calculation should be submitted separately to BD for approval;

(e) to note the comment of the Director of Agriculture, Fisheries and Conservation (DAFC) that good site practices should be implemented to avoid affecting the trees in the vicinity of the Site as far as technically feasible. Should any form of tree cutting and/or vegetation clearance on Government Land be unavoidable, prior approval from LandsD should be obtained;

(f) to note the comment of the Director of Environmental Protection (DEP) that the Site falls outside of water gathering ground and public sewer is not available in the vicinity of the Site. The applicant can follow the Practice Note for Professional Persons (ProPECC PN 1/23) to design, construct and operate the septic tank and soakaway system proposed for the development. Provisions should be made for future connections to public foul sewers when such is available in the vicinity;

(g) to note the comments of the Chief Engineer/Mainland North, Drainage Services Department (CE/MN, DSD) that:

(i) the applicant is advised that the limited desk-top checking by Government on the drainage proposal covers only the fundamental aspects of the drainage design which will by no means relieve their obligations to ensure that (i) the proposed drainage works will not cause any adverse drainage or environmental impacts in the vicinity; and (ii) the proposed drainage works and the downstream drainage system have the adequate capacity and are in good conditions to receive the flows collected from the

Site and all upstream catchments;

(ii) there are existing drainage facilities maintained by DSD in the vicinity of the Site. The applicant shall take extreme care when working in the vicinity of any existing drainage works in order not to disturb, interfere with or cause damage to them. Any blockage or damage to the said drainage works due to the proposed development shall be made good at the applicant's cost; and

(iii) for any works to be undertaken outside the lot boundary, the applicant should obtain prior agreement from DLO/TM, LandsD and/or the relevant private lot owners;

(iv) the applicant should construct and maintain the proposed drainage facilities properly whether within or outside the Site and rectify them if they are found to be inadequate or ineffective during operation at their own expense. The applicant shall also be liable for and shall indemnify claims and demands arising out of any damage and/or nuisance caused by failure of their facilities/systems;

(h) to note the comments of the Chief Building Surveyor/New Territories West, BD (CBS/NTW, BD) that

(i) before any new building works (including containers/open sheds as temporary buildings, demolition and land filling, etc.) are to be carried out on the Site, prior approval and consent of the Building Authority (BA) should be obtained, otherwise they are unauthorized building works (UBW) under the Buildings Ordinance (BO). An Authorized Person should be appointed as the co-ordinator for the proposed building works in accordance with the BO;

(ii) the Site shall be provided with means of obtaining access thereto from a street and emergency vehicular access in accordance with Regulations 5 and 41D of the Building (Planning) Regulations (B(P)R) respectively;

(iii) the Site does not abut on a specified street of not less than 4.5m wide and its permitted development intensity shall be determined under Regulation 19(3) of the B(P)R at the building plan submission stage;

(iv) if the existing structures (not being a New Territories Exempted House) is/are erected on leased land without the approval of the BA, they are UBW under the BO and should not be designated for any proposed use under the planning application;

(v) for UBW erected on leased land, enforcement action may be taken by his department to effect their removal in accordance with the prevailing 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; and

(vi) detailed checking under the BO will be carried out at the building plan submission stage;

(i) to note the comments of the Director of Fire Services (D of FS) that:

(i) in consideration of the design/nature of the proposal, fire service installations (FSIs) are anticipated to be required. Therefore, the applicant is advised to submit relevant

layout plans incorporated with the proposed FSIs to his department for approval. In addition, the applicant should be advised on the following points:

1. the layout plans should be drawn to scale and depicted with dimensions and nature of occupancy; and

2. the location of where the proposed FSIs to be installed should be clearly marked on the layout plans;

(ii) the proposed structures are required to comply with the BO, detailed fire service requirements will be formulated upon receipt of formal general building plans submission under the BO or B(P)R; and

(iii) the applicant is reminded to observe the requirement of emergency vehicular access as stipulated in the B(P)R which is administrated by the BD;

(j) to note the comment of the Head of the Geotechnical Engineering Office, Civil Engineering and Development Department (H(GEO), CEDD) that the applicant is reminded to submit the proposed building works and all geotechnical submissions regarding the proposed development including detailed assessment, and if necessary, stabilization works of all the existing man-made slopes/retaining walls affecting/being affected by the proposed development to BD for approval as required under the BO;

(k) to note the comments of the Executive Secretary (Antiquities & Monuments) 1, Antiquities and Monuments Office, Development Bureau (ES(A&M)1, AMO, DevB) that:

