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

2022年7月19日
此文件在_____收到，城市規劃委員會只會在收到所有必要的資料及文件後才正式確認收到申請的日期。
This document is received on 19 JUL 2022.
The Town Planning Board will formally acknowledge the date of receipt of the application only upon receipt of all the required information and documents.

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 Houses";
興建「新界豁免管制屋宇」；

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

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

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

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

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

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

& Please attach documentary proof 請夾附證明文件

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

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

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

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

For Official Use Only 請勿填寫此欄	Application No. 申請編號	A/I-TCE/3
	Date Received 收到日期	19 JUL 2022

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

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

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

1. Name of Applicant 申請人姓名/名稱

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

HONG KONG HOUSING AUTHORITY

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)

3. Application Site 申請地點

(a) Full address / location / demarcation district and lot number (if applicable) 詳細地址／地點／丈量約份及地段號碼（如適用）	GOVERNMENT LAND AT AREA 103, TUNG CHUNG, LANTAU ISLAND, HONG KONG
(b) Site area and/or gross floor area involved 涉及的地盤面積及／或總樓面面積	(SUBJECT TO DETAILED SURVEY AND LAYOUT FINALIZATION) ☐Site area 地盤面積 17,300 sq.m 平方米 ☑About 約 ☐Gross floor area 總樓面面積 102,070 sq.m 平方米 ☑About 約
(c) Area of Government land included (if any) 所包括的政府土地面積（倘有）	17,300 sq.m 平方米 ☑About 約

(d)	Name and number of the related statutory plan(s) 有關法定圖則的名稱及編號	APPROVED TUNG CHUNG EXTENSION AREA OUTLINE ZONING PLAN NO. S/I-TCE/2
(e)	Land use zone(s) involved 涉及的土地用途地帶	"RESIDENTIAL (GROUP A) 5"
(f)	Current use(s) 現時用途	CONSTRUCTION SITE (If there are any Government, institution or community facilities, please illustrate on plan and specify the use and gross floor area) (如有任何政府、機構或社區設施，請在圖則上顯示，並註明用途及總樓面面積)

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

The applicant 申請人 –

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

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

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

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

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

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

(b) The applicant 申請人 –

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

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

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

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

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

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

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

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

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

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

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

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

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

Others 其他

☐ others (please specify)
其他（請指明）

_____

_____

_____

_____

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

6. Type(s) of Application 申請類別

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

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

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

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

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

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

(i) For Type (i) application 供第(i)類申請

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

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

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

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

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

(a) Nature and scale
性質及規模

☐ Public utility installation 公用事業設施裝置

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

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

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

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

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

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

☑	Plot ratio restriction 地積比率限制	From 由 5.4 to 至 5.9
☐	Gross floor area restriction 總樓面面積限制	From 由 .....sq. m 平方米 to 至 .....sq. m 平方米
☐	Site coverage restriction 上蓋面積限制	From 由 .....% to 至 ..... %
☑	Building height restriction 建築物高度限制	From 由 .....m 米 to 至 ..... m 米 From 由 110 mPD 米 (主水平基準上) to 至 125 mPD 米 (主水平基準上) From 由 ..... storeys 層 to 至 ..... storeys 層
☐	Non-building area restriction 非建築用地限制	From 由 .....m to 至 ..... m
☐	Others (please specify) 其他（請註明）	.....

(v) For Type (v) application 供第(v)類申請

(a) Proposed use(s)/development 擬議用途/發展	PROPOSED MINOR RELAXATION OF RESTRICTIONS OF PLOT RATIO AND BUILDING HEIGHT FOR PERMITTED PUBLIC HOUSING DEVELOPMENT (Please illustrate the details of the proposal on a layout plan 請用平面圖說明建議詳情)

(b) Development Schedule 發展細節表

Proposed gross floor area (GFA) 擬議總樓面面積	102,070 sq.m 平方米	☑About 約
Proposed plot ratio 擬議地積比率	5.9	☑About 約
Proposed site coverage 擬議上蓋面積	15m OR BELOW: ABOUT 69% OVER 15m: ABOUT 20% . %	☑About 約
Proposed no. of blocks 擬議座數	4	
Proposed no. of storeys of each block 每座建築物的擬議層數	BLOCK A: 16; BLOCK B: 39; BLOCK C: 40; BLOCK D: 30 ..... storeys 層 ☐ include 包括.....storeys of basements 層地庫 ☐ exclude 不包括.....storeys of basements 層地庫	
Proposed building height of each block 每座建築物的擬議高度	NOT MORE THAN 125 mPD 米(主水平基準上) ..... m 米	☐About 約 ☐About 約

☑ Domestic part 住用部分

GFA 總樓面面積	95,150 sq. m 平方米	☑About 約
number of Units 單位數目	2,018 (ABOUT)	
average unit size 單位平均面積	47 sq. m 平方米	☑About 約
estimated number of residents 估計住客數目	5,651 (ABOUT)	

☑ Non-domestic part 非住用部分

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

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

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

KINDERGARTEN AND SOCIAL WELFARE FACILITIES

☑ 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)

ESTATE MANAGEMENT OFFICE, COMMERCIAL USE (EATING PLACES, SHOPS & SERVICES) (TOTAL GFA OF NOT MORE THAN 6,920 SQM)

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

☑ private open space 私人休憩用地	5,651 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 - 4	G/F	CARPARK, SHOP/EATING PLACE
1 - 4	1/F	COVERED LANDSCAPE AND AMENITY AREA, KINDERGARTEN, SOCIAL WELFARE FACILITIES, ESTATE MANAGMENT OFFICE
1 - 4	2 - 40/F	RESIDENTIAL UNITS

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

PODIUM GARDEN, SITTING-OUT AREA, RECREATIONAL FACILITIES, CIRCULATION AREA AND ESTATE ROAD/EVA

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)

2026/2027

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

Any vehicular access to the site/subject building? 是否有車路通往地盤／有關建築物？	Yes 是	☐ There is an existing access. (please indicate the street name, where appropriate) 有一條現有車路。(請註明車路名稱(如適用)) ..... ☑ There is a proposed access. (please illustrate on plan and specify the width) 有一條擬議車路。（請在圖則顯示，並註明車路的闊度）
	No 否	☐
Any provision of parking space for the proposed use(s)? 是否有為擬議用途提供停車位？	Yes 是	☑ (Please specify type(s) and number(s) and illustrate on plan)請註明種類及數目並於圖則上顯示) Private Car Parking Spaces 私家車車位: 181 (DOMESTIC), 20 (VISITOR) Motorcycle Parking Spaces 電單車車位: 19 Light Goods Vehicle Parking Spaces 輕型貨車泊車位: 8 Medium Goods Vehicle Parking Spaces 中型貨車泊車位: Heavy Goods Vehicle Parking Spaces 重型貨車泊車位: Others (Please Specify) 其他 (請列明) RETAIL & COMMERCIAL (R&C) CAR PARKING SPACES: 5 PRIVATE LIGHT BUS PARKING SPACE (WELFARE FACILITIES): 1 BICYCLE PARKING: 135
	No 否	☐
Any provision of loading/unloading space for the proposed use(s)? 是否有為擬議用途提供上落客貨車位？	Yes 是	☑ (Please specify type(s) and number(s) and illustrate on plan) 請註明種類及數目並於圖則上顯示) Taxi Spaces 的士車位 Coach Spaces 旅遊巴車位 Light Goods Vehicle Spaces 輕型貨車車位: 8 (DOMESTIC), 1 (R&C) Medium Goods Vehicle Spaces 中型貨車車位 Heavy Goods Vehicle Spaces 重型貨車車位 Others (Please Specify) 其他 (請列明)
	No 否	☐

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

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

Does the development proposal involve alteration of existing building? 擬議發展計劃是否包括現有建築物的改動?	Yes 是	☐ Please provide details 請提供詳情 ....
	No 否	☑
Does the development proposal involve the operation on the right? 擬議發展是否涉及右列的工程? (Note: where Type (ii) application is the subject of application, please skip this section. 註：如申請涉及第(ii)類申請，請跳至下一條問題。)	Yes 是	☑ (Please indicate on site plan the boundary of concerned land/pond(s), and particulars of stream diversion, the extent of filling of land/pond(s) and/or excavation of land) (請用地盤平面圖顯示有關土地／池塘界線，以及河道改道、填塘、填土及／或挖土的細節及/或範圍) ☐ Diversion of stream 河道改道 ☐ Filling of pond 填塘 Area of filling 填塘面積 ..... sq.m 平方米 ☐About 約 Depth of filling 填塘深度 ..... m 米 ☐About 約 ☐ Filling of land 填土 Area of filling 填土面積 ..... sq.m 平方米 ☐About 約 Depth of filling 填土厚度 ..... m 米 ☐About 約 ☑ Excavation of land 挖土 Area of excavation 挖土面積.....2,050..... sq.m 平方米 ☑About 約 Depth of excavation 挖土深度 .....1.....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)

NOT APPLICABLE AS APPLICATION SITE JUST COMPLETED ITS RECLAMATION

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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 ATTACHED SUPPORTING PLANNING STATEMENT

11. Declaration 聲明

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

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

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

MR. CHAN KING KONG, THERON
Name in Block Letters 姓名（請以正楷填寫）

CHIEF PLANNING OFFICER/1
Position (if applicable) 職位 （如適用）

Professional Qualification(s) 專業資格
☑ Member 會員 / ☐ Fellow of 資深會員
☑ HKIP 香港規劃師學會 / ☐ HKIA 香港建築師學會 /
☐ HKIS 香港測量師學會 / ☐ HKIE 香港工程師學會 /
☐ HKILA 香港園境師學會/ ☐ HKIUD 香港城市設計學會
☑ RPP 註冊專業規劃師
Others 其他 .....

on behalf of 代表 THE HONG KONG HOUSING AUTHORITY

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

Date 日期 15/07/2022 (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. 申請編號	(For Official Use Only) (請勿填寫此欄)
Location/address 位置／地址	GOVERNMENT LAND AT TUNG CHUNG AREA 103 位於東涌第103區的政府土地
Site area 地盤面積	17,300 sq. m 平方米 ☑ About 約 (includes Government land of 包括政府土地 17,300 sq. m 平方米 ☑ About 約)
Plan 圖則	APPROVED TUNG CHUNG EXTENSION AREA OUTLINE ZONING PLAN NO. S/I-TCE/2 東涌擴展區分區大綱核准圖編號S/I-TCE/2
Zoning 地帶	"RESIDENTIAL (GROUP A)5" 「住宅（甲類）5」
Applied use/ development 申請用途/發展	PROPOSED MINOR RELAXATION OF RESTRICTIONS OF PLOT RATIO AND BUILDING HEIGHT FOR PERMITTED PUBLIC HOUSING DEVELOPMENT 擬議略為放寬地積比率及建築物高度限制，以作准許的公營房屋發展

		sq.m 平方米		Plot Ratio 地積比率	
(i) Gross floor area and/or plot ratio 總樓面面積及／或地積比率	Domestic 住用	95,150	☐ About 約 ☑ Not more than 不多於	5.5	☐About 約 ☑Not more than 不多於
	Non-domestic 非住用	6,920	☐ About 約 ☑ Not more than 不多於	0.4	☐About 約 ☑Not more than 不多於
(ii) No. of block 幢數	Domestic 住用				
	Non-domestic 非住用				
	Composite 綜合用途	4			

(iii)	Building height/No. of storeys 建築物高度／層數	Domestic 住用		m 米 ☐ (Not more than 不多於)
				mPD 米(主水平基準上) ☐ (Not more than 不多於)
				Storeys(s) 層 ☐ (Not more than 不多於) (☐*Include 包括*/☐ *Exclude 不包括* ☐ *Carport 停車間* ☐ *Basement 地庫* ☐ *Refuge Floor 防火層* ☐ *Podium 平台)*
		Non-domestic 非住用		m 米 ☐ (Not more than 不多於)
				mPD 米(主水平基準上) ☐ (Not more than 不多於)
				Storeys(s) 層 ☐ (Not more than 不多於) (☐*Include 包括*/☐ *Exclude 不包括* ☐ *Carport 停車間* ☐ *Basement 地庫* ☐ *Refuge Floor 防火層* ☐ *Podium 平台)*
		Composite 綜合用途		m 米 ☐ (Not more than 不多於)
			125	mPD 米(主水平基準上) ☑ (Not more than 不多於)
			40	Storeys(s) 層 ☐ (Not more than 不多於) (☑*Include 包括*/☐ *Exclude 不包括* ☐ *Carport 停車間* ☐ *Basement 地庫* ☐ *Refuge Floor 防火層* ☑ *Podium 平台)*
(iv)	Site coverage 上蓋面積	15m OR BELOW: ABOUT 69% OVER 15m: ABOUT 20%		% ☑ About 約
(v)	No. of units 單位數目	2,018		
(vi)	Open space 休憩用地	Private 私人	5,651	sq.m 平方米 ☑ Not less than 不少於
		Public 公眾		sq.m 平方米 ☐ Not less than 不少於

(vii) No. of parking spaces and loading / unloading spaces 停車位及上落客貨車位數目	Total no. of vehicle parking spaces 停車位總數 Private Car Parking Spaces 私家車車位 Motorcycle Parking Spaces 電單車車位 Light Goods Vehicle Parking Spaces 輕型貨車泊車位 Medium Goods Vehicle Parking Spaces 中型貨車泊車位 Heavy Goods Vehicle Parking Spaces 重型貨車泊車位 Others (Please Specify) 其他 (請列明) RETAIL & COMMERCIAL (R&C) CAR PARKING SPACES - 5 NOS PRIVATE LIGHT BUS PARKING SPACE (WELFARE FACILITIES) - 1 NO BICYCLE PARKING - 135 NOS	DOMESTIC: 181 VISITOR: 20 19 8
	Total no. of vehicle loading/unloading bays/lay-bys 上落客貨車位／停車處總數 Taxi Spaces 的士車位 Coach Spaces 旅遊巴車位 Light Goods Vehicle Spaces 輕型貨車車位 Medium Goods Vehicle Spaces 中型貨車位 Heavy Goods Vehicle Spaces 重型貨車車位 Others (Please Specify) 其他 (請列明) _____ _____	8 (DOMESTIC) & 1 (R&C)

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

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

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。

S16 PLANNING APPLICATION
APPROVED TUNG CHUNG EXTENSION AREA OZP NO. S/I-TCE/2

Proposed Minor Relaxation of Restrictions of Maximum Overall Plot Ratio from 5.4 to 5.9 and Maximum Building Height from 110mPD to 125mPD for the Public Housing Development at Tung Chung Area 103

SUPPORTING PLANNING STATEMENT

July 2022

香港房屋委員會
Hong Kong Housing Authority

Executive Summary

The Planning Application is submitted by the Hong Kong Housing Authority ("HKHA") to seek approval from the Town Planning Board ("TPB") under Section 16 ("s.16") of the Town Planning Ordinance for minor relaxation of restrictions of maximum overall Plot Ratio ("PR") from 5.4 to 5.9 (+ around 9.3%), and maximum Building Height ("BH") from 110mPD to 125mPD (+ around 13.6%) of the public housing development at Tung Chung Area 103 ("TC 103").

TC 103 is zoned "Residential (Group A)5" ("R(A)5") under the approved Tung Chung Extension Area Outline Zoning Plan No. S/I-TCE/2 ("the OZP"), and is subject to a maximum overall PR of 5.4 and maximum BH of +110mPD.

Due to shortage of land for public housing development, the Government has been adopting a multi-pronged approach in increasing public land supply, including optimization of development potential of public housing sites where technically permits. In line with Government's initiative announced in December 2018 on "Enhanced Development Intensity of Public Housing Sites" to increase the maximum domestic PR of the public housing sites in New Towns by up to 30% as appropriate where their technical feasibility permits, the HKHA proposes to relax the restrictions of maximum overall PR from 5.4 to 5.9 (+ around 9.3%) and the maximum BH from 110mPD to 125mPD (+ around 13.6%) in TC 103, with a view to optimizing the use of the public housing land. The development proposal comprises of four housing blocks providing about 2,018 public housing flats with a design population of about 5,651 persons.

The proposed minor relaxation of restrictions of maximum overall PR and maximum BH is fully justified with the following major reasons:

- The proposal is in-line with the refined policy on "Enhanced Development Intensity of Public Housing Sites" approved by the Executive Council in December 2018 for optimizing land utilization;
- The proposal is to meet the acute demand for public housing. Under the Long Term Housing Strategy Annual Progress Report 2021, the split ratio of public / private

housing of 70:30 is maintained continuously, and supply target for public housing is 301,000 units for ten years from 2022/23 to 2031/32;

- The proposed public housing development is compatible with the surrounding development context;
- Technical assessments conclude that the proposal will not result in insurmountable impacts on urban design, air ventilation, visual, landscape, traffic, environmental, sewerage, and fresh and salt water supply capacity aspects.

In view of the above, the TPB is requested to give favorable consideration to this Planning Application.

行政摘要

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

是項規劃申請是由香港房屋委員會（下稱「房委會」）向城市規劃委員會（下稱「城規會」）提出，旨在根據《城市規劃條例》第16條，向城規會申請規劃許可，略為放寬於東涌第103區公共房屋發展計劃的最高總地積比率由5.4倍增加至5.9倍(+ 約 9.3%)及建築物高度上限由主水平基準以上110米增加至125米 (+ 約 13. 6%)。

東涌第103區於《東涌擴展區分區計劃大綱核准圖編號 S/I-TCE/2》（以下簡稱「大綱核准圖」）上劃為「住宅（甲類）5」地帶，受限於最高總地積比率5.4倍，及建築物高度上限的主水平基準以上110米。

因應公營房屋用地短缺，政府一直採取多管齊下的措施以增加公營房屋土地供應，包括在技術可行的情況下優化個別公營房屋地盤的發展潛力。為配合2018年12月政府公布的「提升公營房屋用地的發展密度」政策，旨在技術可行的情況下可適度提高在新市鎮的最高住宅地積比率最多三成，房委會建議申請放寬東涌第103區地盤的總地積比率由5.4倍增加至5.9倍 (+ 約 9.3%)，及建築物高度上限由主水平基準以上110米增加至125米 (+ 約 13. 6%)，以更有效運用珍貴的土地資源。擬議發展東涌第103區包括興建4幢住宅大廈，提供約2,018個公營房屋單位，並容納約5,651預計人口。

擬議略為放寬地積比率限制及建築物高度上限的主要理據如下：

- 提案符合行政會議於2018年12月核准的「提升公營房屋用地的發展密度」政策，以善用土地資源；
- 提案是為了滿足公營房屋的殷切需求。根據《長遠房屋策略》2021年周年進度報告，公私營房屋供應比例繼續維持為70：30，而2022/23至2031/32年度10年間的公營房屋供應目標為301,000個單位；
- 擬議公營房屋發展與周邊的發展密度兼容；
- 技術評估亦證明提案在城市設計、通風、視覺、景觀、交通、環境、污水、供水均不會對周邊地區帶來重大影響。

基於以上各點，懇請城規會批准是項申請。

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1. INTRODUCTION

1.1 This application seeks the Town Planning Board ("TPB")'s permission under Section 16 ("s.16") of the Town Planning Ordinance for the proposed minor relaxation of restrictions of maximum overall Plot Ratio ("PR") from 5.4 to 5.9 and maximum Building Height ("BH") from 110mPD to 125mPD for public housing development at Tung Chung Area 103 ("the Application Site").

2 SITE CONTEXT

2.1 Planning Context

2.1.1 TC 103 with a gross site area of around 1.73 hectares, is shown in ***Figure 1***. TC 103 is currently held by the Hong Kong Housing Authority ("HKHA"). According to the approved Tung Chung Extension Area Outline Zoning Plan ("the OZP") No. S/I-TCE/2, TC 103 is zoned "Residential (Group A)5" ("R(A)5"), and is subject to a maximum overall PR of 5.4 and a maximum BH of +110mPD (***Figure 1*** refers).

2.1.2 In pursuit of the policy of "Enhancement of the Development Intensity of Public Housing Sites" approved by the Executive Council ("ExCo") in December 2018 for addressing the shortage in public housing supply, the HKHA proposes to increase the flat production of TC 103 through minor relaxation of restrictions of maximum overall PR from 5.4 to 5.9, and maximum BH from 110mPD to 125mPD. According to the OZP, based on the individual merits of the development proposal, minor relaxation of restrictions of overall maximum PR and maximum BH may be considered by the TPB upon application under s.16 of the Town Planning Ordinance.

2.2 Surrounding Land Uses

2.2.1 TC 103 has been formed by reclamation. To the west is Tung Chung Area 102 ("TC 102"), zoned as "Government, Institution and Community". To the north is the proposed Road L3 and Tung Chung Area 106 ("TC 106") planned for medium-density residential development. To the east is the proposed L4 Road and Tung Chung Area 109 ("TC 109") planned for public housing development. To the south is an area zoned as "Open Space", and Tung Chung Area 99 ("TC 99") planned for public housing development.

2.3 Accessibility

2.3.1 TC 103 is easily accessible. It is located within 800m walking distance to the planned railway station. There are vehicular ingresses/egresses at Road L3 for TC 103. A planned public transport interchange is located in TC 99, which is in adjacent to TC 103.

3. DEVELOPMENT PROPOSAL

3.1 The Proposed Scheme

3.1.1 The Proposed Scheme adopts a maximum overall PR of 5.9 of which PR of 5.5 and 0.4 are for domestic and non-domestic portions respectively, as well as a maximum BH of 125mPD. The Proposed Scheme would provide about 2,018 flats with a design population of about 5,651 persons, which are subject to detailed design.

3.1.2 The differences in key parameters of TC 103 as compared against the Baseline Scheme which is an OZP compliance scheme are summarized in *Table 1* below.

Table 1 Comparison between the Baseline Scheme and Proposed TC 103 Scheme

Development Parameters	**Baseline Scheme[1] [A]**	**Proposed Scheme [B]**	**Difference [B] – [A]**
Overall Maximum PR	Overall: 5.4 Domestic: 5.0 Non-domestic: 0.4	Overall: 5.9 Domestic: 5.5 Non-domestic: 0.4	+0.5 (+9.3%)
Overall GFA (m^2)[2]	About 93,420 m^2	About 102,070 m^2	+8,650 m^2
Building Height (Measured at Main Roof Level)	Not exceeding +110mPD	Not exceeding +125mPD	+15m (+13.6%)
Flat Production	About 1,607	About 2,018	+411
Design Population	About 4,917[3]	About 5,651[4]	+734

Note 1: Baseline Scheme is an OZP compliance scheme.
Note 2: Calculation based on the net site area of 17,300m^2.
Note 3: According to the Planning and Engineering Study for Tung Chung New Town Extension completed in 2016, average household size assumption of 3.06 was adopted for technical assessment purpose.
Note 4: Based on the latest average household size of 2.8.

3.1.3 TC 103 comprises four housing blocks which accommodate estate management office and facilities ancillary to the domestic use (including the electrical and mechanical facilities, fire services, sprinkler facilities, transformer room, etc.). Not less than 5,651 m^2 local open space in accordance with the Hong Kong Planning Standards and Guidelines ("HKPSG") requirement of 1 m^2 per person will be provided. A 9-classroom kindergarten, a table tennis table, a badminton court, a basketball court, Children's Play Area, a Neighborhood Elderly Centre, and Home Care Services for Frail Elderly Persons will also be provided in the public housing development. The badminton and basketball courts will be provided on the recreational/landscape deck on the western portion of the Application Site. A footbridge will be provided across the non-building area ("NBA") to enhance pedestrian connectivity. A set of schematic drawings illustrating the layout and design of the Proposed Development are provided at ***Appendix 1***.

3.1.4 The key development parameters of TC 103 are summarized in *Table 2* below.

Table 2 Key Development Parameters of TC 103

Development Parameters	**Proposed Scheme**
Site Area[1]	About 17,300 m^2
Maximum PR - **Overall** - **Domestic** - **Non-domestic**	 5.9 5.5 0.4
GFA[2, 3] - **Total** - **Domestic** - **Non-domestic**	 About 102,070 m^2 About 95,150 m^2 About 6,920 m^2
BH (Measured at Main Roof Level)	Not exceeding +125 mPD
No. of Housing Blocks & Storeys	Blocks 1 – 4 14 to 38 (Domestic) + 2 (Podium) storeys
Flat Production	About 2,018
Design population[4]	About 5,651
Site Coverage (<15m)	About 69%

Development Parameters	Proposed Scheme
(≥15m)	About 20%
Local Open Space	Not less than 5,651 m^2
Children's Play Area	Not less than 452 m^2
Green Coverage (% of Gross Site Area)	20%
Parking Provision[3]	
Car Parking Spaces (Domestic)[4]	181
Car Parking Spaces (Visitors)	20
Car Parking Space (R&C)	5
Motorcycle Parking Spaces	19
Private Light Bus Parking Space (Welfare Facilities)	1
Light Goods Vehicle Parking (Domestic)	8
Loading/Unloading ("L/UL") Bay (Domestic)	8
L/UL (R&C)	1
Bicycle Parking (Domestic)	135

Note 1: The gross site area is subject to detailed survey and layout finalization.

Note 2: Calculation based on the net site area of 17,300 m^2.

Note 3: Full GFA exemption for parking spaces. Provision in accordance with HKPSG as advised by Transport Department. The parking provisions are subject to finalized flat mix.

Note 4: Based on average household size of 2.8.

3.2. Implementation Programme

3.2.1. Piling works of TC 103 commenced by HKHA in February 2022 for planned building completion in 2026/27 tentatively.

4. PLANNING JUSTIFICATIONS

4.1. In line with Government's Policy on Intensification of Public Housing Sites

4.1.1 The ExCo approved in December 2018 the policy on "Enhanced Development Intensity of Public Housing Sites" by increasing the maximum domestic PR of public housing sites up to 30% where their technical feasibility permits. The policy allows the maximum domestic PR of public housing sites located in selected Zones, including Density Zone 1 of New Towns where the Application Site is located, to be increased by up to 30% (versus by up to 20% as announced in the 2014 Policy Address), where technical feasibility permits. To this end, the proposed increase in domestic PR from 5.0 to 5.5 for TC 103 is in line with this policy. Minor relaxation of restrictions of maximum overall PR from 5.4 to 5.9 and maximum BH from 110mPD to 125mPD for TC 103 is therefore proposed.

4.2. Meet Acute Demand for Public Housing

4.2.1. Under the Long Term Housing Strategy Annual Progress Report 2021, the split ratio of public / private housing of 70:30 is maintained continuously, and supply target for public housing is 301,000 units for the ten year from 2022/23 to 2031/32. As at end-March 2022, there were about 147,500 general applications for PRH, and about 97,700 non-elderly one-person applications under the Quota and Points System. The proposal with minor relaxation of restrictions of maximum overall PR and maximum BH would increase the public housing production and is in line with the Government policy to better utilize land resources for increasing the public housing flat production in order to meet the imminent housing need.

4.3. Compatible with Surrounding Development Context

4.3.1 The proposed maximum overall PR of 5.9 and maximum BH of +125mPD for TC 103 are compatible with high-rise residential developments (such as planned public housing developments at TC 99 with maximum overall PR of 6.7 and maximum domestic PR of 6.5; TC 100 with maximum overall PR of 6.9 and maximum domestic PR of 6.5; planned public housing development at TC 109 with maximum overall PR of 5.8 and maximum domestic PR of 5.5; Ying Tung Estate, Century Link, The Visionary with maximum domestic PR of 5) in the vicinity. TC 103 is visually compatible with the surroundings.

4.4. No Significant Change in Urban Design and Landscape Impact

4.4.1 The proposed increase in overall PR from 5.4 to 5.9, and maximum BH from 110mPD to 125mPD for TC 103, would not compromise any original planning for the high-density public housing development, urban design conceptions/intentions and landscape aspects. A 20m-wide NBA at ground level have been provided to serve as breezeways with consideration to the prevailing wind and provide a major view corridor from the hillside to the sea area.

4.4.2 The overall urban design for the Proposed Development is to strengthen the connectivity to the adjacent district open spaces such as in Area 16, and maximize greening opportunity within the Proposed Development. Buffer plantings are proposed along the boundary abutting the District Open Space ("DOS") in Area 16. Several pedestrian passages are also proposed between the Application Site and the DOS to enhance pedestrian connectivity.

4.4.3 The Application Site is a lately reclaimed site with no landscape resource and existing tree. The Proposed Development is unlikely to cause any further significant adverse landscape impact, especially the surrounding areas are also reclamation sites with similar design characters. In view of the public housing developments at TC 99, TC 100 and TC 109 under construction are located to the south and east of the Application Site, TC 103 with similar scale and use are considered compatible with the local environment.

4.4.4 The landscape design of TC 103 aims to maximize greening and recreational opportunity to cater for the enjoyment of the residents. The landscape areas are mainly located on the recreational/landscape deck on top of Block A, ground level and podium level of domestic blocks, which provide both active and passive recreational facilities for different ages of users, including seating area, Children's Play Area, badminton court, basketball court, communal play area and planters. The green coverage will be provided at a minimum of 20% of the gross site area, half of which will be provided at grade or at levels easily accessible by residents, with the integration of local open space. Please refer to Landscape Master Plans and Open Space Demarcation Plans of separate levels at ***Appendix 2*** for details.

4.4.5 In view of the geotechnical constraints at the western portion of the Application Site which refrains high-rise development to be built therein and the 20-m NBA located at the Application Site, an opportunity was taken to improve the design of building blocks by increasing the BH to +125 mPD in the remaining portion. With the lower BH to the west of the Application Site, greeneries at the covered carpark have been proposed. All fencing/boundary wall (excluding those for ball courts) fronting major open spaces will achieve a minimum of 50% of visual permeability (measure at 1m from formation level of the pedestrian path). For details of the landscape treatment, please refer to the Landscape Master Plans and Open Space Demarcation Plans of separate levels at ***Appendix 2***.

4.5 Optimization of Site Development Potential

4.5.1 The disposition and layout of the building blocks have been specifically designed by increasing the BH to +125mPD in response to the Application Site's geotechnical constraints and the 20m-NBA as aforementioned in order to optimize its development potential as far as practicable, while addressing various environmental and technical aspects to minimize their impacts. The Application Site is located at the Designated Area of Northshore Lantau where complex geotechnical conditions are known to exist. Complex geological conditions have been encountered at the southwestern side of the Application Site with the presence of marble, marble-related cavities, cavity-fill deposits and an anomalously deep, and steeply inclined rockhead. The layout and the BH of the covered carpark and Block A, which are located at the southwestern portion of the Application Site, are controlled by the geological profile and the acceptable increase of vertical stress at cavities. The BH of Block A has been optimized to minimise the adverse effect to any cavities due to the imposition of foundation load.

4.6 Flexibility for Innovative Design Adapted to Site Characteristics

4.6.1 A 5m setback from the site boundary abutting the District Open Space is proposed with a continuous retail shop frontage at ground floor. This is to encourage street life, enhance interface between commercial frontage and the open space, and create a generous spatial experience for recreation and leisure. The retail frontage will also include cantilevered canopies with 2.5m width for the general public's comfort (***Appendix 2*** refers).

4.7 No Adverse Technical Implications

No Adverse Impact on the Air Ventilation

4.7.1 An Air Ventilation Impact Assessment (***Appendix 3*** refers) has been prepared, which in the Proposed Scheme, a 20m-wide NBA at ground level has been provided to achieve a satisfactory wind environment annually at pedestrian level. The Application Site does not fall within any identified air paths in the nearby, as well as there are some existing mid to high-rise development at upwind areas for all dominant wind directions. The Proposed Scheme retains the 20m-wide NBA and provides setback from Open Space Area 16. It is concluded that the overall ventilation performance of the surrounding areas would not be significantly affected by the increase of the PR and BH of the Proposed Scheme with appropriate mitigation measures. Thus, no adverse impact on air ventilation is anticipated.

No Adverse Visual Impact

4.7.2 A Visual Impact Assessment (***Appendix 4*** refers) has been prepared with reference to the Town Planning Board Guidelines No. 41 – Submission of Visual Impact Assessments, where a total of 7 viewpoints ("VPs") are selected that can best facilitate the Rural and New Town Planning Committee of the TPB to visualize the three-dimensional relationship of Proposed Development with the surrounding context. The 7 VPs cover the strategic locations around the Proposed Development. The Proposed Development is pronouncedly visible from key sensitive viewers. As evident in the VPs, the residual cumulative visual impact of the Proposed Development is considered negligible and conforms with the surrounding buildings and be seen as an extension of the townscape.

No Adverse Impact on the Sewerage System

4.7.3 The Civil Engineering and Development Department ("CEDD") will undertake the implementation of planned infrastructure according to the planned population threshold.

4.7.4 Sewerage Impact Assessment (***Appendix 5*** refers) has been conducted and the study findings conclude that the planned / existing sewerage system has sufficient capacity to cater for the additional sewage discharge from the Proposed Development.

No Adverse Impact on the Fresh and Salt Water Supply System

4.7.5 Water Works Impact Assessment (***Appendix 6*** refers) has been conducted and the findings concluded that the planned/ existing/ temporary fresh and salt water supply systems in the vicinity are adequate to serve the Proposed Development. The proposal is not expected to have insurmountable adverse impact.

No Adverse Traffic Impact

4.7.6 A Traffic Impact Assessment for TC 103 has been carried out in support of this s.16 Application. The result of TIA indicates that the proposal will have no insurmountable traffic impact on the surrounding road network with provision of improvement measures at local junctions if included in infrastructure under Tung Chung New Town Extension project by CEDD. Car parking and loading/unloading facilities are provided to meet the HKPSG requirements, parking demand in the district, and to the satisfaction of the Transport Department ("TD"). Please refer to the TIA as accepted by TD at ***Appendix 7*** for details.

No Adverse Environmental Impact

4.7.7 An Environmental Assessment Study ("EAS") for TC 103 to address the potential road traffic noise, fixed plant noise sources and air quality impact has been conducted (***Appendix 8*** refers). The result of the EAS has demonstrated that the proposal will have no insurmountable impact with appropriate noise mitigation measures to be incorporated in the proposed public housing development at TC 103, such as provision of acoustic windows and fixed windows.

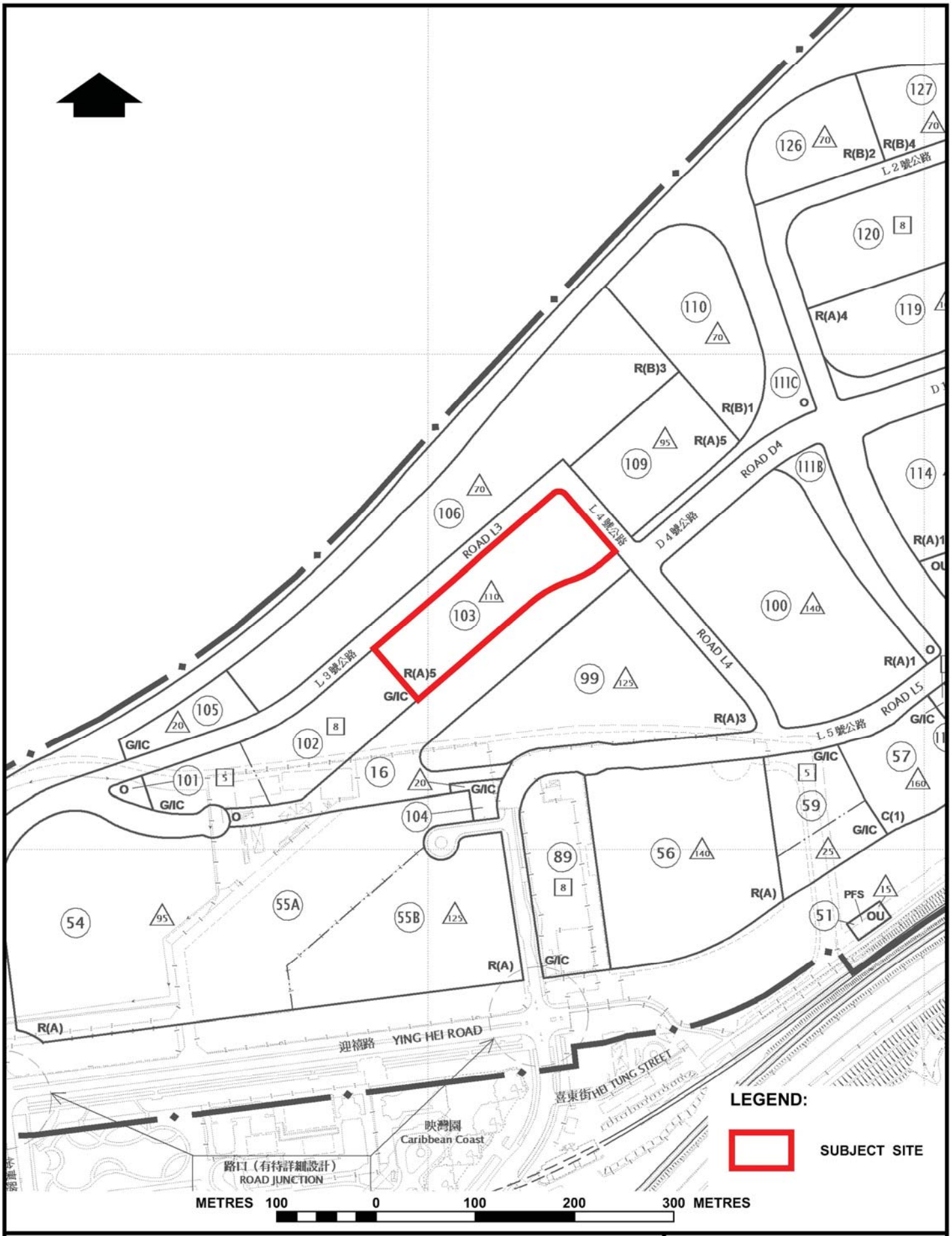
4.7.8 Since the Proposed Development is located outside the Noise Exposure Forecast 25 ("NEF 25") contours, no adverse aircraft noise impacts on the Proposed Development are expected to occur. No encroachment of the Proposed Development on NEF 25 contour is anticipated (***Appendix 8*** refers).

5 CONCLUSION

5.1 It has been demonstrated in this Planning Statement that the proposed minor relaxation of restrictions of maximum overall PR from 5.4 to 5.9, and maximum BH from 110mPD to 125mPD for TC 103 will facilitate the provision of additional public housing flats, and is in line with the Government's policy directives to maximize the development potential of valuable land resources.

5.2 The Proposed Scheme is also in line with the planning intention of the "R(A)5" zone and compatible with the surrounding developments. As demonstrated in the technical assessments, the proposal will have no insurmountable impacts on urban design, air ventilation, visual, landscape, traffic, environmental, sewerage and fresh and salt water supply capacity aspects.

5.3 In view of the above, the TPB is requested to give favorable consideration on the proposed minor relaxation of restrictions of maximum overall PR from 5.4 to 5.9, and maximum BH from 110mPD to 125mPD for the Application Site.



LOCATION PLAN
PUBLIC HOUSING DEVELOPMENT
TUNG CHUNG AREA 103

HOUSING DEPARTMENT
PLANNING SECTIONS

Figure 1

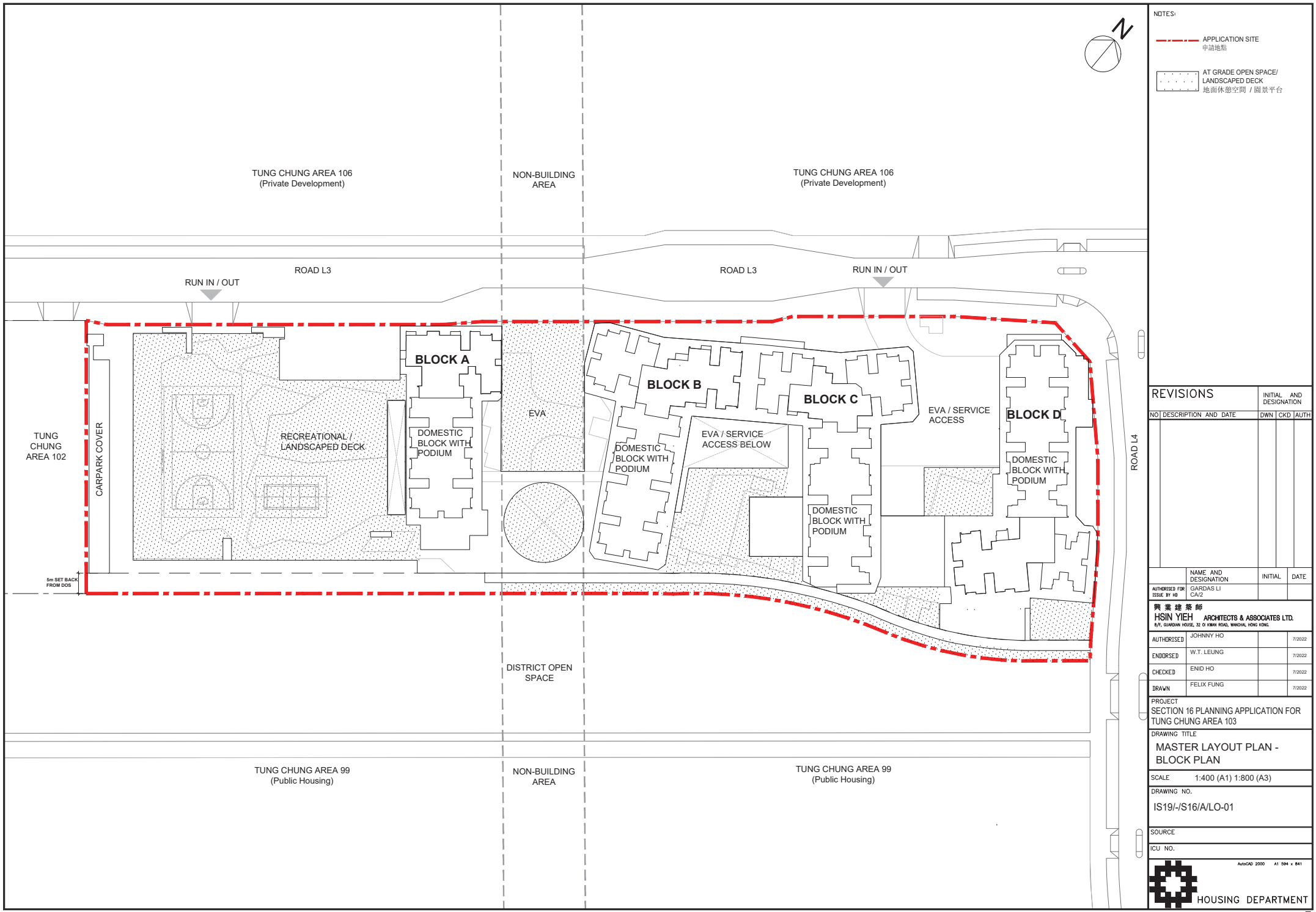
DATE :
5. 5. 2022

BASE EXTRACTED FROM OZP No. S/I-TCE/2

22_0298I_OZP

Appendix 1

Schematic Drawings



NOTES:

APPLICATION SITE
申請地點

AT GRADE OPEN SPACE/
LANDSCAPED DECK
地面休憩空間 / 園景平台

REVISIONS

NO	DESCRIPTION AND DATE	INITIAL AND DESIGNATION DWN	CKD	AUTH

	NAME AND DESIGNATION	INITIAL	DATE
AUTHORISED FOR ISSUE BY HD	GARDAS LI CA/2		

興業建築師
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ENDORSED	W.T. LEUNG		7/2022
CHECKED	ENID HO		7/2022
DRAWN	FELIX FUNG		7/2022

PROJECT
SECTION 16 PLANNING APPLICATION FOR
TUNG CHUNG AREA 103

DRAWING TITLE
MASTER LAYOUT PLAN -
BLOCK PLAN

SCALE 1:400 (A1) 1:800 (A3)