(i) the Site is located over 100m away from Hung Lau which is a Grade 1 historic building (the Graded Building). Details of the Graded Building including location, extent and heritage appraisal is available at the website of the Antiquities Advisory Board (https://www.aab.gov.hk/en/historic-buildings/search-for-information-on-individual-buildings/index.html);

(ii) the applicant should ensure that the Graded Building would not be adversely affected, both visually and physically, by the proposed development at the Site; and

(iii) pursuant to the Antiquities and Monuments Ordinance (Cap. 53), the applicant is required to inform AMO immediately when any antiquities or supposed antiquities under the Ordinance are discovered in the course of works. The applicant is also reminded to inform AMO on the work period of the Site for AMO to conduct site inspections as and when required;

(l) to note the comments of the Director of the Food and Environmental Hygiene (DFEH) that:

(i) the associated works and operations shall not cause any environmental nuisance, pest infestation and obstruction to the surrounding; and

(ii) for any waste generated from the works, the applicant should arrange its proper disposal at their own expense; and

(m) to note the comment of the Director of Electrical and Mechanical Services (DEMS) that in the interests of public safety and ensuring the continuity of electricity supply, the parties concerned with planning, designing, organising and supervising any activity near the

underground cable or overhead line under the planning application should approach the electricity supplier (i.e. CLP Power Hong Kong Limited) for the requisition of cable plans (and overhead line alignment drawings, where applicable) to find out whether there is any underground cable and/or overhead line within and/or in the vicinity of the Site. They should also be reminded to observe the Electricity Supply Lines (Protection) Regulation and the "Code of Practice on Working near Electricity Supply Lines" established under the Regulation when carrying out works in the vicinity of the electricity supply lines.

☐Urgent ☐Return receipt ☐Expand Group ☐Restricted ☐Prevent Copy

**From:**
**Sent:** 2025-10-01 星期三 03:07:36
**To:** tpbpd/PLAND <tpbpd@pland.gov.hk>
**Subject:** A/TM/601 Tuen Mun Town Lot No. 550 Recreation

A/TM/601

Tuen Mun Town Lot No. 550

Site area: 1,852sq.m

Zoning: "Recreation"

Applied development: House / 4 Vehicle Parking

Dear TPB embers,

Back again. Strong Objections.

One house will have no positive impact on the housing supply. But approval of the application could have a negative impact on the provision of recreational facilities in the district.

Members should bear in mind that while the population of Tuen Mun is increasing, the amount of land devoted to outdoor activity is shrinking due to a number of approved developments, including the area devoted to the new MTR station.

Y/TM/31 rejected 16 Feb 2024

9 trees to be felled.

Application No. A/TM/469 for a proposed holiday camp at the same site was approved on 22.5.2015

Justification: The Site has been idled for over 20 years. Without a viable land use, the environment of the Site would be further deteriorated and blighted. The previous proposal for a holiday camp is deemed financially unviable and impractical due to the social unrest in 2019 and the subsequent COVID-19 pandemic. Considering the current market circumstances, rezoning the area from “REC” to “R(C)” is a feasible solution to address the derelict state of the Site.

Interface with the Nearby Horse Trail

9.1.2 Comments of the Director of Leisure and Cultural Services (DLCS):

The proposed access road would affect a section of the existing horse trail currently used by the TMPRS of the Hong Kong Jockey Club (HKJC). Interface is observed and may pose potential risks to the horse riders and horses by the vehicular traffic generated by the

☐Urgent ☐Return receipt ☐Expand Group ☐Restricted ☐Prevent Copy

proposed development and the road widening/improvement works of the proposed access road.

The solution to this issue would interfere with the fre movement of the riders.

Previous objections relevant and upheld.

Mary Mulvihill

---

**From:**
**To:** mm1947 <>
**Date:** Saturday, 17 February 2024 2:38 AM HKT
**Subject:** Fwd: Y/TM/31 Tuen Mun Town Lot No. 550 Recreation

Rejected 16 Feb

9 trees to be felled.
Application No. A/TM/469 for a proposed holiday camp at the same site was approved on 22.5.2015
Justification: The Site has been idled for over 20 years. Without a viable land use, the environment of the Site would be further deteriorated and blighted. The previous proposal for a holiday camp is deemed financially unviable and impractical due to the social unrest in 2019 and the subsequent COVID-19 pandemic. Considering the current market circumstances, rezoning the area from "REC" to "R(C)" is a feasible solution to address the derelict state of the Site. The current application provides a solution to maximise land utilisation of the Site for residential development rather than leaving it idle and deteriorating.
Interface with the Nearby Horse Trail
9.1.2 Comments of the Director of Leisure and Cultural Services (DLCS):
The proposed access road would affect a section of the existing horse trail currently used by the TMPRS of the Hong Kong Jockey Club (HKJC). Interface is observed and may pose potential risks to the horse riders and horses by the vehicular traffic generated by the proposed development and the road widening/improvement works of the proposed access road.
PLAND - NO OBJECTION