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IS19/-/S16/A/LO-01

SOURCE

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HOUSING DEPARTMENT

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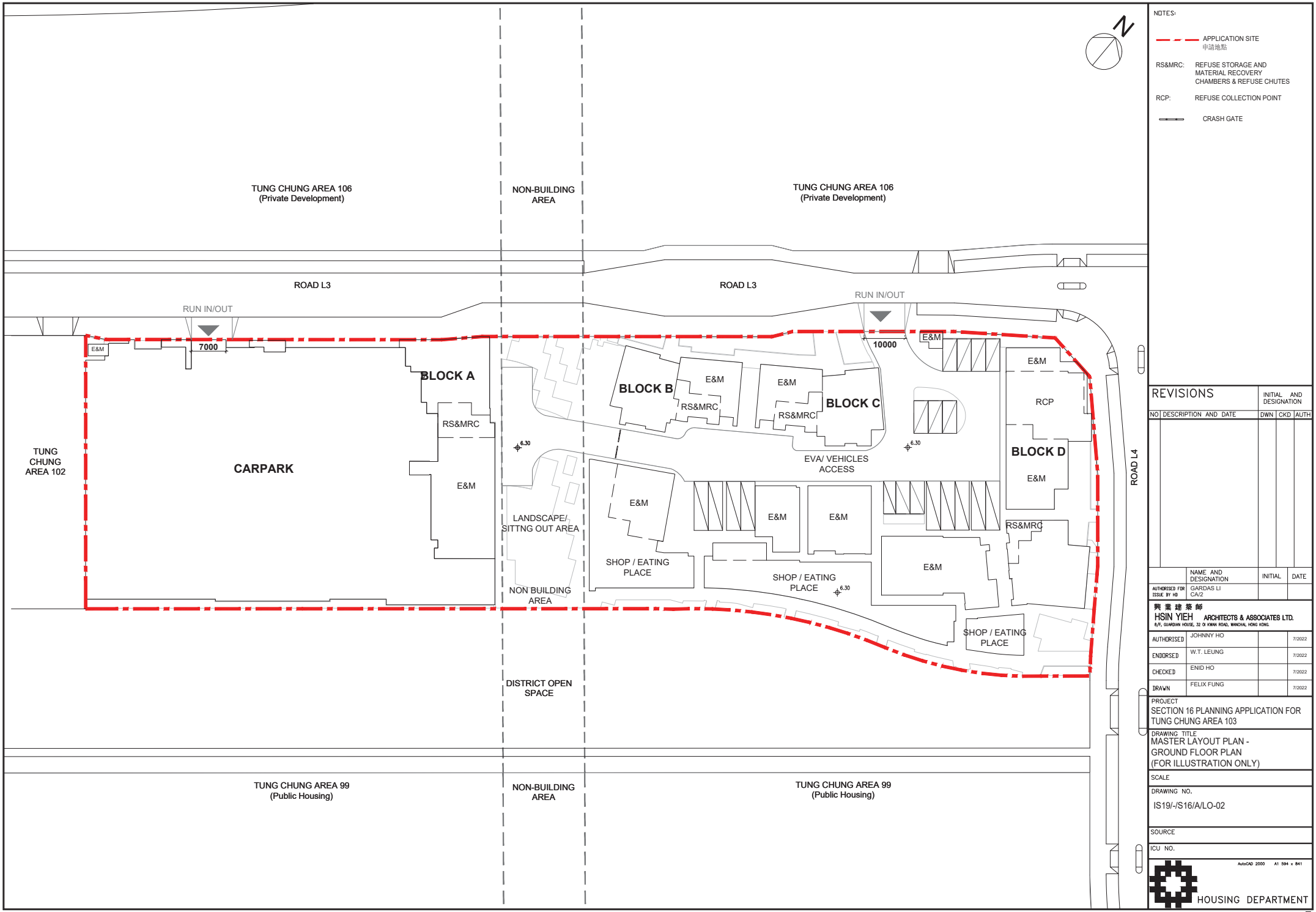

NOTES:

APPLICATION SITE
申請地點

RS&MRC: REFUSE STORAGE AND MATERIAL RECOVERY CHAMBERS & REFUSE CHUTES

RCP: REFUSE COLLECTION POINT

CRASH GATE

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PROJECT
SECTION 16 PLANNING APPLICATION FOR TUNG CHUNG AREA 103

DRAWING TITLE
MASTER LAYOUT PLAN -
GROUND FLOOR PLAN
(FOR ILLUSTRATION ONLY)

SCALE

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IS19/-/S16/A/LO-02

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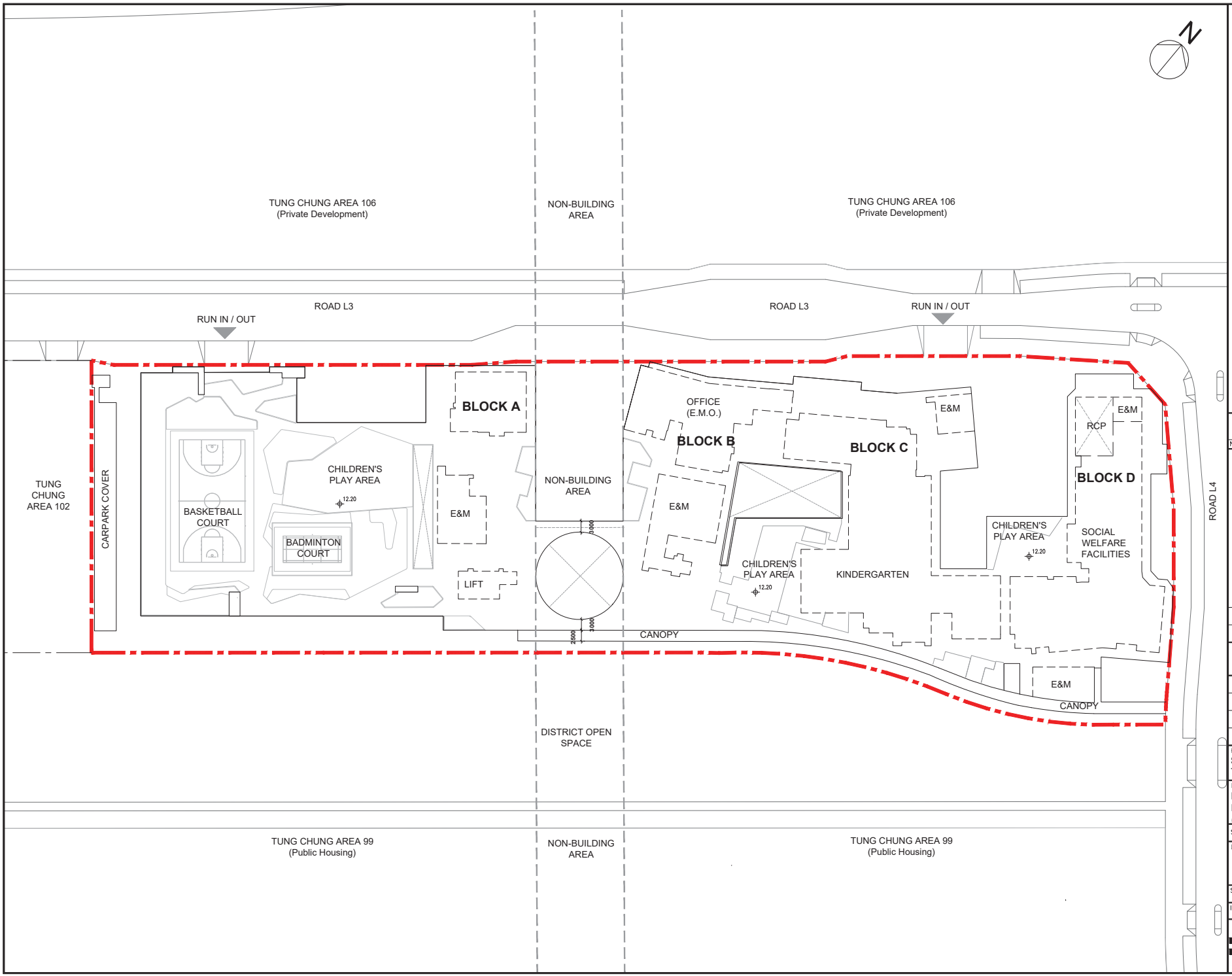

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DRAWN	FELIX FUNG		7/2022

PROJECT
SECTION 16 PLANNING APPLICATION FOR TUNG CHUNG AREA 103

DRAWING TITLE
MASTER LAYOUT PLAN -
FIRST FLOOR PLAN
(FOR ILLUSTRATION ONLY)

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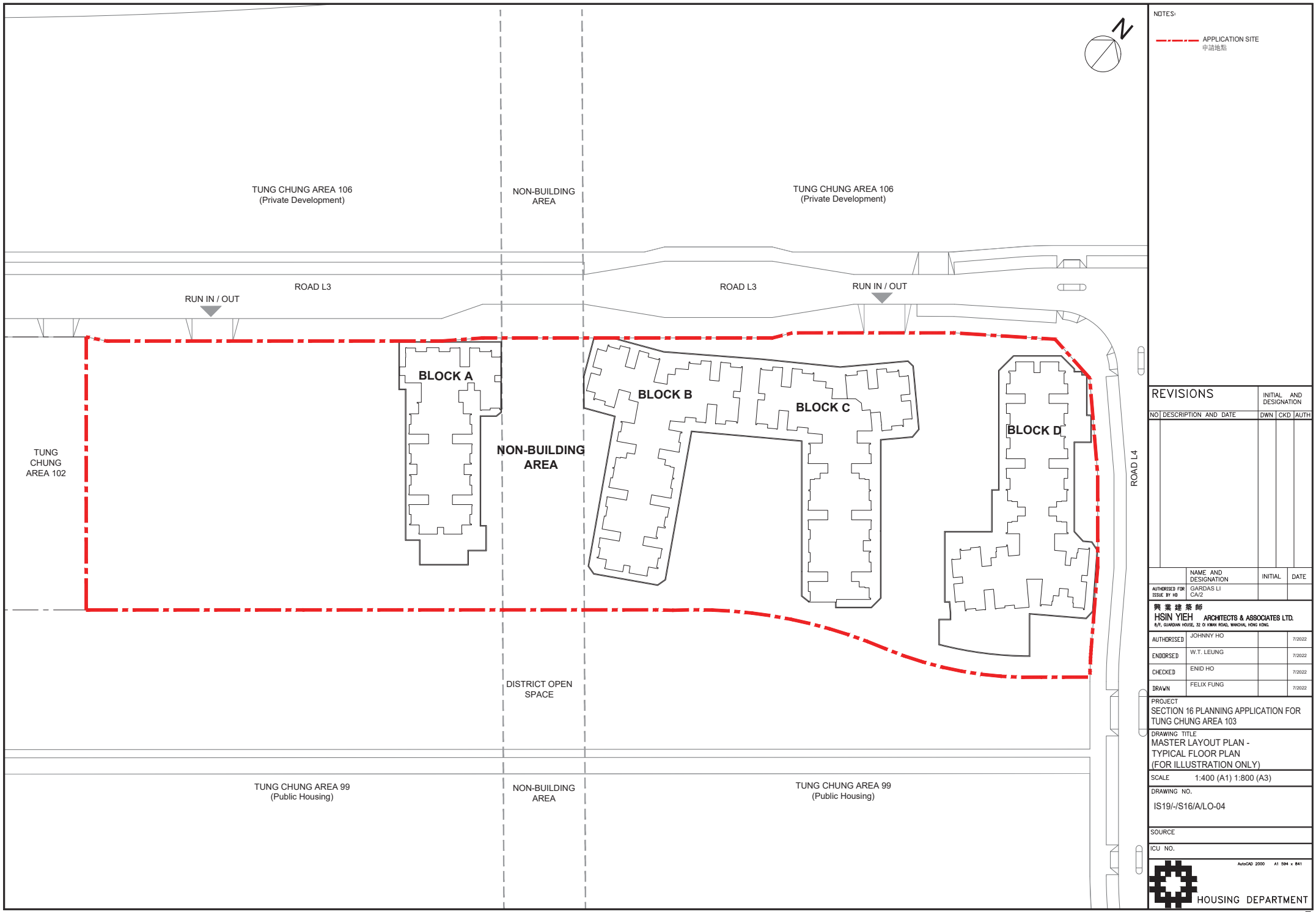

NOTES:

APPLICATION SITE
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PROJECT
SECTION 16 PLANNING APPLICATION FOR
TUNG CHUNG AREA 103

DRAWING TITLE
MASTER LAYOUT PLAN -
TYPICAL FLOOR PLAN
(FOR ILLUSTRATION ONLY)

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HOUSING DEPARTMENT

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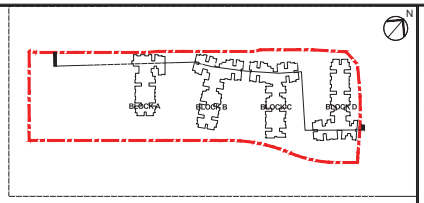

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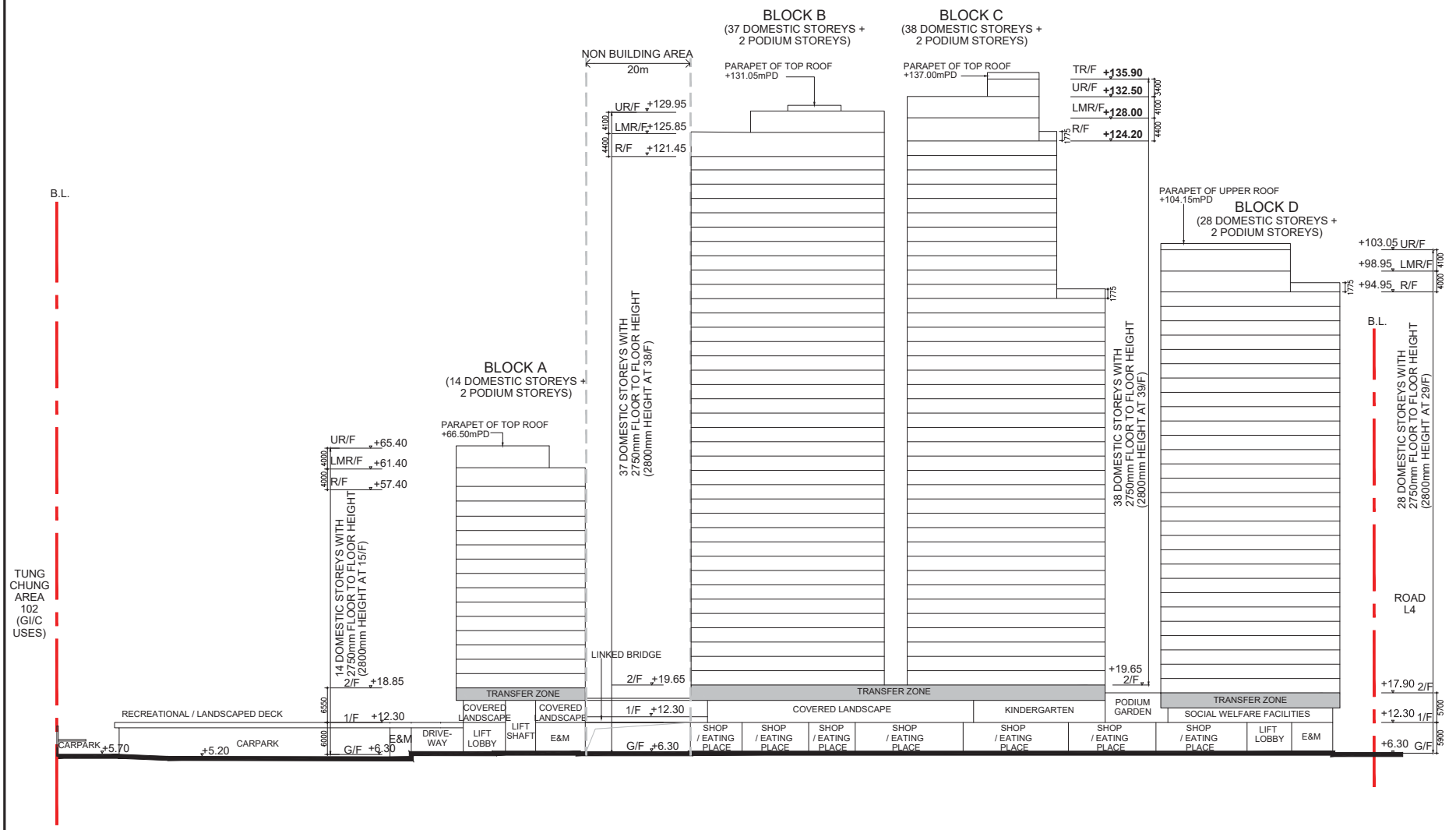

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PROJECT
SECTION 16 PLANNING APPLICATION FOR TUNG CHUNG AREA 103

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SECTION

SCALE 1:400 (A1) 1:800 (A3)

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HOUSING DEPARTMENT

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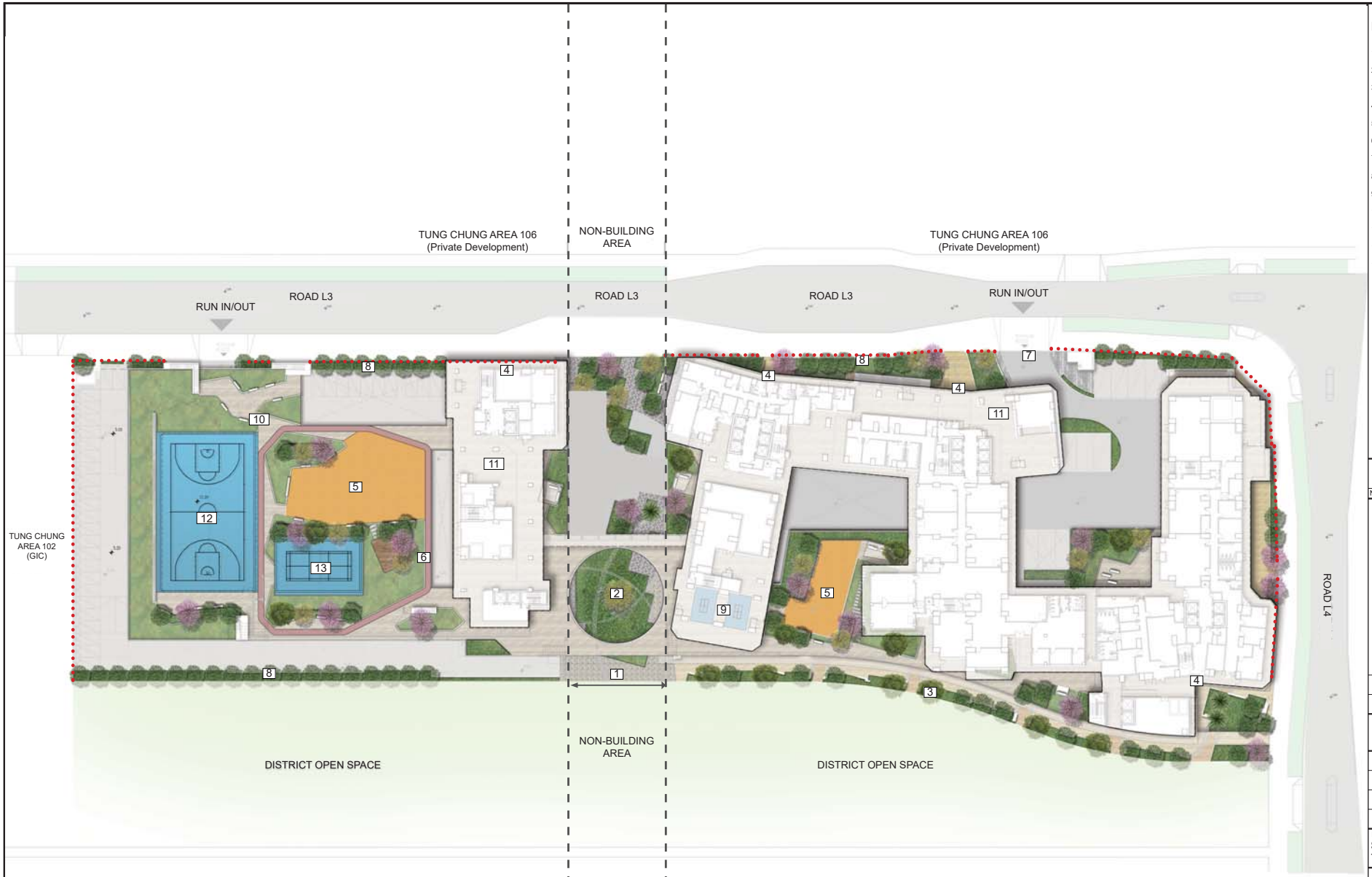
Appendix 2

Landscape Master Plan & Open Space Demarcation



NOTES:

LEGEND:

1. MAIN ENTRANCE FROM DOS
2. CENTRAL COMMUNAL PASSAGE
3. RETAIL SHOP FRONT
4. RESIDENTIAL LOBBY ENTRANCE
5. CHILDREN'S PLAY AREA
6. WALK / JOGGING PATH
7. EVA & VEHICULAR ENTRANCE
8. BUFFER PLANTING
9. TABLE TENNIS
10. PODIUM GARDEN
11. COVERED LANDSCAPE
12. BASKETBALL COURT
13. BADMINTON COURT

•••• BOUNDARY FENCE

REVISIONS

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	NAME AND DESIGNATION	INITIAL	DATE
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CHECKED	ENID HO		7/2022
DRAWN	FELIX FUNG		7/2022

PROJECT
SECTION 16 PLANNING APPLICATION FOR TUNG CHUNG AREA 103

DRAWING TITLE
LANDSCAPE MASTER PLAN
COMBINED PLAN

SCALE AS SHOWN

DRAWING NO.
IS19/-/S16/A-LO-08

SOURCE

ICU NO.

AutoCAD 2000 A1 594 x 841

HOUSING DEPARTMENT

COUNTERCHECKED ☑

NOTES:

LEGEND:

1. MAIN ENTRANCE FROM DOS
2. CENTRAL COMMUNAL PASSAGE
3. RETAIL SHOP FRONT
4. RESIDENTIAL LOBBY ENTRANCE
7. EVA & VEHICULAR ENTRANCE
8. BUFFER PLANTING

****CRASH GATE

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DRAWN	FELIX FUNG		7/2022

PROJECT
SECTION 16 PLANNING APPLICATION FOR
TUNG CHUNG AREA 103

DRAWING TITLE
LANDSCAPE MASTER PLAN
GROUND FLOOR PLAN

SCALE AS SHOWN

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SOURCE

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HOUSING DEPARTMENT

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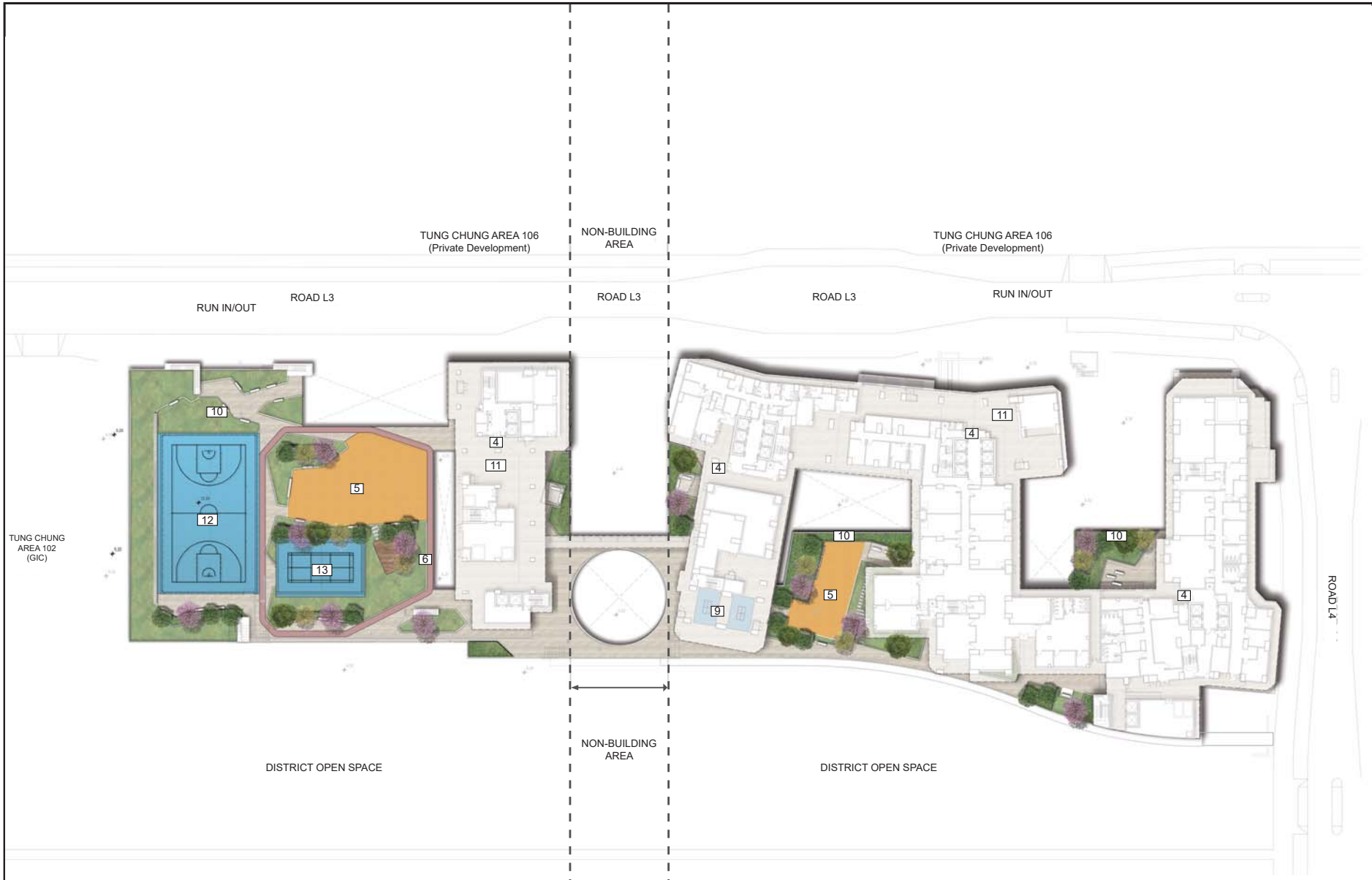

NOTES:

LEGEND:

4. RESIDENTIAL LOBBY ENTRANCE
5. CHILDREN'S PLAY AREA
6. WALK / JOGGING PATH
9. TABLE TENNIS
10. PODIUM GARDEN
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PROJECT
SECTION 16 PLANNING APPLICATION FOR TUNG CHUNG AREA 103

DRAWING TITLE
LANDSCAPE MASTER PLAN
FIRST FLOOR PLAN

SCALE AS SHOWN

DRAWING NO.
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SOURCE

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HOUSING DEPARTMENT

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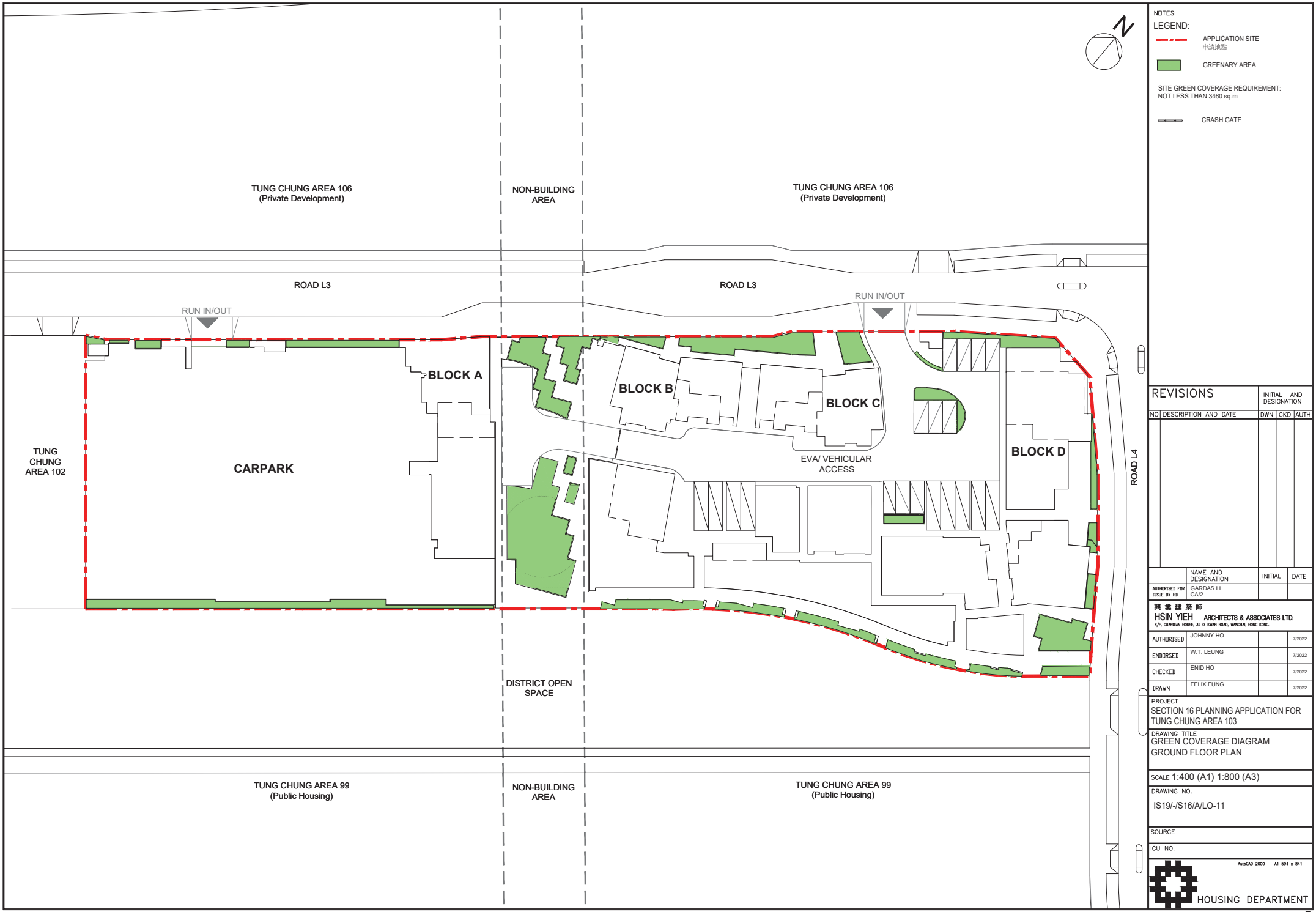

NOTES:

LEGEND:

APPLICATION SITE
申請地點

GREENARY AREA

SITE GREEN COVERAGE REQUIREMENT:
NOT LESS THAN 3460 sq.m

CRASH GATE

REVISIONS		INITIAL AND DESIGNATION		
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	NAME AND DESIGNATION	INITIAL	DATE
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PROJECT
SECTION 16 PLANNING APPLICATION FOR
TUNG CHUNG AREA 103

DRAWING TITLE
GREEN COVERAGE DIAGRAM
GROUND FLOOR PLAN

SCALE 1:400 (A1) 1:800 (A3)

DRAWING NO.
IS19/-/S16/A/LO-11

SOURCE

ICU NO.

AutoCAD 2000 A1 594 x 841

HOUSING DEPARTMENT

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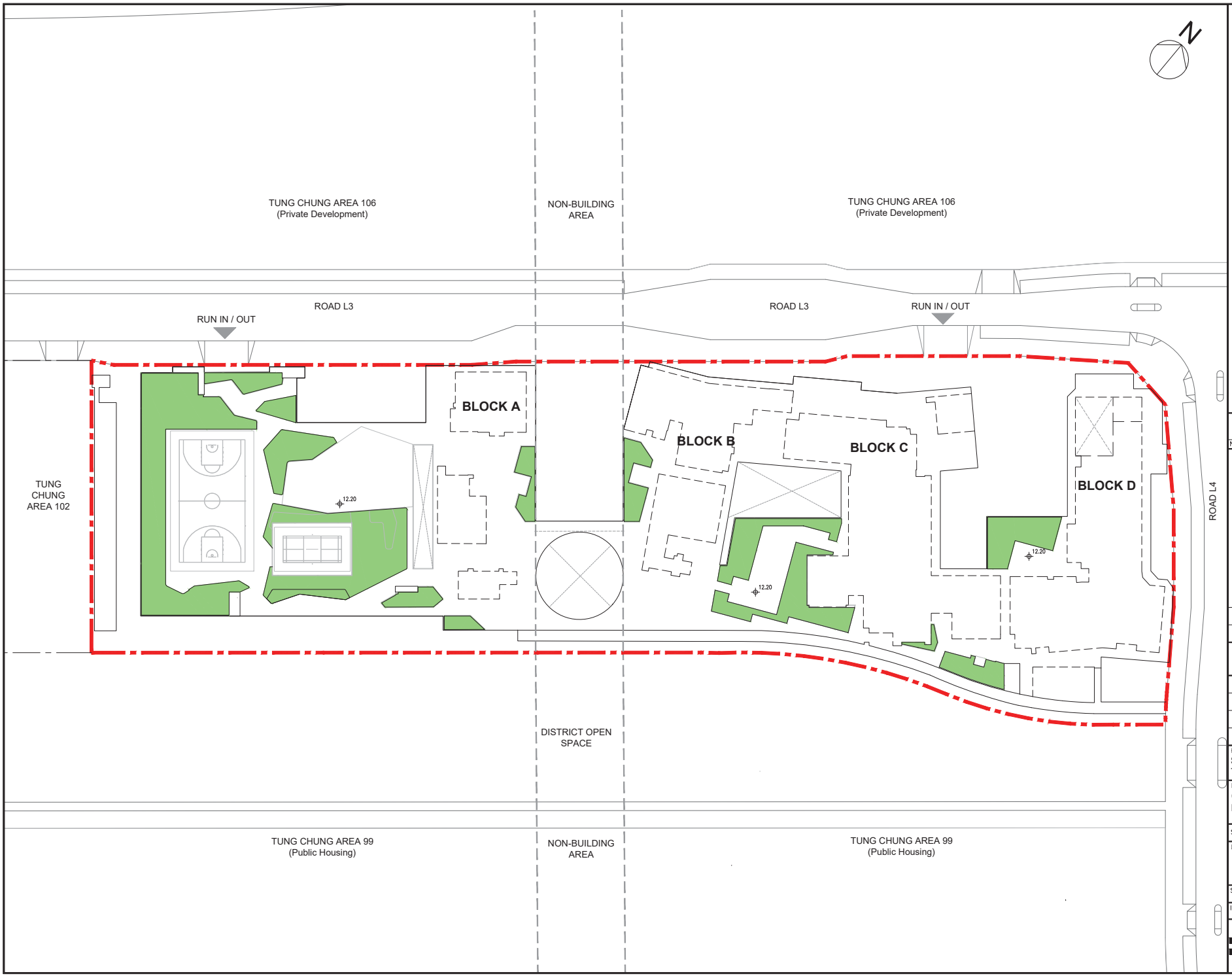

NOTES:

APPLICATION SITE
申請地點

GREENARY AREA

SITE GREEN COVERAGE REQUIREMENT:
NOT LESS THAN 3460 sq.m

REVISIONS		INITIAL AND DESIGNATION		
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DRAWN	FELIX FUNG		7/2022

PROJECT
SECTION 16 PLANNING APPLICATION FOR TUNG CHUNG AREA 103

DRAWING TITLE
GREEN COVERAGE DIAGRAM
FIRST FLOOR PLAN

SCALE 1:400 (A1) 1:800 (A3)

DRAWING NO.
IS19/-/S16/A/LO-12

SOURCE

ICU NO.

AutoCAD 2000 A1 594 x 841

HOUSING DEPARTMENT

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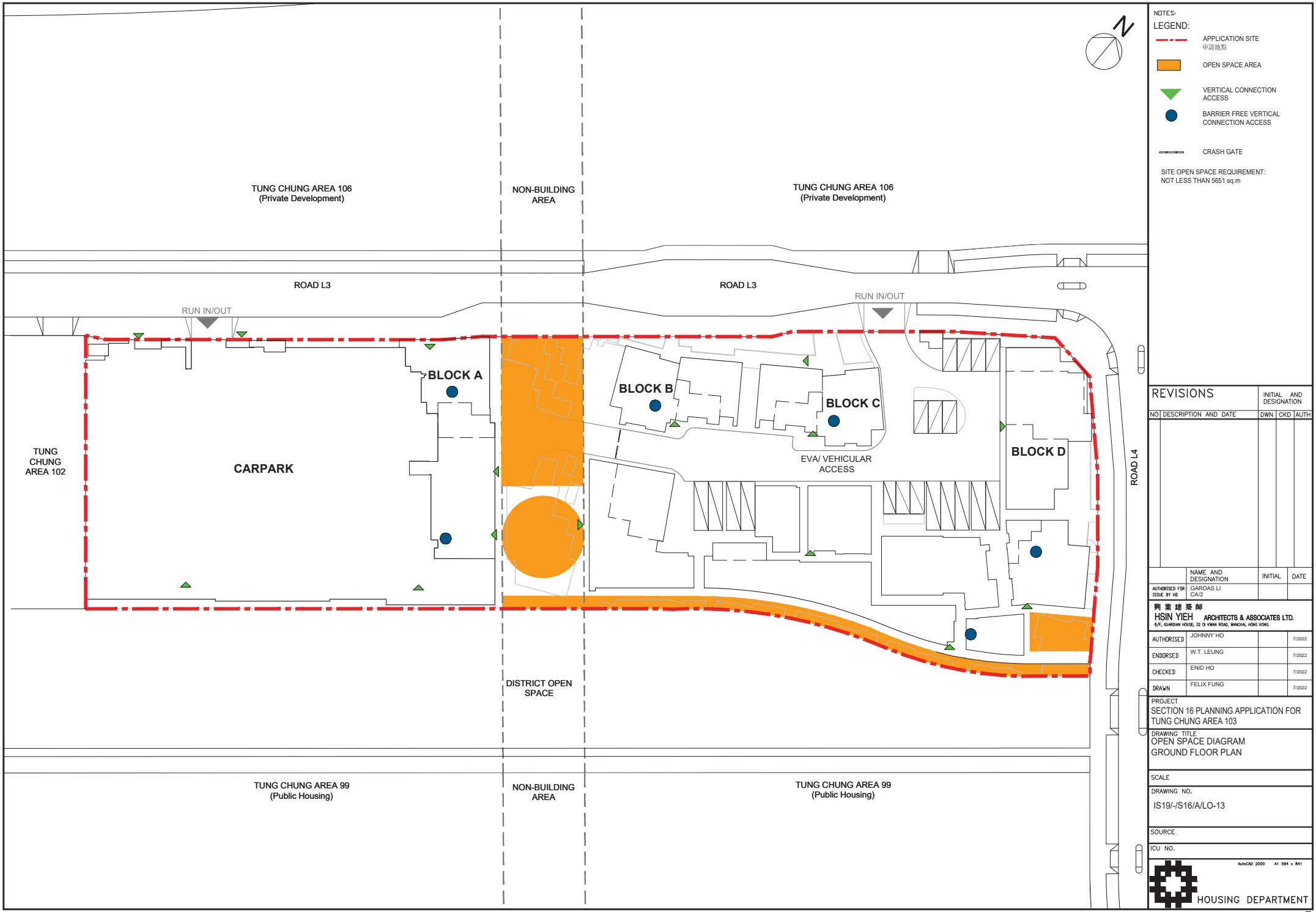

NOTES:

LEGEND:

- APPLICATION SITE 申請地點
- OPEN SPACE AREA
- VERTICAL CONNECTION ACCESS
- BARRIER FREE VERTICAL CONNECTION ACCESS
- CRASH GATE

SITE OPEN SPACE REQUIREMENT:
NOT LESS THAN 5651 sq.m

REVISIONS		INITIAL AND DESIGNATION		
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PROJECT
SECTION 16 PLANNING APPLICATION FOR TUNG CHUNG AREA 103

DRAWING TITLE
OPEN SPACE DIAGRAM
GROUND FLOOR PLAN

SCALE

DRAWING NO.
IS19/-/S16/A/LO-13

SOURCE

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HOUSING DEPARTMENT

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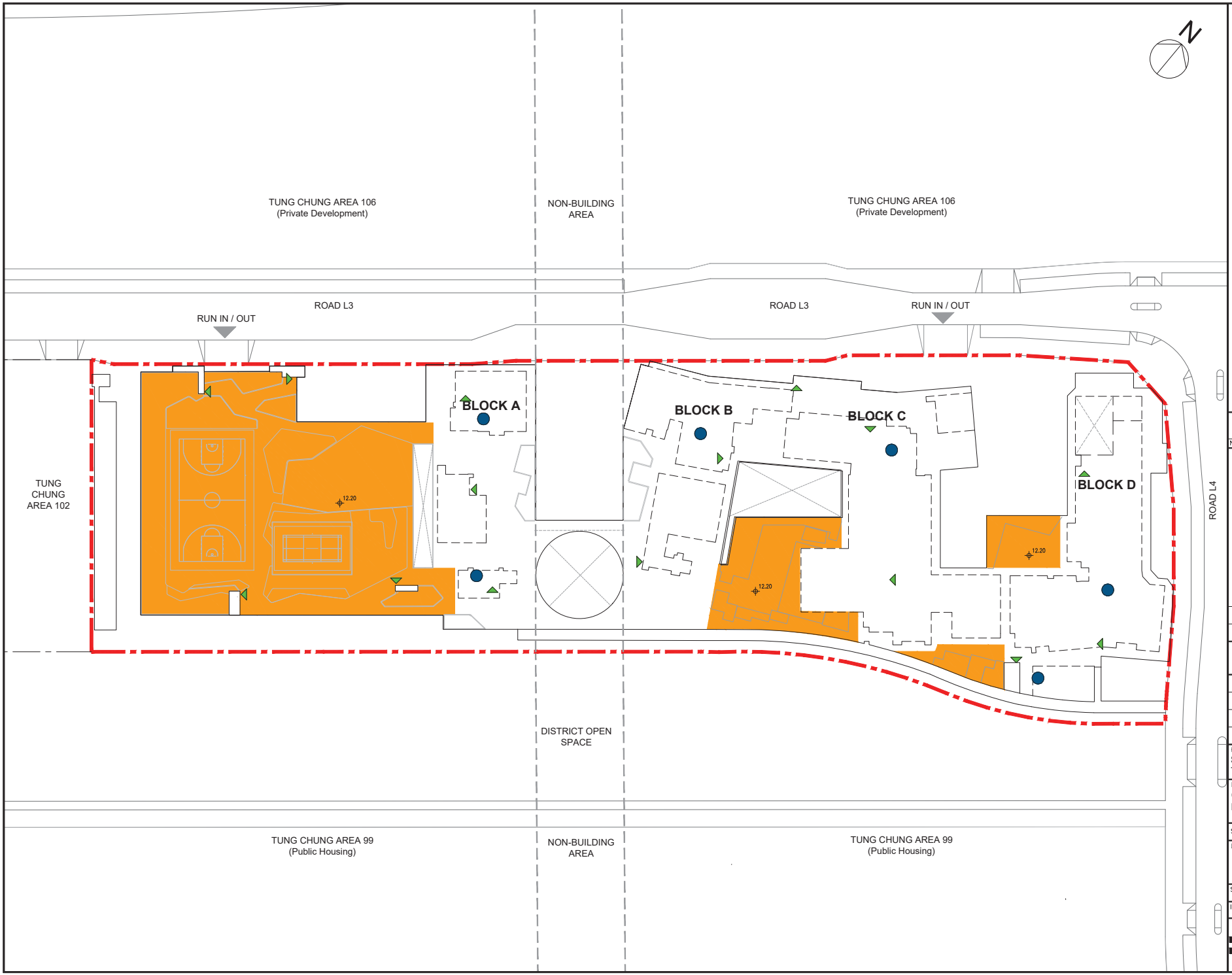

NOTES:

- APPLICATION SITE 申請地點
- OPEN SPACE AREA
- VERTICAL CONNECTION ACCESS
- BARRIER FREE VERTICAL CONNECTION ACCESS

SITE OPEN SPACE REQUIREMENT:
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REVISIONS

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PROJECT
SECTION 16 PLANNING APPLICATION FOR
TUNG CHUNG AREA 103

DRAWING TITLE
OPEN SPACE DIAGRAM
FIRST FLOOR PLAN

SCALE 1:400 (A1) 1:800 (A3)

DRAWING NO.
IS19/-/S16/A/LO-14

SOURCE

ICU NO.