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**From:**
**To:** tpbpd <tpbpd@pland.gov.hk>
**Date:** Friday, 30 June 2023 9:01 PM HKT
**Subject:** Y/TM/31 Tuen Mun Town Lot No. 550 Recreation

Y/TM/31

Tuen Mun Town Lot No. 550

Site area: About 1,852sq.m

Zoning: "Recreation"

☐Urgent ☐Return receipt ☐Expand Group ☐Restricted ☐Prevent Copy

Proposed Amendment: Rezone to "Res (Group C)" / 3 Villas / 10 Vehicle Parking

Dear TPB Members,

Strong Objections. While many lots zoned 'Recreation' are among a cluster has been converted to brownfield and other uses over the years, this lot is part of an area that has genuine recreational focus. The TM Sports Centre and TM Riding School are close by as it a sitting out area and the Hung Lau Heritage Building.

In addition the relocation of a number of recreational facilities to a smaller footprint to facilitate the construction a new MTR station indicates that it may be necessary to build additional recreational facilities at this cluster.

The proposed villas would interfere with the availability of the site. In addition the construction of a road just to serve 3 homes is unacceptable and could also impede community focus development

As for "*explore the feasibility of* ***effective utilization of the "REC" area***", the MTR and other developments will bring additional population to the district and with it need to bolster the provision of facilities

***"to meet the imminent housing need by boosting supply"*** Seriously???? We are already facing a glut of private residential units.

No mention of how many trees on the site.

Members must reject this application as residential use would impact the integrity of land intended to serve the general community,

Mary Mulvihill

☐Urgent ☐Return receipt ☐Expand Group ☐Restricted ☐Prevent Copy

2

**From:**
**Sent:** 2025-10-02 星期四 10:58:46
**To:** tpbpd/PLAND <tpbpd@pland.gov.hk>
**Subject:** KFBG's comments on one planning application
**Attachment:** 251002 s12a TM 601.pdf

Dear Sir/ Madam,

Attached please see our comments regarding one application. There is one pdf file attached to this email. If you cannot see/ download/ open this file, please notify us through email.

Also, please do not disclose our email address.

Thank You and Best Regards,

Ecological Advisory Programme
Kadoorie Farm and Botanic Garden

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The information contained in this e-mail (including any attachments) is confidential and is intended solely for the addressee. If you are not the intended recipient, please notify the sender immediately and delete this e-mail from your system. Any unauthorised use, disclosure, copying, printing, forwarding or dissemination of any part of this information is prohibited. KFBG does not accept responsibility and shall not be liable for the content of any e-mail transmitted by its staff for any reason other than bona fide official purposes. There is no warranty that this e-mail is error or virus free. You should not rely on any information that is not transmitted via secure technology.

嘉道理農場暨植物園公司
Kadoorie Farm & Botanic Garden Corporation

The Secretary,
Town Planning Board,
15/F, North Point Government Offices,
333, Java Road, North Point,
Hong Kong.
(Email: tpbpd@pland.gov.hk)

2nd October, 2025. **By email only**

Dear Sir/ Madam,

**Proposed House**
**(A/TM/601)**

1. We refer to the captioned.

2. According to the Town Planning Board Planning Portal 3, there is a rejected (in 2024) rezoning application (Y/TM/31; To rezone the application site from "Recreation" to "Residential (Group C)") covering the current site. The reasons for rejection are reproduced below:

> '*given that the application site (the Site) zoned "Recreation" ("REC") is encircled by a larger area zoned "Other Specified Uses (Public Recreation and Sports Centre)" ("OU(PRSC)") intended primarily for the provision of sports and recreation facilities, it is considered appropriate to retain the "REC" zoning of the Site alongside "OU(PRSC)" for recreational developments for the use of the general public. There are no strong justifications for the proposed rezoning for residential development at the Site.*'

3. **Figure 1** below presents a recent drone photograph capturing the application site and its surrounding area. We urge the Board to seriously consider all the potential impacts of approving this application before making a decision.

4. Thank you for your attention.

Ecological Advisory Programme
Kadoorie Farm and Botanic Garden

**Figure 1.** The site (approximately indicated by the arrow) and its surroundings.