AutoCAD 2000 A1 594 x 841

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PROJECT
SECTION 16 PLANNING APPLICATION FOR TUNG CHUNG AREA 103

DRAWING TITLE
ARTIST'S IMPRESSION OF THE SHOP-FRONT DESIGN

SCALE AS SHOWN

DRAWING NO.
IS19/-/S16/A-LO-06

SOURCE

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AutoCAD 2000 A1 594 x 841

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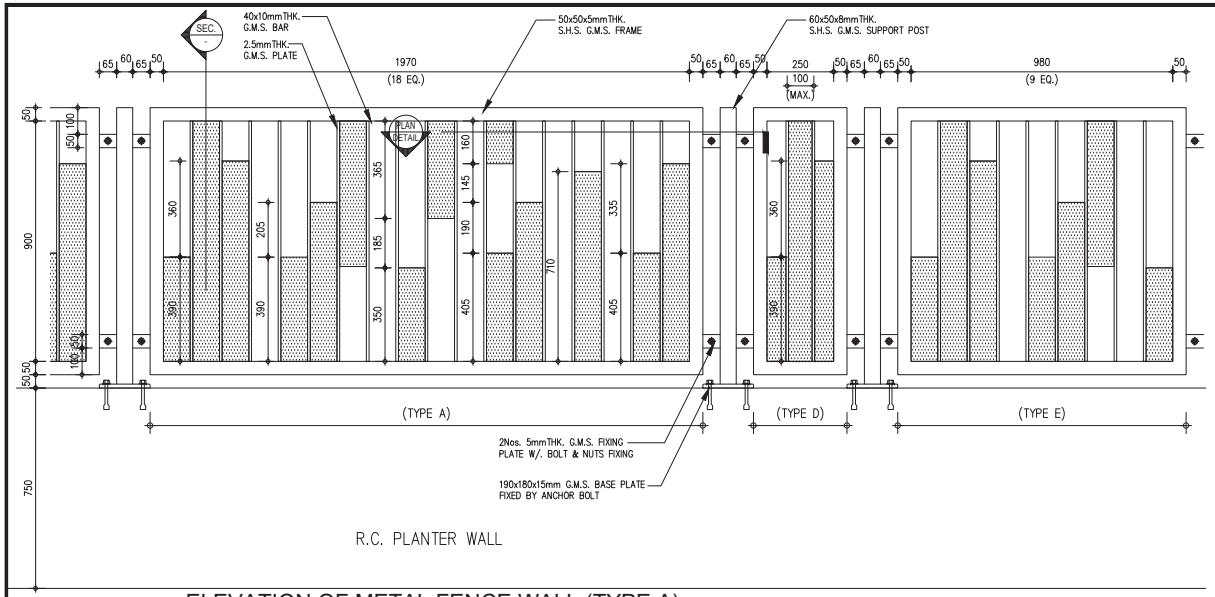

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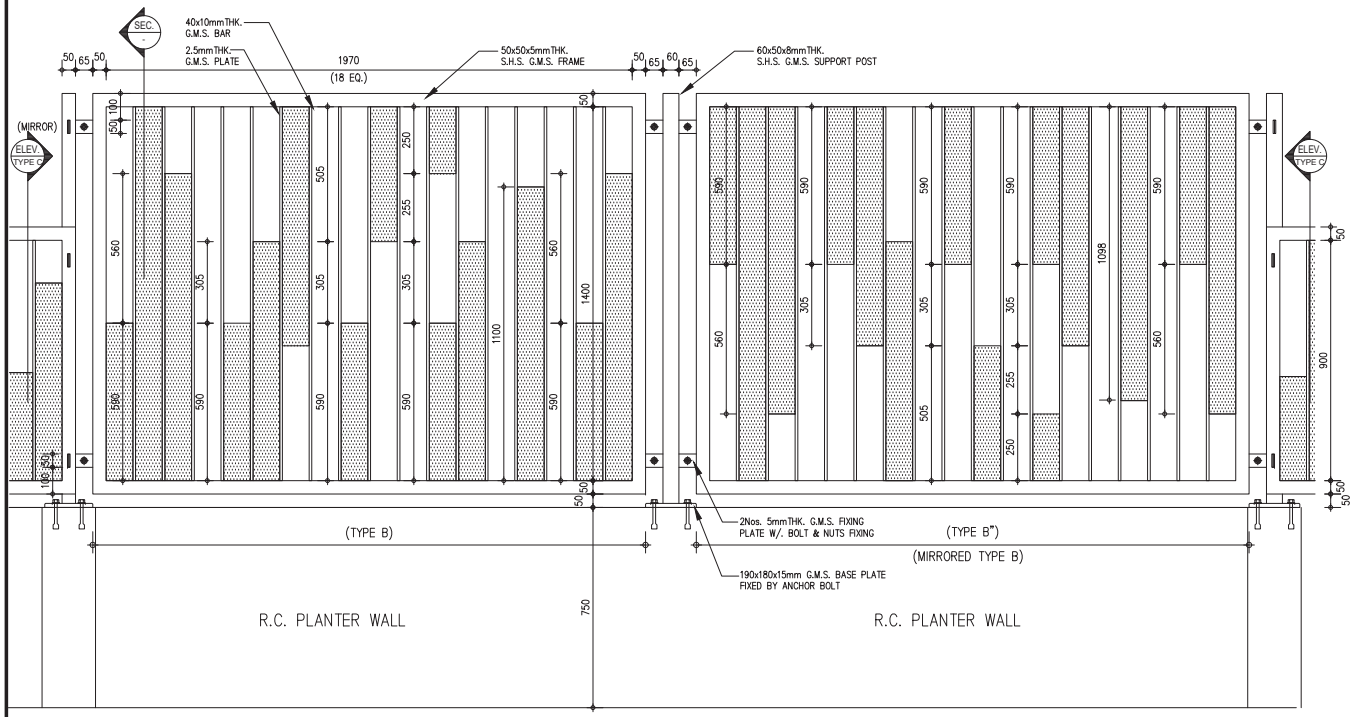
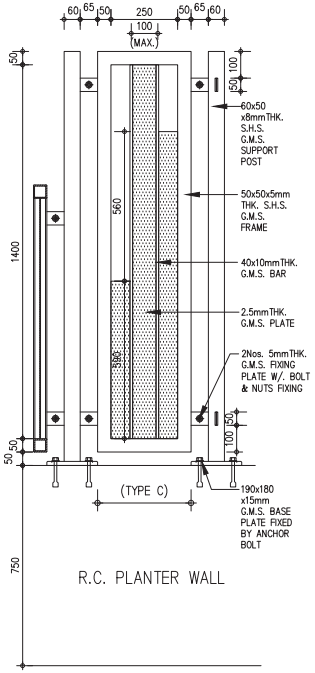


ELEVATION OF METAL FENCE WALL (TYPE B)



ELEVATION OF METAL FENCE WALL (TYPE B")

METAL FENCE WALL TYPE B" (MIRRORED TYPE B)

ELEVATION OF METAL FENCE WALL (TYPE C)

NOTES:

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PROJECT
SECTION 16 PLANNING APPLICATION FOR TUNG CHUNG AREA 103

DRAWING TITLE
DESIGN CONCEPT FOR COUNDARY FENCE

SCALE AS SHOWN

DRAWING NO.
IS19/-/S16/A-LO-07

SOURCE

ICU NO.

AutoCAD 2000 A1 594 x 841

HOUSING DEPARTMENT

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Appendix 3

Technical Assessments – Part 1

(Air Ventilation Impact Assessment)

Tung Chung East Extension Area

Proposed Public Housing at Tung Chung Area 103

Air Ventilation Assessment

Prepared by:
Ramboll Hong Kong Limited

Date:
July 2022

Reference Number:
R8567_v2.0d_TC103.docx

Prepared by:

Echo Cao
Environmental Consultant

Approved by:

Tony Cheng
Senior Manager

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Appendix 1 Master Layout Plan of the Baseline Scheme
Appendix 2 Master Layout Plan of the Proposed Scheme
Appendix 3 Figure 2 in Urban Design Concept of OZP of Tung Chung Extension Area

1. Introduction

1.1 Background

1.1.1 The Subject Site at Area 103 in Tung Chung East has been planned as public housing development. The Subject Site falls within an area zoned as "Residential Group(A)5" on the approved Tung Chung Extension Area Outline Zoning Plan (OZP) No. S/I-TCE/2. Under current OZP, the maximum plot ratio of this site is 5.4 with the maximum building height of 110 mPD.

1.1.2 Hong Kong HKHA (HKHA) proposes to increase the plot ratio to be 5.9 and increase the building height to be around 125 mPD.

1.1.3 Ramboll Hong Kong Limited is commissioned by the HKHA to provide air ventilation assessment (AVA) consultancy services for the proposed development to support the proposed increase of plot ratio and building height**.**

1.2 The Subject Site and Its Environs

1.2.1 The Subject Site falls within the main reclamation area bounded by Road L3 to the north, Road L4 to the east, public open space to the south and the G/IC to the west. Residential Group B Area 106 is located further north of the Subject Site and the Residential Group A Area 99 is located further south of the Subject Site.

1.2.2 To the east, west, north and south of the Subject Site are situated the planned developments, i.e. Area 109, Area 102, Area 106 and Area 99. **Figure 1** shows the location and the environs of the Subject Site.

1.3 Baseline Scheme

1.3.1 The Subject Site is planned for residential use. The Baseline Scheme refers to the preliminary layout plan for Tung Chung East under the Planning and Engineering Study of Tung Chung New Town Extension completed in 2016 and the latest plans (including Areas 99, 100 and 109) provided by HKHA. Under the Baseline Scheme, it consists of 4 residential towers with maximum building height of +110 mPD and one-storey commercial podium. The residential towers are in a cross shape. There is a 20m wide non-building area running from southeast to northwest at the middle of the Subject Site. The plot ratio is 5.0 for domestic and 0.4 for non-domestic part of the Baseline Scheme.

1.3.2 The master layout plan of the Baseline Scheme and surroundings are shown in **Appendix 1**.

1.3.3 The following mitigation measures have been identified in the Baseline Scheme (also indicated in **Figure 3**):

- A 20m non-building area which provides 20m width wind corridor at ground level; and
- Building setback at ~5m to ~18m from the south boundary of the Subject Site.

1.4 Proposed Scheme

1.4.1 The Proposed Scheme will include similar elements as the Baseline Scheme, but most of the residential towers are located at the eastern portion of the Subject Site. There are three linear residential towers located at the east of the non-building area, while one linear residential tower

is located immediate west of the non-building area (NBA). At the southwestern part of the Subject Site, there is a semi-open carpark with basketball court, badminton court and landscaped areas atop of it. The semi-open carpark is surrounded with permeable fence wall. The four residential towers are in stepping height profile with increasing from west to the east. Some retail facilities are provided along the site boundary at the ground floor fronting the pedestrian open space. Kindergarten and Social welfare facilities are located on the 1st floor of Block C and D. The building height of Block A is around 57 mPD, that of Block B is ~ 121 mPD, that of Block C is ~ 124 mPD and that of Block D is ~ 95 mPD. The plot ratio of domestic and non-domestic part is 5.5 and 0.4 respectively. While within the NBA, there is a linked bridge and a covered walkway at the south-eastern edge of the site. Illustration of this linked bridge is shown in **Appendix 2**. From the illustration, both the linked bridge and covered walkway are permeable for wind passing through. The master layout plan of the Proposed Scheme is shown in **Appendix 2**.

Design Constraint of the Proposed Development

1.4.2 The following constraints exist in the TC103 limited the design option in the site.

- Provision of shop and services and eating place uses are encouraged to be provided along the site boundary fronting the pedestrian corridor/ open space as stipulated in the approved OZP,
- Traffic noise from the new Roads L3, L4, D4, etc.
- In view of the geotechnical constraints at the western portion of the Application Site which refrains high-rise development to be built therein and the 20-m NBA located at the Application Site, an opportunity was taken to improve the design of building blocks by increasing the BH to +125 mPD in the remaining portion. With the lower BH to the west of the Application Site, greeneries at the covered carpark have been proposed.

1.4.3 The following mitigation measures have been identified in the Proposed Scheme (also indicated in **Figure 2**) for further minimizing the potential air ventilation impact due to the increase of plot ratio and building height:

- A 20m non-building area with a linked bridge and permeable covered walkway between Block A and Block B, which provides 20m width wind corridor at ground level to achieve permeability and air ventilation. There is no structure column of the linked bridge within the NBA,
- Minimum ~ 75 m setback from Block A to the western site boundary above podium level,
- A semi-open carpark with permeable fence wall to increase the air permeability,
- Stepping height profile at 57 mPD, 121 mPD, 124 mPD and 95 mPD for the four towers from west to east; and
- Building setback at ~5m from the south boundary of the Subject Site.

2. Site Wind Availability

2.1 Site Wind Availability Data

2.1.1 According to the Planning Department's website, a meso-scale Regional Atmospheric Modeling System (RAMS) was used to produce a simulated 10-year wind climate at the horizontal resolution of 0.5 km x 0.5 km covering the whole territory of Hong Kong. The simulated wind data represents the annual, winter and summer wind condition at various levels, i.e. 200 m, 300 m, and 500 m above terrain.

2.1.2 It is considered an acceptable starting point to use the simulated RAMS data for site wind availability. Based on the location of the Subject Site, the RAMS data of the grid (X: 034, Y: 038) has been extracted from the Site Wind Availability Data of Planning Department's website.

2.1.3 The relevant annual windrose for the district under concern has been extracted from the Planning Department's website for Subject Site wind availability data. **Figure 4** shows the relevant windrose diagram (at 200 m) representing the frequency and wind speed distribution of the district concerned for both summer and annual conditions.

2.1.4 According to the wind roses at 200m altitude, annual prevailing wind directions for the Subject Site are NNE, E and ESE whereas summer prevailing wind directions are ESE, S and SSW. The wind frequency data is provided in **Table 2.1** below.

Table 2.1 Summary of RAMS Data and Wind Direction

Wind Direction	Probability for Annual Condition (%)	Probability for Summer Condition (%)
N	4.6%	1.2%
NNE	**7.8%**	1.4%
NE	7.3%	1.9%
ENE	7.4%	3.4%
E	**19.4%**	10.2%
ESE	**15.5%**	**11.0%**
SE	7.4%	10.1%
SSE	3.9%	8.2%
S	5.5%	**12.7%**
SSW	6.4%	**15.1%**
SW	4.0%	10.5%
WSW	2.1%	4.7%
W	2.4%	4.5%
WNW	1.6%	2.1%
NW	1.9%	1.9%
NNW	2.5%	1.2%

Note: Bold characters highlighted in grey represent the selected prevailing wind directions for the review of the air ventilation assessment.

2.2 Topography

2.2.1 The Subject Site falls within the main reclamation area bounded by North Lantau Highway. In other words, the topography to the north of North Lantau Highway is flat and at low elevation. It is subject to the influence of coastal winds due to its geographical location. But the area at about 1km to the southeast is hilly and of elevation up to +482mPD.

2.2.2 The seashore is to the immediate north to east of the reclamation area. There is little influence of local topography to the wind flow pattern around the Subject Site from north to east directions.

2.3 Building Morphology

2.3.1 All noise barriers, elevated structures, planned and committed development, if any, are considered in this report. Based on preliminary layout plan for Tung Chung East under the Planning and Engineering Study of Tung Chung New Town Extension regarding planned/committed developments in the model area, there are numerous planned/committed developments surrounding the Subject Site.

2.3.2 As shown in **Figure 1** and mentioned in Section 1.2, the Subject Site are surrounded by planned/ committed mid and high-rise developments. The building height information of these developments are identified according to their zoning category in the OZP while for the existing buildings, the height information is extracted from Geo-reference Database (BG1000) provided by Survey and Mapping Office/ Lands Department.

2.3.3 **Table 2.3** highlighted the building height of the surrounding developments. As building masses are concentrated to the north, east and south of the Subject Site, it is likely that annual and summer prevailing wind availability will be lowered due to the building morphology. Potential building blockage effect due to the surrounding developments is considered high.

Table 2.3 Building Height of the Surrounding Developments

Name of Development	Zoning	Building Height	Location relative to the Subject Site
Planning Area 106	R(B)3	70 mPD	North
Planning Area 109	R(A)5	95 mPD	East
Planning Area 100	R(A)1	125 mPD	East
Planning Area 99	R(A)3	125 mPD	South
Planning Area 102	G/IC	8 storeys	West
Planning Area 110	R(B)1	70 mPD	Northeast
Ying Tung Estate	R(A)	140 mPD	Further South
Planning Area 89	G/IC	8 storeys	Further South
The Visionary	R(A)	125 mPD	Further South
Century Link	R(A)	95 mPD	Southwest
Planning Area 119	R(A)4	100 mPD	Further Northeast
Planning Area 114	R(A)1	105 mPD	Further East
Planning Area 54	R(A)	95 mPD	Further West
Planning Area 58	R(A)8	185 mPD	Further South

2.4 Summary of Existing Site Wind Availability

2.4.1 According to the wind availability data, the annual wind directions of the area are easterlies. From **Table 2.1** the wind probability from the E direction is 19.4% and is considered to be the dominant wind direction for the area. The ESE (15.5%) and NNE (7.8%) wind are also dominant prevailing wind directions other than the E wind. There is no particularly high topography in upwind areas, thus it is considered that the potential blocking effect by the topography is not significant.

2.4.2 The annual prevailing winds towards the Subject Site would be blocked and reduced by the planned high-rise developments in Planning Areas 109 and 100 as well as Planning Areas 119 and 114 .

2.4.3 During summer conditions, winds from ESE, S and SSW are dominant. From **Table 2.1**, the wind probability from the south to southwest (i.e. ESE, S and SSW) are 11.0%, 12.7% and 15.1% respectively. The prevailing summer winds from the southwest quarter towards the Subject Site would be blocked by the existing Ying Tung Estate, The Visionary, Century Link and the high-rise developments within Planning Area 99 or due to topography.

2.4.4 Furthermore, from the Figure 2 – Urban Design Concept of the Tung Chung Extension Area in the Notes of the Outline Zoning Plan No. S/I-TCE/2, several major breezeways are identified within the Tung Chung Extension Area**. Figure 5** shows the major breezeways identified. In general, the breezeways run along the major roads and the open space. It must be noted that there is a breezeway passing through the Planning Areas 99, 103 and 106.

NNE Wind Flow

2.4.5 The future R(B) Planning Area 106 is located at the north to north-west of the Subject Site. From the CEDD's indicative layout plan, there will be a row of residential towers with the building height at 70 mPD sitting in front of the Subject Site. It is believed that the residential towers at the Planning Area 106 and the centre of Tung Chung Extension Area would block NNE wind and reduce the wind performance of the downwind area, including the Subject Site.

2.4.6 Notwithstanding, there would be some NNE wind flows along Road D1, Road D4 and Open Space Area 16 toward southwest. In addition, the NNE wind would flow along the seashore to the north of the reclamation area and some would infiltrate through the NBA within the Planning Area 106 to reach Road L3.

2.4.7 Moreover, the stepping height profile among Areas 106, 103 and 99 would direct some NNE airflow downward to the immediate surrounding locality.

E Wind Flow

2.4.8 According to the Urban Design Concept for the Tung Chung Extension Area in **Appendix 3**, the annual prevailing E wind comes from eastern side of the reclamation area and mainly flows along the air path at Road D1 and Road D4 to the Open Space Area 16 and southern boundary of the site.

2.4.9 On the other hand, the public housing at Planning Area 109 is located at the north-eastern to east portion of the Subject Site. To further northeast, Planning Area 110 is located to the west of Road D5 and Area 111C. Moreover, five Y-shape/X-shape residential towers with building height of 125 mPD are sitting within the Planning Area 100 east of Subject Site. It is believed that the residential towers at abovementioned sites would block the E wind and reduce the wind performance of the downwind area, including the Subject Site.

ESE Wind Flow

2.4.10 Based on the information provided by HKHA, there will be five Y-shape/X-shape residential towers with building height of 125mPD sitting within the Planning Area 100 east of Subject Site. The public housing within the Development Area 99 is located to the south of the Subject Site. Based on the information provided by HKHA, the eastern portion Development Area 99 consists of four residential towers with the building height of 125mPD and one residential tower with building height of 48 mPD at its western portion with the 20m NBA located in the middle. Planning Area 100 with five residential towers with height of 125 mPD is located to the east of the Subject Site. It is believed that the residential towers at the Planning Area 99, 100 and the Ying Tung Estate would block the ESE wind and reduce the wind performance of the downwind area, including the Subject Site.

2.4.11 Nevertheless, some annual prevailing ESE wind would skim over the G/IC in Area 59 and flow along Road L4 through NBA of Area 106 toward northern promenade as the air path.

S Flow

2.4.12 The public housing within the Development Area 99 is located to the south of the Subject Site. The planned development in Planning Area 58, the existing public housing Ying Tung Estate and The Visionary with building height ranges from 120 to 185 mPD are located further south of the Development Area 99. It is believed that the residential towers would block the S wind and reduce the wind performance of the downwind area, including the Subject Site.

2.4.13 The residential towers in the Planning Area 58 have the building height at more than 180 mPD, together with the high rises in The Visionary, Ying Tung Estate and Planning Area 99, some upcoming S wind is expected to mainly flow from Man Tung Road and skim over the low rise in G/IC Area 89, pass through the low-rise PTI in Area 99 and the Subject Site, and reach the promenade.

SSW Flow

2.4.14 The high-rises in The Visionary, Century Link and Yu Nga Court (i.e. Planning Area 54) are located at the southwest of the Subject Site, with building height ranges from 95 to 125 mPD. It is predicted that the SSW upwind would be blocked. Thus, the wind performance of the downwind area, including the Subject Site would be reduced.

2.4.15 Nevertheless, some summer prevailing SSW wind would flow from open space to the south of Yu Nga Court and along the Open Space Area 16 as an air path towards the northeast.

3. Evaluation of Air Ventilation Performance

3.1 Areas Frequently Accessed by Public

3.1.1 Important surrounding areas that the public would often access have been identified as the followings:

- Road L3,
- Open space to the south of the Subject Site,
- Road D4,
- Road L4,
- Ying Tung Road, and
- The promenade area to the north of the Subject Site

3.2 Evaluation of Merit/ Demerit of Design Features of the Proposed Scheme

3.2.1 Under the Proposed Scheme, some good design features beneficial to air ventilation such as non-building area to facilitate prevailing wind penetration are incorporated. The details of the mitigation measures have been mentioned in Section 1.4.3 and illustrated in **Figure 2**. Further discussion and comparison of the two schemes based on the good design features is included as following:

3.2.2 Major breezeways nearby the Subject Site are Open Space Area 16 connecting Road D4 and D1 along southwest to northeast direction; Road D5, Road L4 and the 20m non-building area along the north-south axis. These wind corridors are comparable for the Baseline Scheme and the Proposed Scheme.

3.2.3 Under the Proposed Scheme, building setback at ~5m and part of permeable opening such as EVA at G/F are incorporated in the design, which would allow some of the prevailing wind penetration. **Appendix 2** illustrates the building setback and EVA.

3.2.4 The semi-open carpark and the podium garden atop of it enhances the ventilation of the western portion of the Subject Site both at grade and podium level of the Proposed Scheme. **Appendix 2** illustrates the semi-open carpark.

3.2.5 The building height of the four towers are in stepping design, in which only Block B and C is around 10m higher than the Baseline Scheme. In general, gradation of building heights would help wind deflection and avoid air stagnation according to Urban Design Guidelines in Hong Kong Planning Standards and Guidelines.

3.3 Wind Flow from NNE Direction

3.3.1 **Figure 6** illustrates the wind flow of the Baseline Scheme and Proposed MLP under NNE wind direction.

3.3.2 The residential towers within the Planning Area 106 would block NNE wind and reduce the wind availability to the Subject Site. NNE wind mainly flows along Road D4 and Open Space Area 16 to southwest. In addition, it will also flow along the seashore which is located on NE-SW direction and continuously pass through the NBA within the Planning Area 106 to reach Road L3. The semi-open carpark at the southwestern portion is around 12 mPD height, which allows the wind

flow to skim over it and reach further south to Open Space Area 16. Thus, there would be localised enhancement at Open Space Area 16 under the Proposed Scheme.

3.3.3 Due to the higher Blocks B & C in the Proposed Scheme compared to the Baseline Scheme, more downward air flow might be directed to pedestrian level, the wind performance would be better at the part of Road L3 and Area 106 to the north of the eastern portion of the Subject Site. However, due to the increment of the building heights under the Proposed Scheme, the wake zone would also be relatively larger at the Open Space Area 16 because of reduced downwash effect.

3.3.4 In addition, the building setback to the southern site boundary is smaller at Block D in the Proposed Scheme which would impose constraint to the wind flow in the downwind area at Open Space Area 16 near Block C and D under the Proposed Scheme.

3.3.5 With the already limited NNE wind flows to the Subject Site, it is predicted that additional impact due to the Proposed Scheme for blocking NNE wind to reach its downwind area such as Planning Area 99 would be insignificant. Thus, the change of the development parameter (i.e. change in building height and Plot Ratio) at the Subject Site would not have any significant impact on the air ventilation.

3.4 Wind Flow from E Direction

3.4.1 **Figure 7** illustrates the wind flow of the Baseline Scheme and Proposed MLP under E wind directions.

3.4.2 The residential towers within the Planning Areas 110, 109 and 100 at the upwind would block the upcoming E wind and slows down the wind flow to the Subject Site. The E wind flows along Road D4 to reach Open Space Area 16. The building setback of from southern boundary incorporated into the building design under the Proposed Scheme is narrower than that in the Baseline Scheme, which also reduces the width of air path. Thus, the wind availability at Open Space Area 16 would be impacted.

3.4.3 The semi-open carpark at the southwestern portion is around 12 mPD height, which allows the wind flow to divert and skim over it and reach further north to Road L3. Thus, the localized wind performance would be better under the Proposed Scheme.

3.4.4 On the other hand, due to the longer facades of Block B and C under the Proposed Scheme, the wake area at Road L3 near the eastern portion of the Subject Site would be larger than the Baseline Scheme.

3.5 Wind Flow from ESE Direction

3.5.1 **Figure 8** illustrates the wind flow of the Baseline Scheme and Proposed MLP under ESE wind direction.

3.5.2 The residential towers within the Planning Areas 99 and 100 at the upwind would block the upcoming ESE and wind availability of the Subject Site would be affected. It is anticipated that the coming ESE wind mainly flows along Road L4 to the promenade.

3.5.3 The semi-open carpark at the southwestern portion is around 12 mPD height, which allows the wind flow to skim over it if any. Thus, the localized wind performance would be better under the Proposed Scheme.

3.5.4 Also, the longer facades of Block B and C at the northern part under the Proposed Scheme would impose larger wake zone at Road L3 and Planning Area 106 at further north.

3.6 Wind Flow from S Direction

3.6.1 **Figure 9** illustrates the wind flow of the Baseline Scheme and Proposed MLP under S wind direction.

3.6.2 The width of NBA has been kept as 20m under the Proposed Scheme although there is linked bridge and covered walkway. It is permeable for wind to pass through as there is no vertical structure, e.g column located within the NBA.

3.6.3 On the other hand, due to compacted layout, i.e. three blocks are located to the east of the NBA under the Proposed Scheme, the wake area at Road L3 and Area 106 near the eastern portion of the Subject Site would be larger than the Baseline Scheme.

3.6.4 Under the Proposed Scheme, the building setback at around 75m from Block A to the western site boundary above the podium level would also allow from the Planning Area 99 to flow over it and reach the downwind Planning Area 106. Therefore, it would not impose more blockage on wind flow to reach the leeward side, i.e. Planning Area 106, compared with the Baseline Scheme.

3.7 Wind Flow from SSW Direction

3.7.1 **Figure 10** illustrates the wind flow of the Baseline Scheme and Proposed MLP under SSW wind direction.

3.7.2 Yu Nga Court (Planning Area 54), Century Link and The Visionary are located at the upwind area of the Subject Site with the building heights not less than 95 mPD. Thus, the upcoming wind would be blocked by these developments. Nevertheless, the open space Area 16 and Road D4 would be the main air path under the SSW wind. However, due the decreased building setback to the southern boundary, the abovementioned air corridor would also be narrowed and impacted.

3.7.3 The building heights of Planning G/IC Area 101 and 102 are below 50 mPD which would induce “downwash effect” when the upwind hit Block A under both the Baseline Scheme and Proposed Scheme. However, due to the different building disposition, under the Baseline Scheme, the “downwash effect” would benefit the Planning Area 102, while under the Proposed Scheme, the localized wind performance would be benefited due to the landscape deck at the western portion.

3.7.4 The incoming SSW wind is also expected to skim over the semi-open carpark and increase the wind availability at Road L3. But at the same time, Planning Area 109 located at the downwind area would be affected due to the longer facades of Block B to D under the Proposed Scheme. Therefore, air ventilation performance of both two schemes under SSW wind are considered comparable.

3.8 Summary

3.8.1 The proposed development has been carefully designed to strive for a balance between the site constrains, such as provision of retail facilities along the site boundary fronting the open space and geotechnical constraints. Semi-open carpark and podium design at the western portion of

the site are also incorporated. Moreover, the Proposed Scheme has kept the 20m NBA although there is linked bridge and covered walkway, it is still permeable and allows wind penetration at both ground floor and podium level.

3.8.2 Section 3.3 to 3.7 discussed the ventilation impact between the Baseline Scheme and the Proposed Scheme. It is believed that the Proposed Scheme would not induce any significant impact to the surrounding comparing to the Baseline Scheme, because most of the prevailing winds flow along the traffic network and the open space. Moreover, with the semi-open carpark and the compacted disposition of the towers, the western portion of the Proposed Scheme and its surrounding areas have been improved in terms of air ventilation while the eastern portion and its immediate surrounding areas have slightly lower wind availability due to the longer façade design or a building height increment at about 10m.

3.8.3 The increased building height in Blocks B and C might result in slightly larger wake area in the immediate downwind side, while the lower building height in Blocks A and D might bring slight improvement. Overall, the Proposed Scheme would not impose significant impacts on the surrounding areas from air ventilation perspective.

4. Conclusion

4.1.1 The proposed increase of the domestic plot ratio and building height of the Subject Site has been evaluated from an air ventilation standpoint.

4.1.2 In Section 3, the ventilation performance of the Subject Site with the proposed increase of domestic plot ratio and building height with reference of the Proposed MLP have been evaluated and compared with the Baseline Scheme with respect to the identified dominant wind directions, i.e. NNE, E, ESE, S and SSW under both annual and summer conditions.

4.1.3 The Subject Site does not fall within any identified air paths in the nearby, as well as there are some existing mid to high-rise development at upwind areas for all dominant wind directions. The Proposed Scheme retains the 20m wide NBA and provides setback from Open Space Area 16.

4.1.4 Regarding the non-building area applied in Area 103, as mentioned in Section 1.4, there will be a permeable linked bridge with a permeable covered walkway. The potential air ventilation impact due to this permeable bridge is expected to be insignificant as the wind can pass through it. It is concluded that the overall ventilation performance of the surrounding areas would not be significantly affected by the increase of the plot ratio and building height of the Subject Site.

FIGURES

Figure: 1

Title: Location of the Subject Site and its Environs

Project: Proposed Public Housing Development at Tung Chung Area 103

RAMBOLL

Drawn by:	WT
Checked by:	EC
Rev.:	1.0
Date:	Jun 2022

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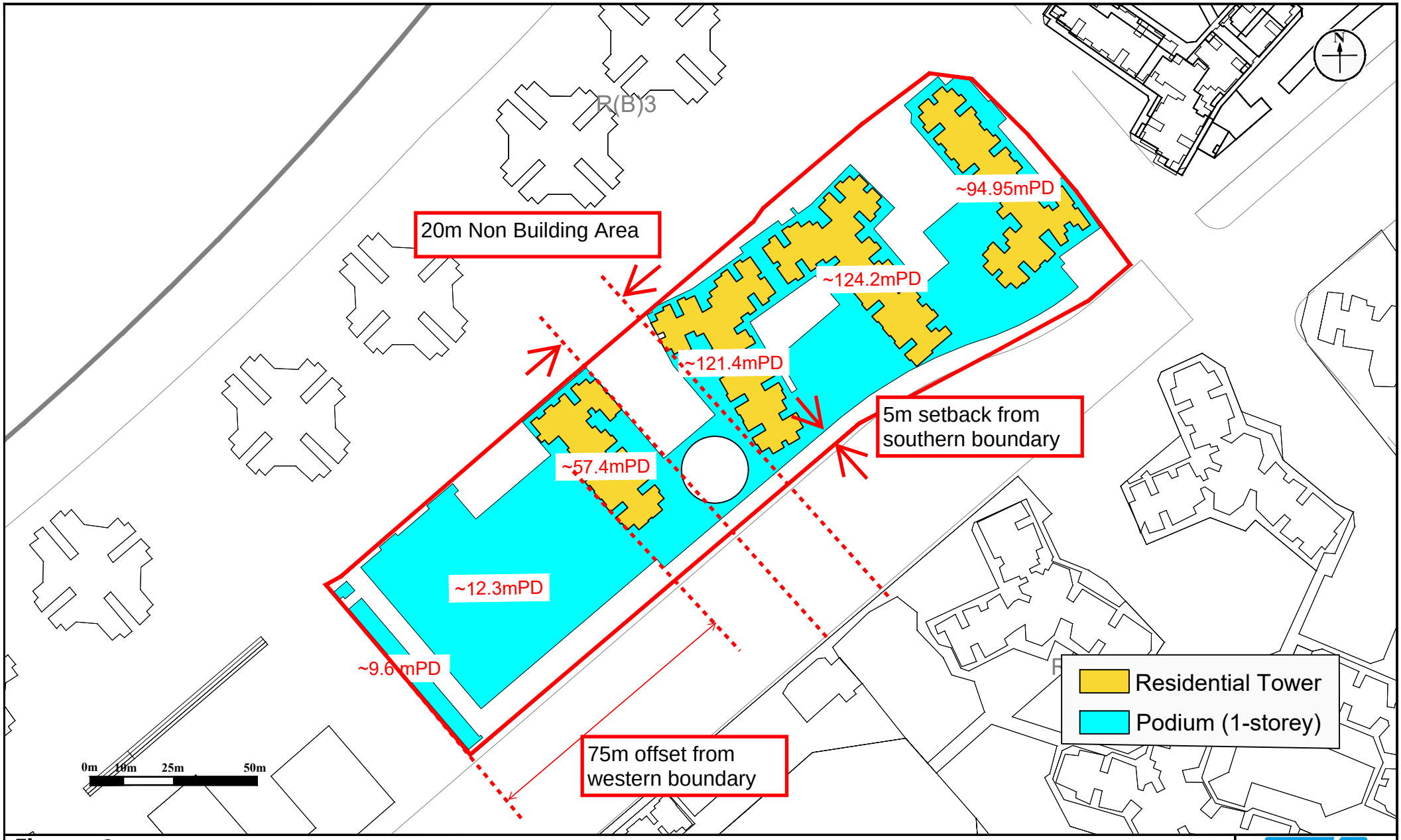

Figure: 2

Title: Indicative Master Layout Plan

Project: Proposed Public Housing Development at Tung Chung Area 103

RAMBOLL

Drawn by:	WT
Checked by:	EC
Rev.:	1.0
Date:	Jun 22

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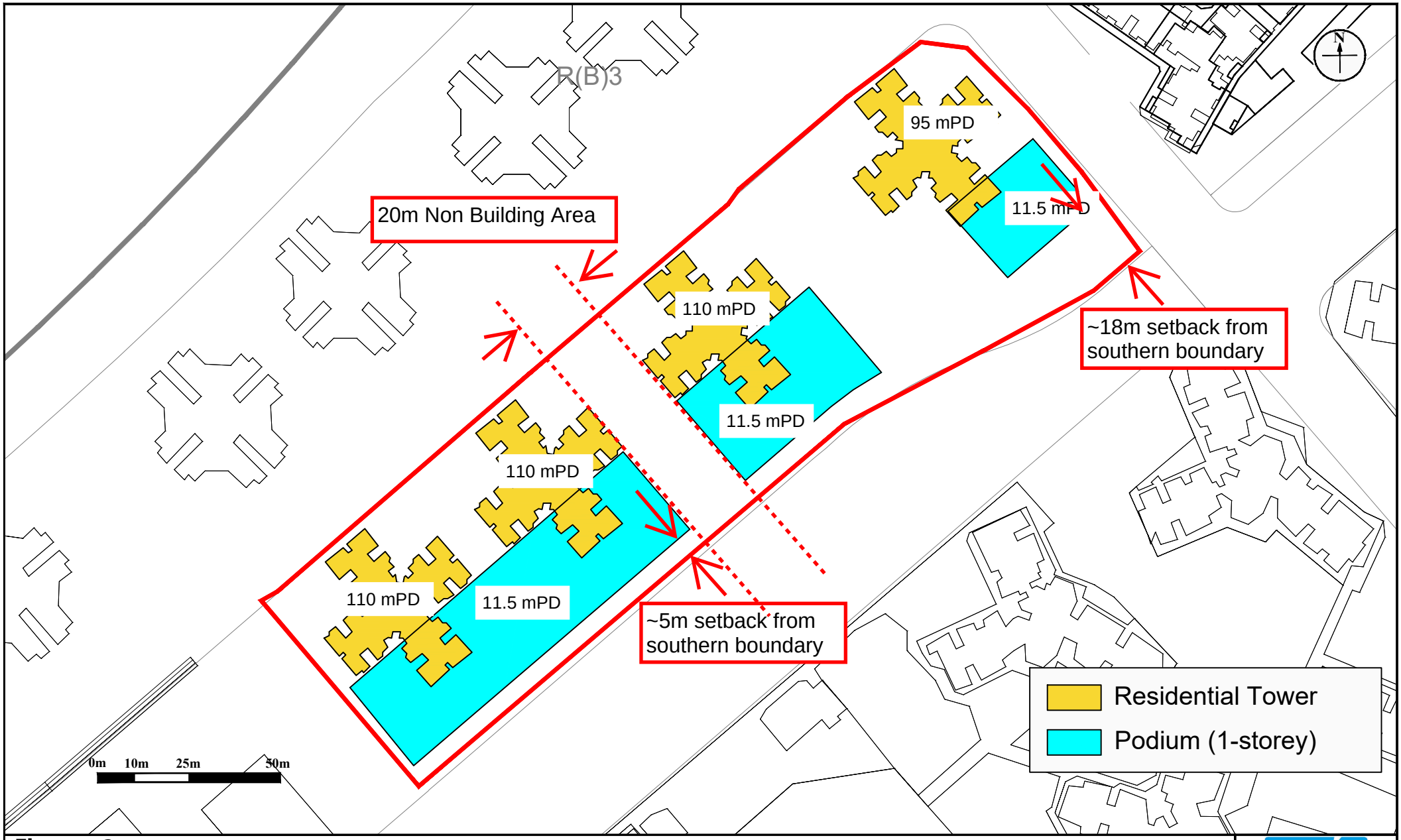

Figure: 3

Title: Layout Plan of the Baseline Scheme

Project: Proposed Public Housing Development at Tung Chung Area 103

RAMBOLL

Drawn by:	WT
Checked by:	EC
Rev.:	1.0
Date:	June 22

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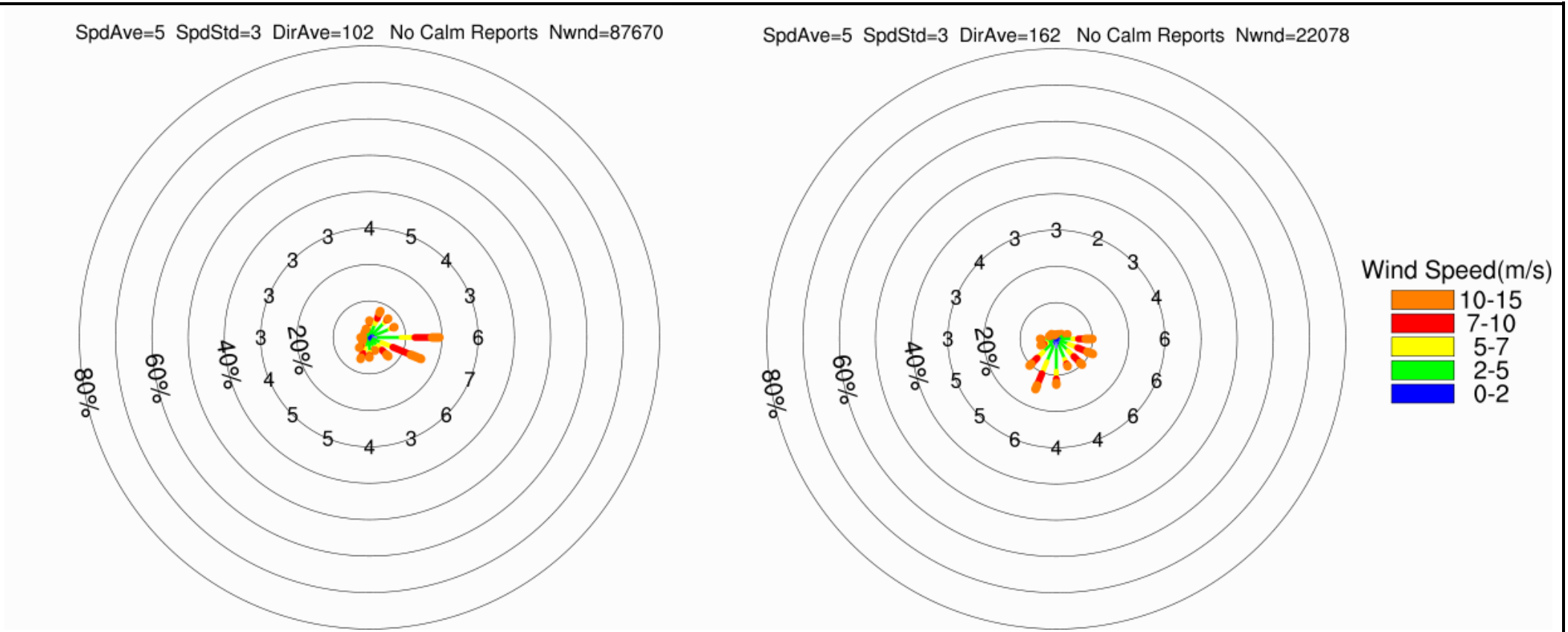


Annual Condition (200m)

Summer Condition (200m)

Figure: 4	RAMBOLL
Title: **Windrose Diagram at 200m (grid: 034, 038) extracted from RAMS**	Drawn by: EC Checked by: TC
Project: **Proposed Public Housing Development at Tung Chung Area 103**	Rev.: 1.0 Date: Jun 2022

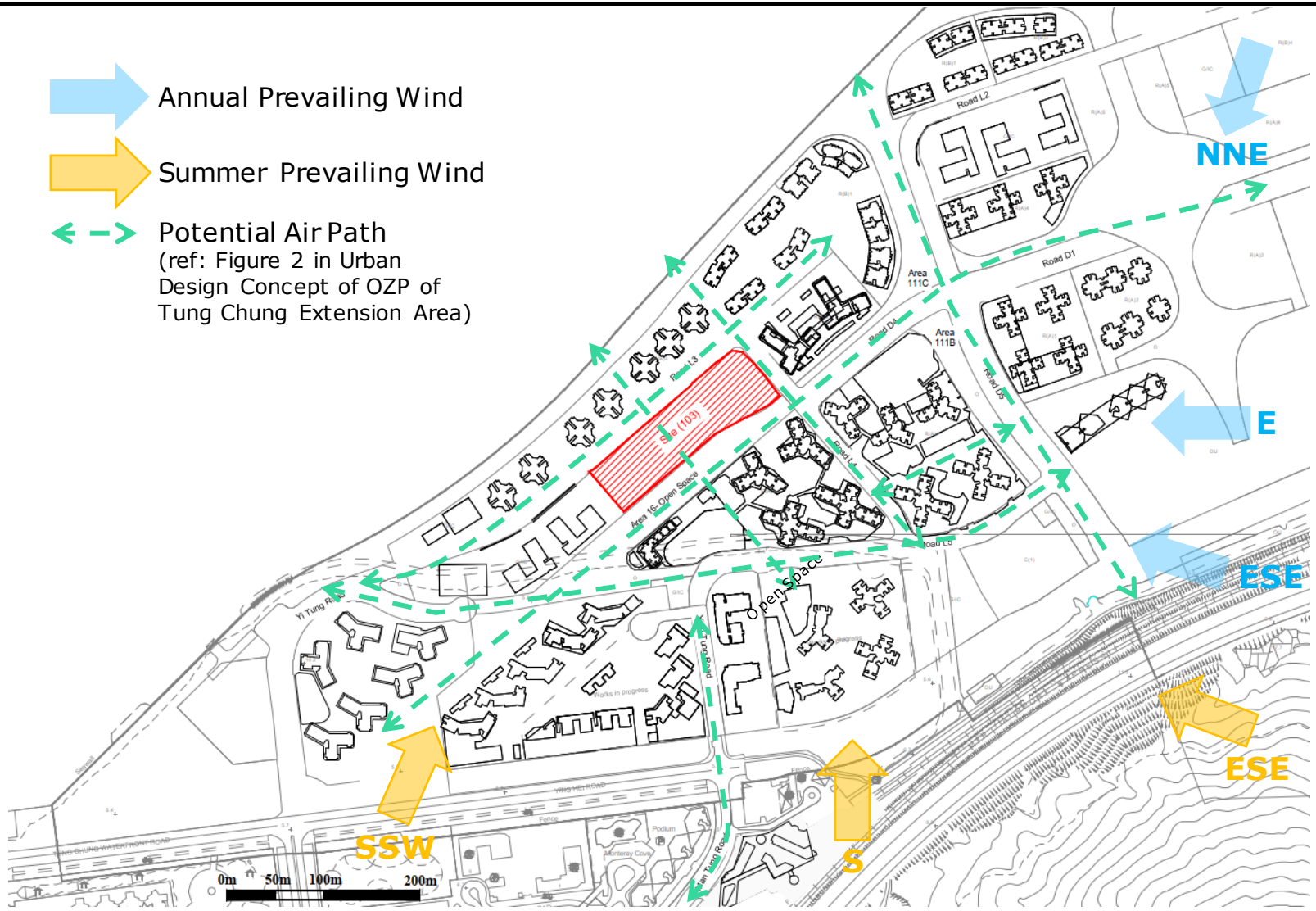
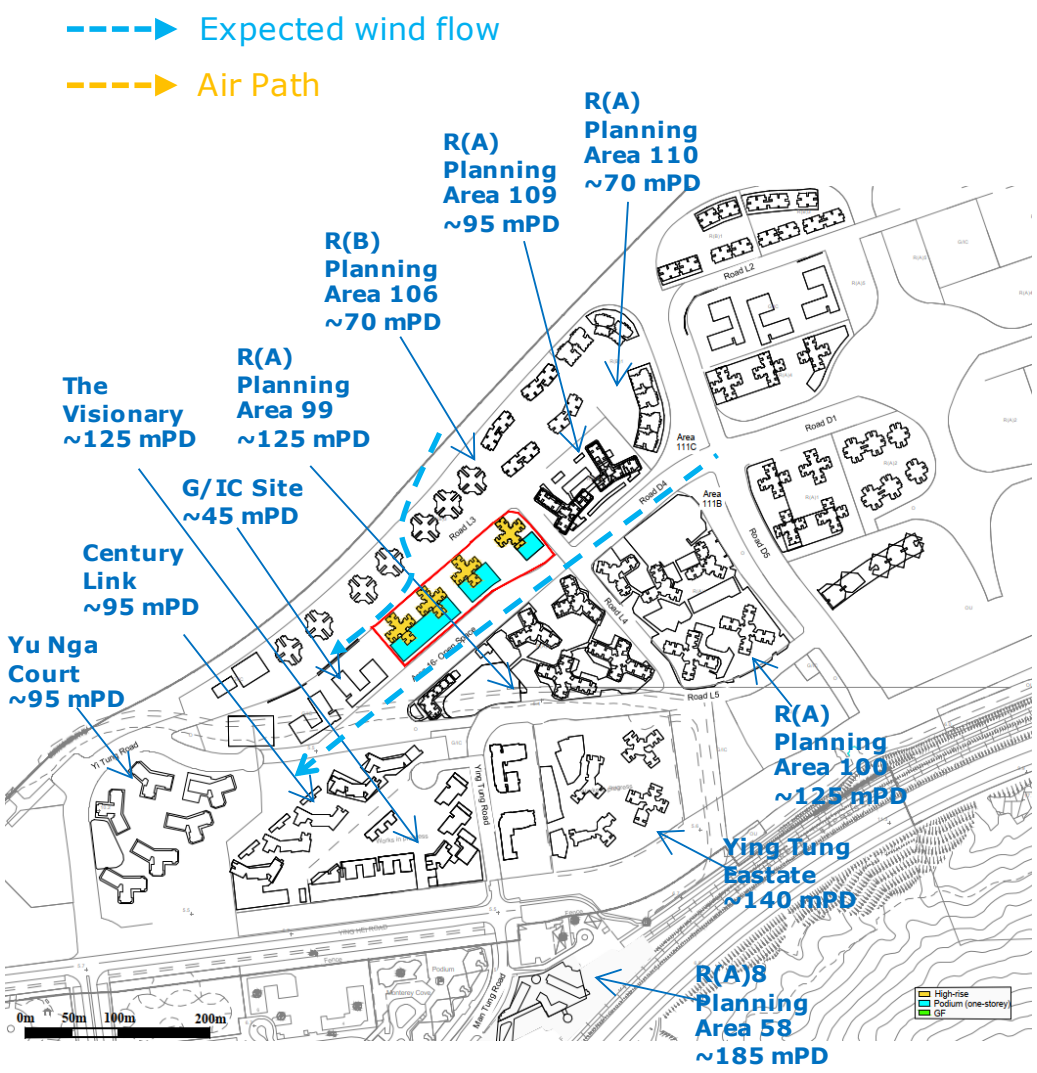
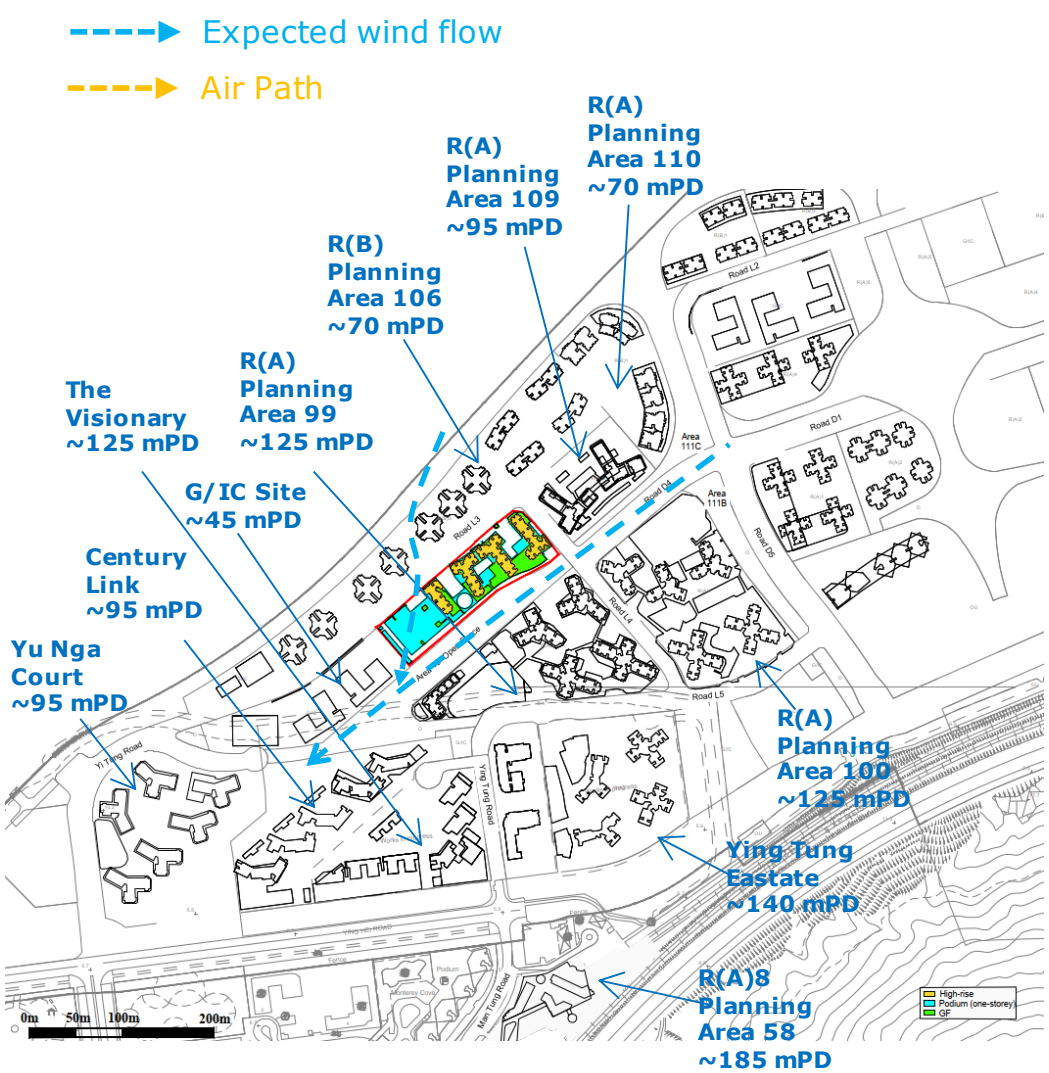


Figure: 5	RAMBOLL
Title: **Potential Wind Flow under Existing Condition**	Drawn by: EC Checked by: TC
Project: **Proposed Public Housing Development at Tung Chung Area 103**	Rev.: 1.0 Date: Jul 2022

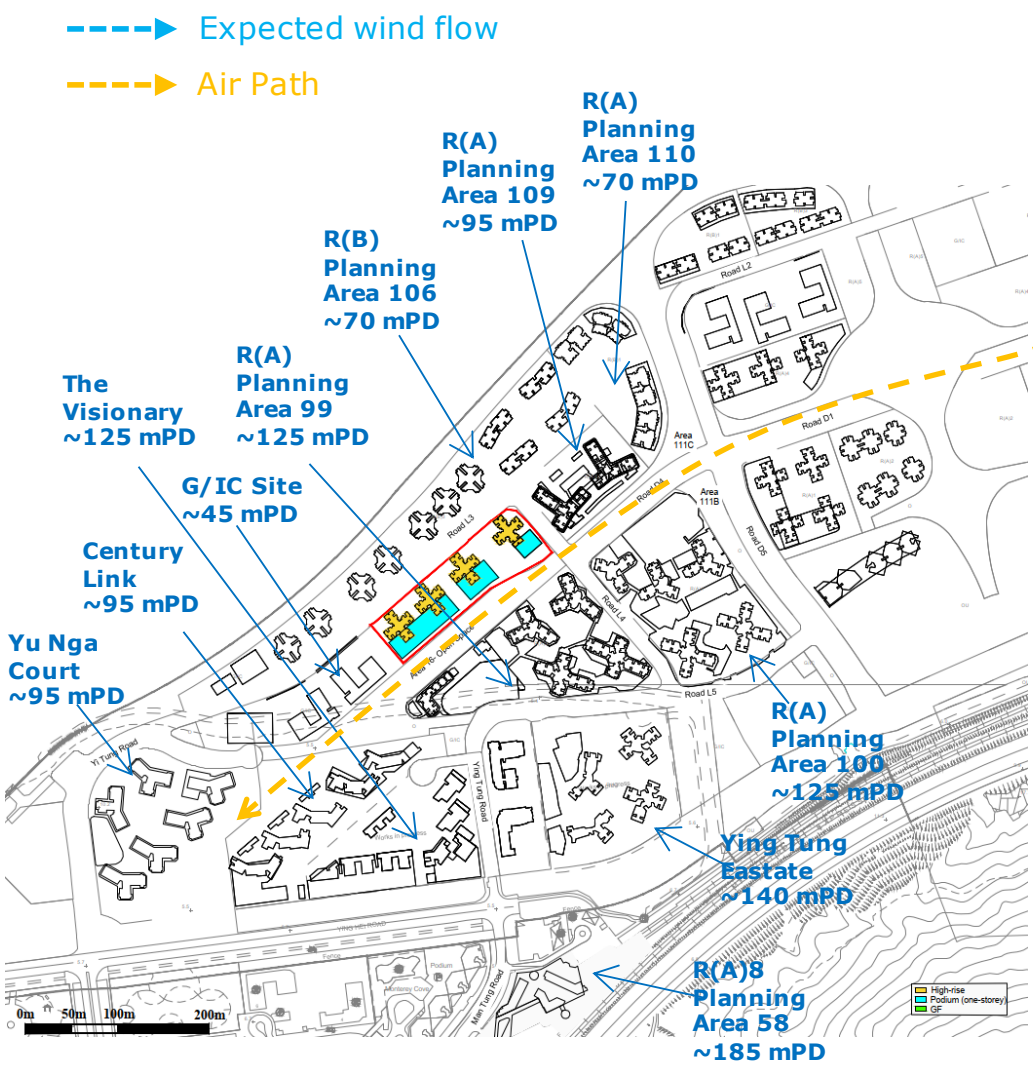


Baseline Scheme

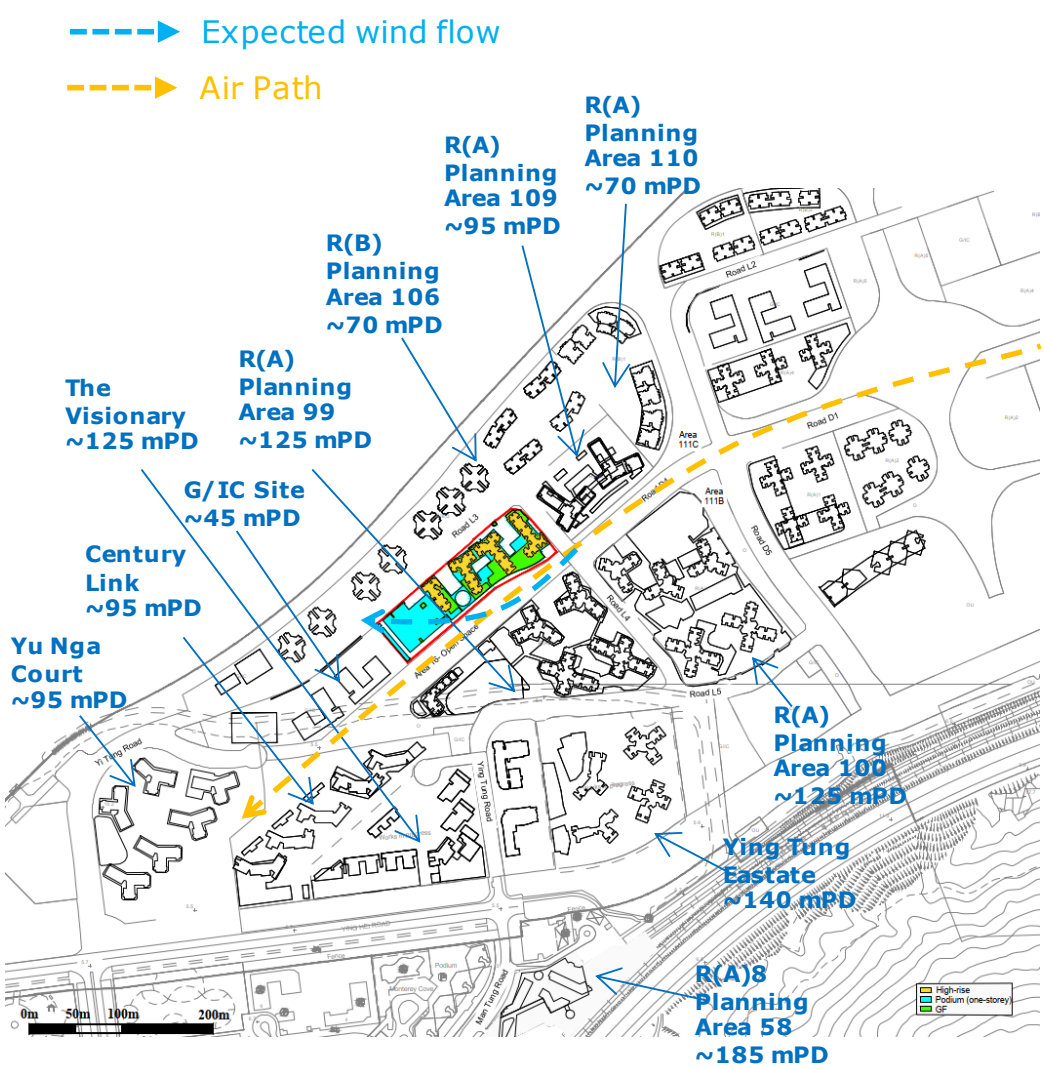


Proposed Scheme

Figure: 6	RAMBOLL
Title: Illustration of Air Path or Wind Flow from NNE Wind Direction	Drawn by: EC Checked by: TC
Project: Proposed Public Housing Development at Tung Chung Area 103	Rev.: 2.0 Date: Jul 2022

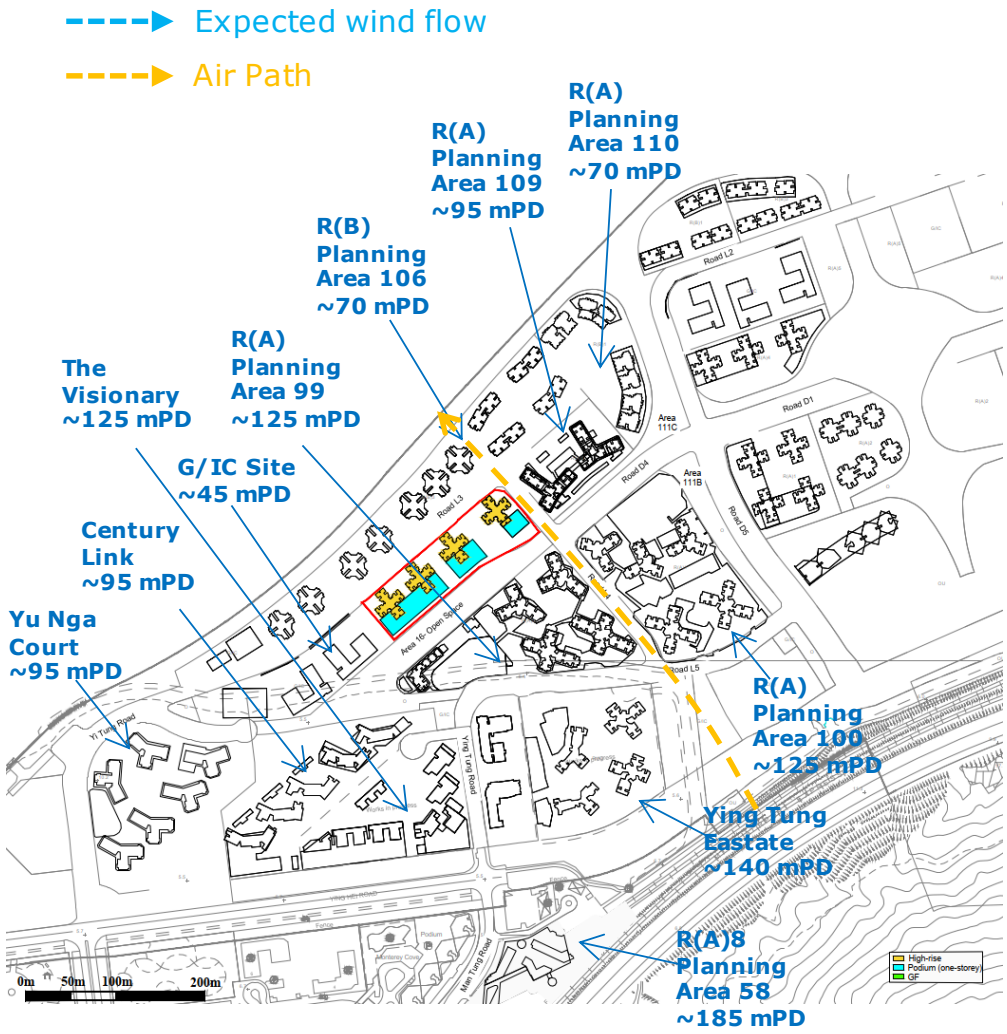


Baseline Scheme

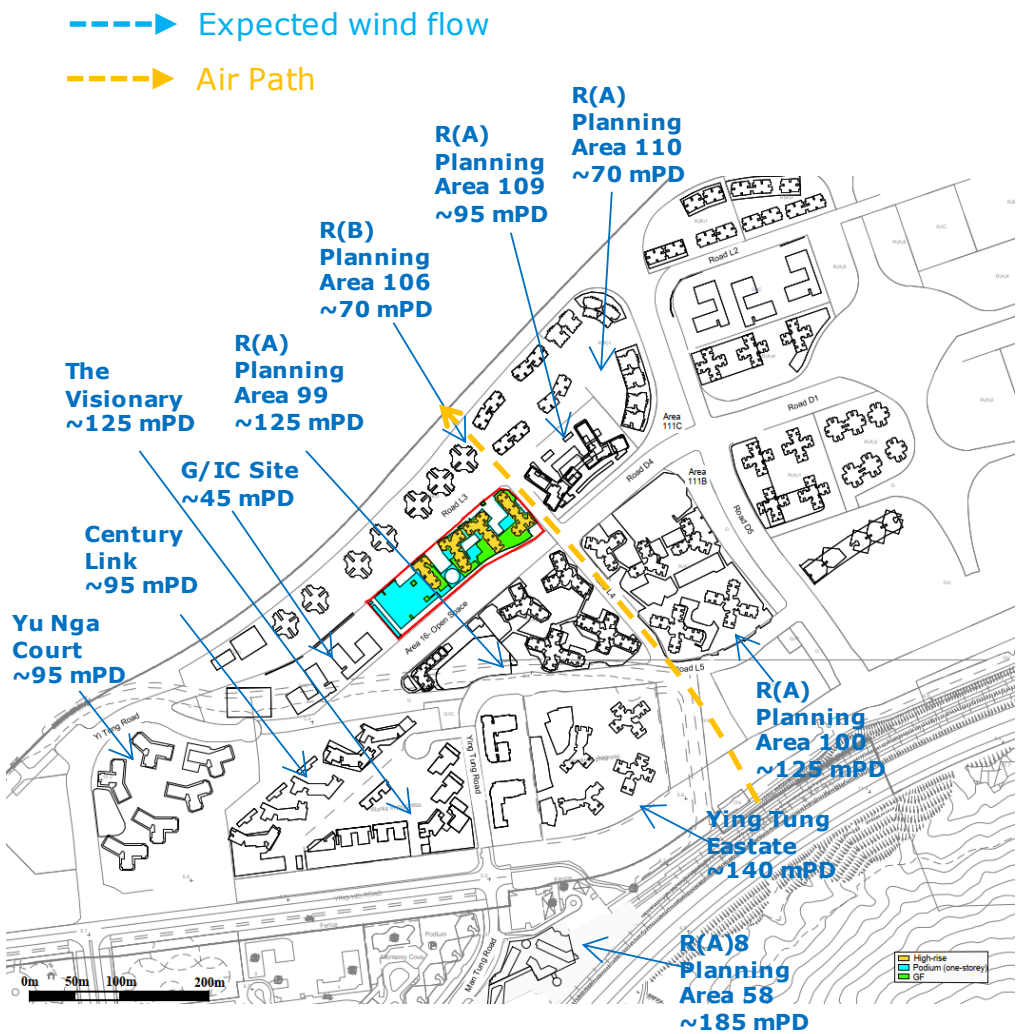


Proposed Scheme

Figure: 7	RAMBOLL
Title: Illustration of Air Path or Wind Flow from E Wind Direction	Drawn by: EC Checked by: TC
Project: Proposed Public Housing Development at Tung Chung Area 103	Rev.: 2.0 Date: Jul 2022

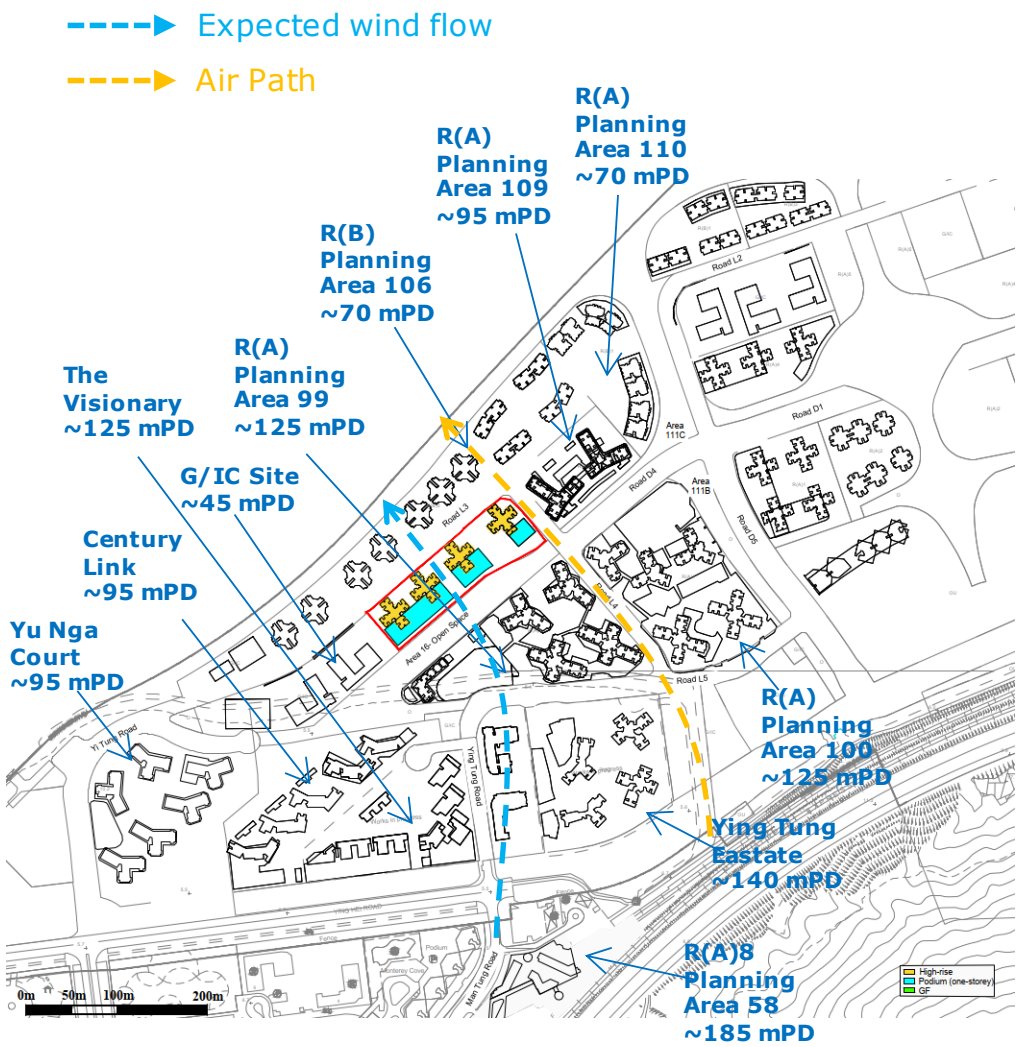


Baseline Scheme

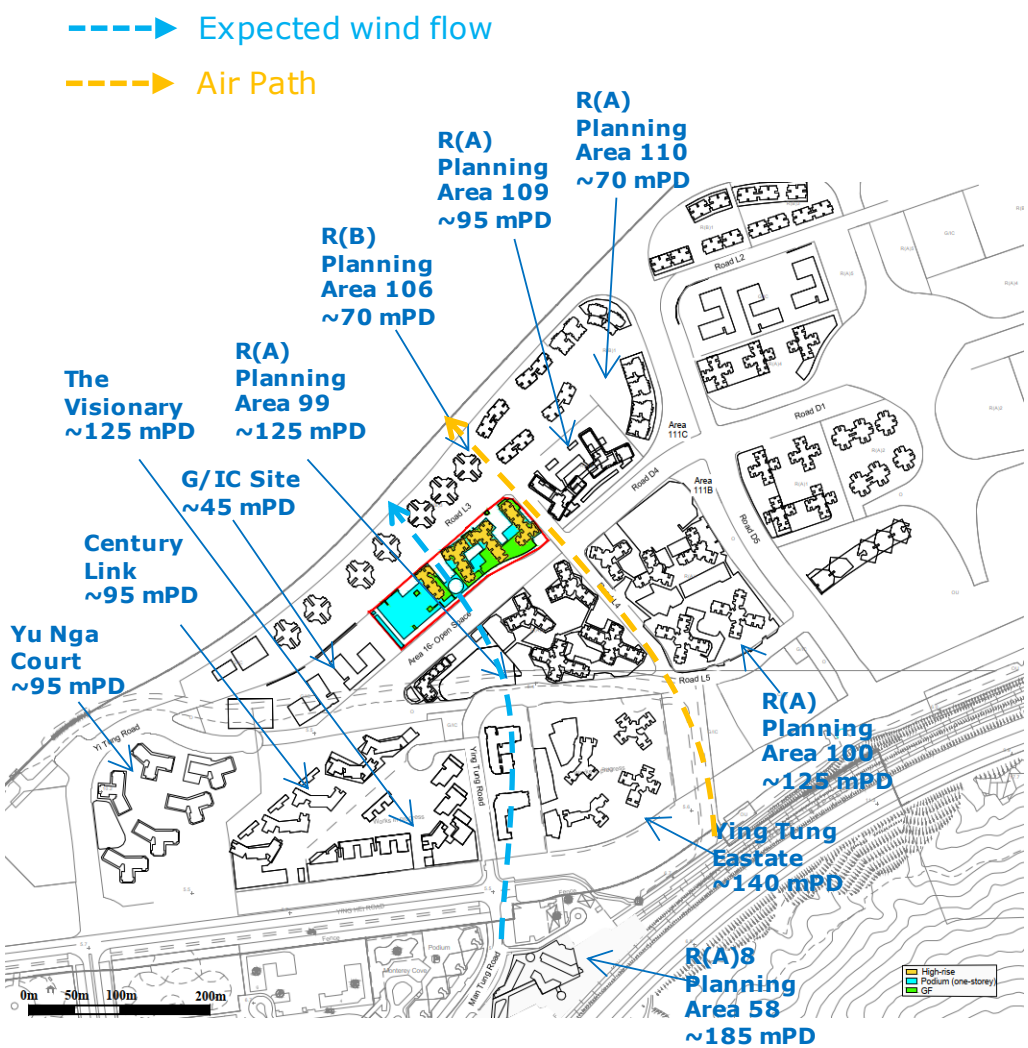


Proposed Scheme

Figure: 8	RAMBOLL
Title: Illustration of Air Path or Wind Flow from ESE Wind Direction	Drawn by: EC Checked by: TC
Project: Proposed Public Housing Development at Tung Chung Area 103	Rev.: 2.0 Date: Jul 2022

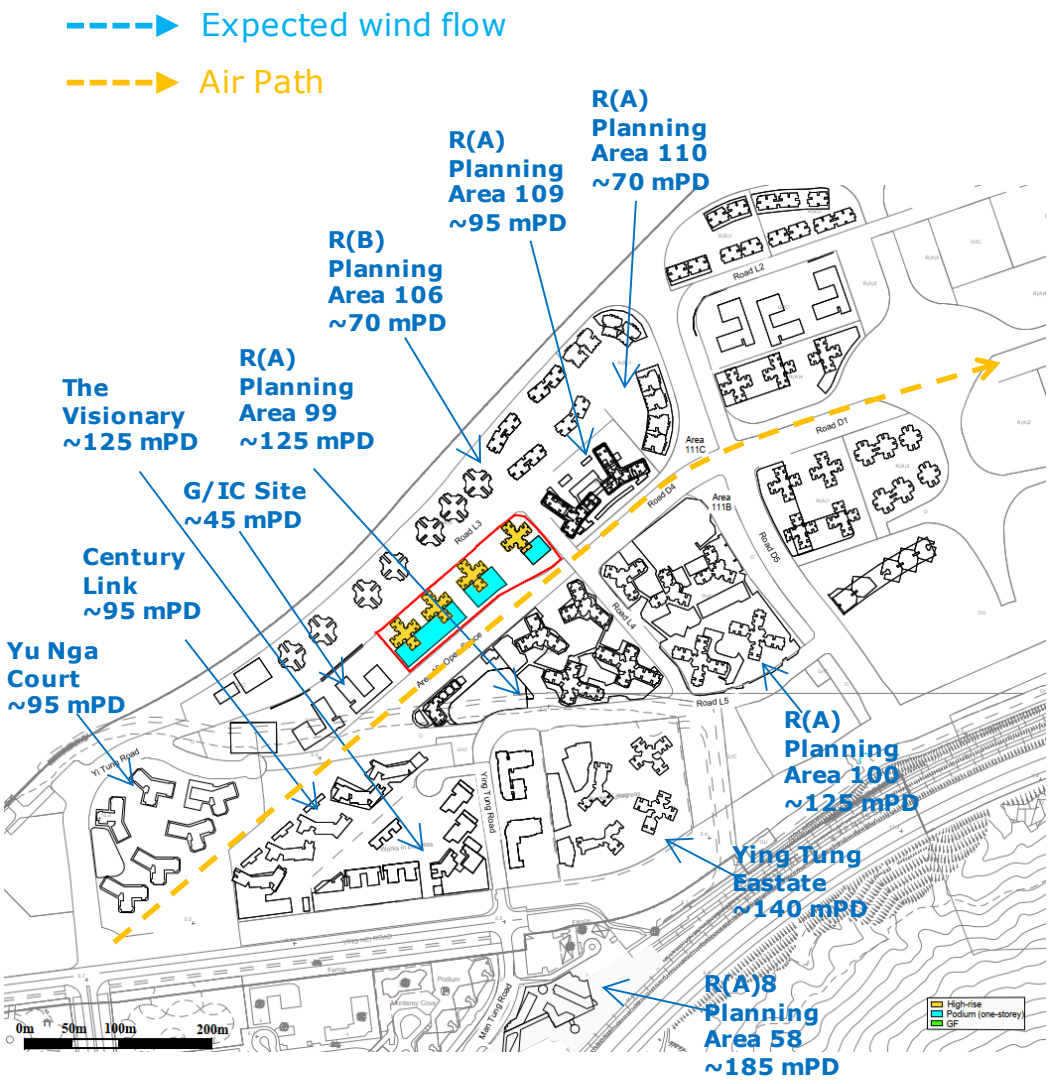


Baseline Scheme

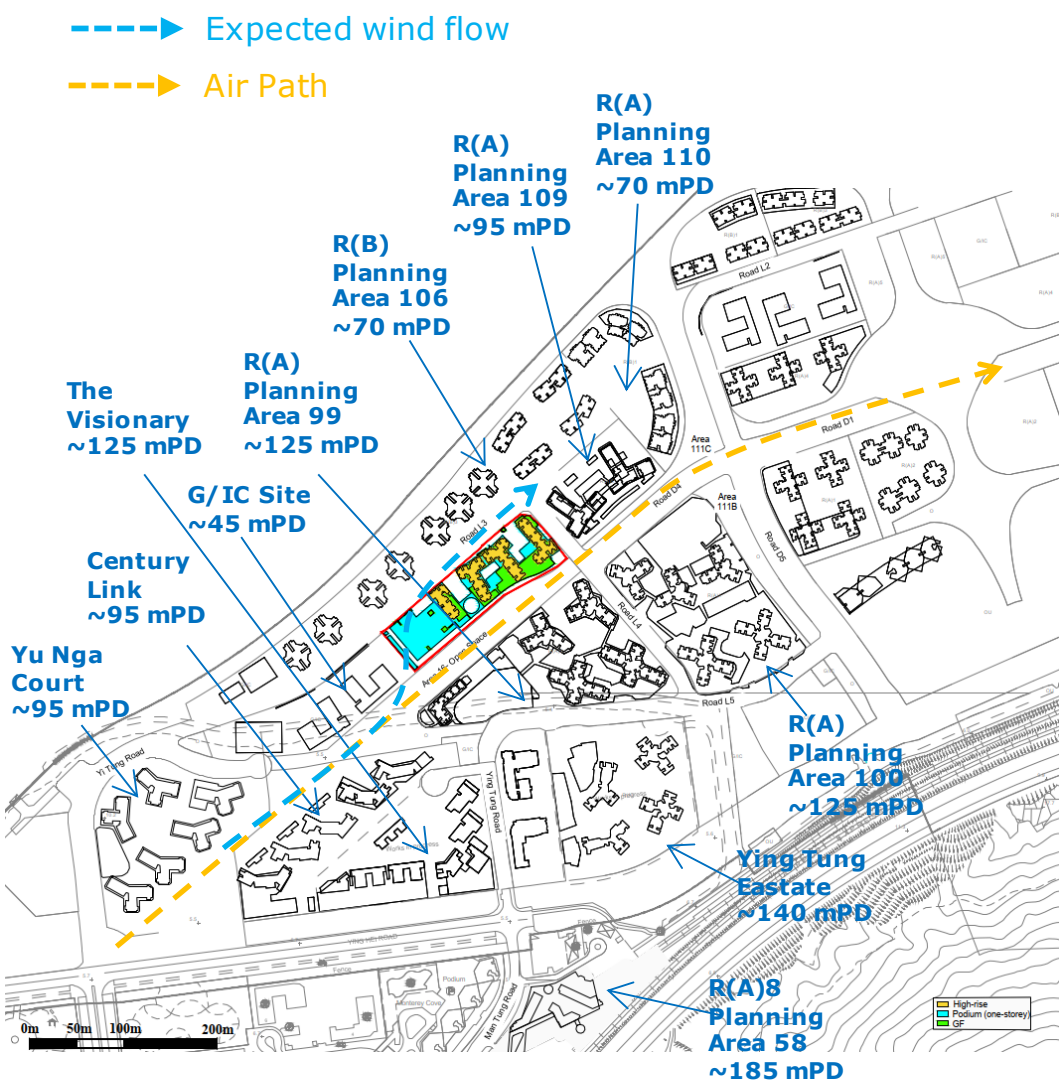


Proposed Scheme

Figure: 9	RAMBOLL
Title: Illustration of Air Path or Wind Flow from S Wind Direction	Drawn by: EC Checked by: TC
Project: Proposed Public Housing Development at Tung Chung Area 103	Rev.: 2.0 Date: Jul 2022



Baseline Scheme



Proposed Scheme

Figure: 10	RAMBOLL
Title: Illustration of Air Path or Wind Flow from SSW Wind Direction	Drawn by: EC Checked by: TC
Project: Proposed Public Housing Development at Tung Chung Area 103	Rev.: 2.0 Date: Jul 2022

APPENDIX 1
MASTER LAYOUT PLAN OF THE BASELINE SCHEME

Figure 4.1

Tung Chung East New Town Extension Area - Preliminary Layout Plan

SCALE 1 : 2 000 (extended A0)

M METRES 50 0 50 100 150 200 250 300 350 400 METRES ft

程序 ACTION	簽署 SIGNATURE	日期 DATE	檔號 REFERENCE
批准呈遞 SUBMISSION AUTHORIZED	助理署长/城市设计 ADMT	00.00.00	檔案編號 FILE No. XXX
批准傳閱 CIRCULATION AUTHORIZED	規劃署長 DPO	00.00.00	首次傳閱日期 DATE OF FIRST CIRCULATION MAR 2015
備檔 PREPARED	古城城市規劃師/城市規劃四 STP/TP	00.00.00	最近傳閱日期 DATE OF LATEST CIRCULATION NOV 2015

Agreement No. CE 32/2011 (CE)

Planning and Engineering Study on the Remaining Development in Tung Chung

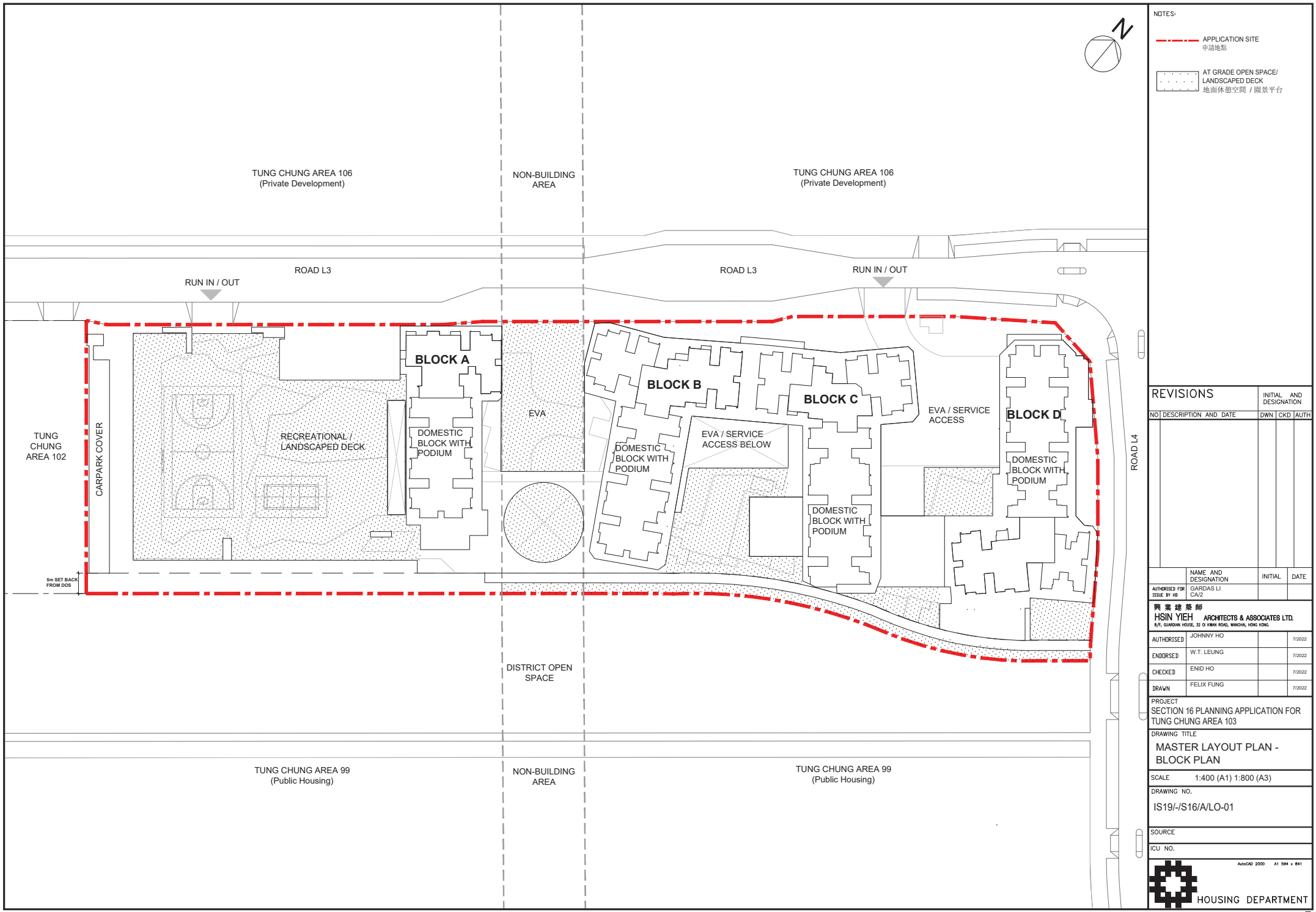
圖則編號 PLAN No. L/TCE/XX

規劃及土地發展委員會於 年 月 日核准
APPROVED BY COMMITTEE ON PLANNING AND LAND DEVELOPMENT ON

採納 ADOPTED

常任秘書長(規劃及地政)(規劃及地政)
PERMANENT SECRETARY FOR HOUSING, PLANNING AND LANDS (PLANNING AND LANDS)
日期 DATE

APPENDIX 2
MASTER LAYOUT PLAN OF THE PROPOSED SCHEME



NOTES:

APPLICATION SITE
申請地點

AT GRADE OPEN SPACE/
LANDSCAPED DECK
地面休憩空間 / 園景平台

REVISIONS

NO	DESCRIPTION AND DATE	INITIAL AND DESIGNATION DWN	CKD	AUTH

	NAME AND DESIGNATION	INITIAL	DATE
AUTHORISED FOR ISSUE BY HD	GARDAS LI CA/2		

興業建築師
HSIN YIEH ARCHITECTS & ASSOCIATES LTD.
8/F, GUARDIAN HOUSE, 32 OI KWAN ROAD, WANCHAI, HONG KONG.

AUTHORISED	JOHNNY HO		7/2022
ENDORSED	W.T. LEUNG		7/2022
CHECKED	ENID HO		7/2022
DRAWN	FELIX FUNG		7/2022

PROJECT
SECTION 16 PLANNING APPLICATION FOR
TUNG CHUNG AREA 103

DRAWING TITLE
MASTER LAYOUT PLAN -
BLOCK PLAN

SCALE 1:400 (A1) 1:800 (A3)

DRAWING NO.
IS19/-/S16/A/LO-01

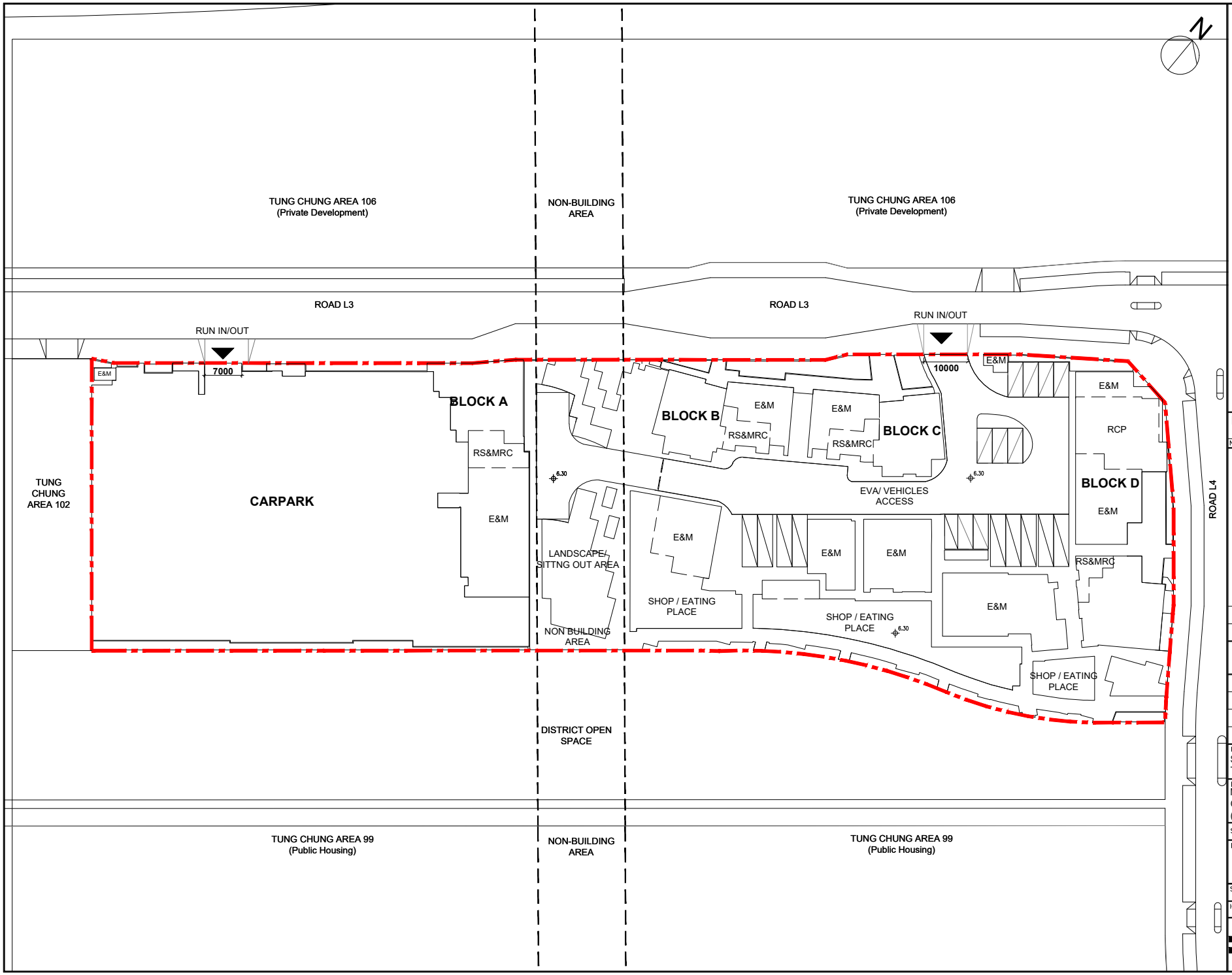
SOURCE

ICU NO.

AutoCAD 2000 A1 594 x 841

HOUSING DEPARTMENT

COUNTERCHECKED ☑



NOTES:

APPLICATION SITE
申請地點

RS&MRC: REFUSE STORAGE AND MATERIAL RECOVERY CHAMBERS & REFUSE CHUTES

RCP: REFUSE COLLECTION POINT

CRASH GATE

REVISIONS

NO	DESCRIPTION AND DATE	INITIAL AND DESIGNATION DWN	CKD	AUTH

	NAME AND DESIGNATION	INITIAL	DATE
AUTHORISED FOR ISSUE BY HD	GARDAS LI CA/2		

HSIN YIEH ARCHITECTS & ASSOCIATES LTD.

AUTHORISED	JOHNNY HO		7/2022
ENDORSED	W.T. LEUNG		7/2022
CHECKED	ENID HO		7/2022
DRAWN	FELIX FUNG		7/2022

PROJECT
SECTION 16 PLANNING APPLICATION FOR TUNG CHUNG AREA 103

DRAWING TITLE
MASTER LAYOUT PLAN -
GROUND FLOOR PLAN
(FOR ILLUSTRATION ONLY)

SCALE

DRAWING NO.
IS19/-/S16/A/LO-02

SOURCE

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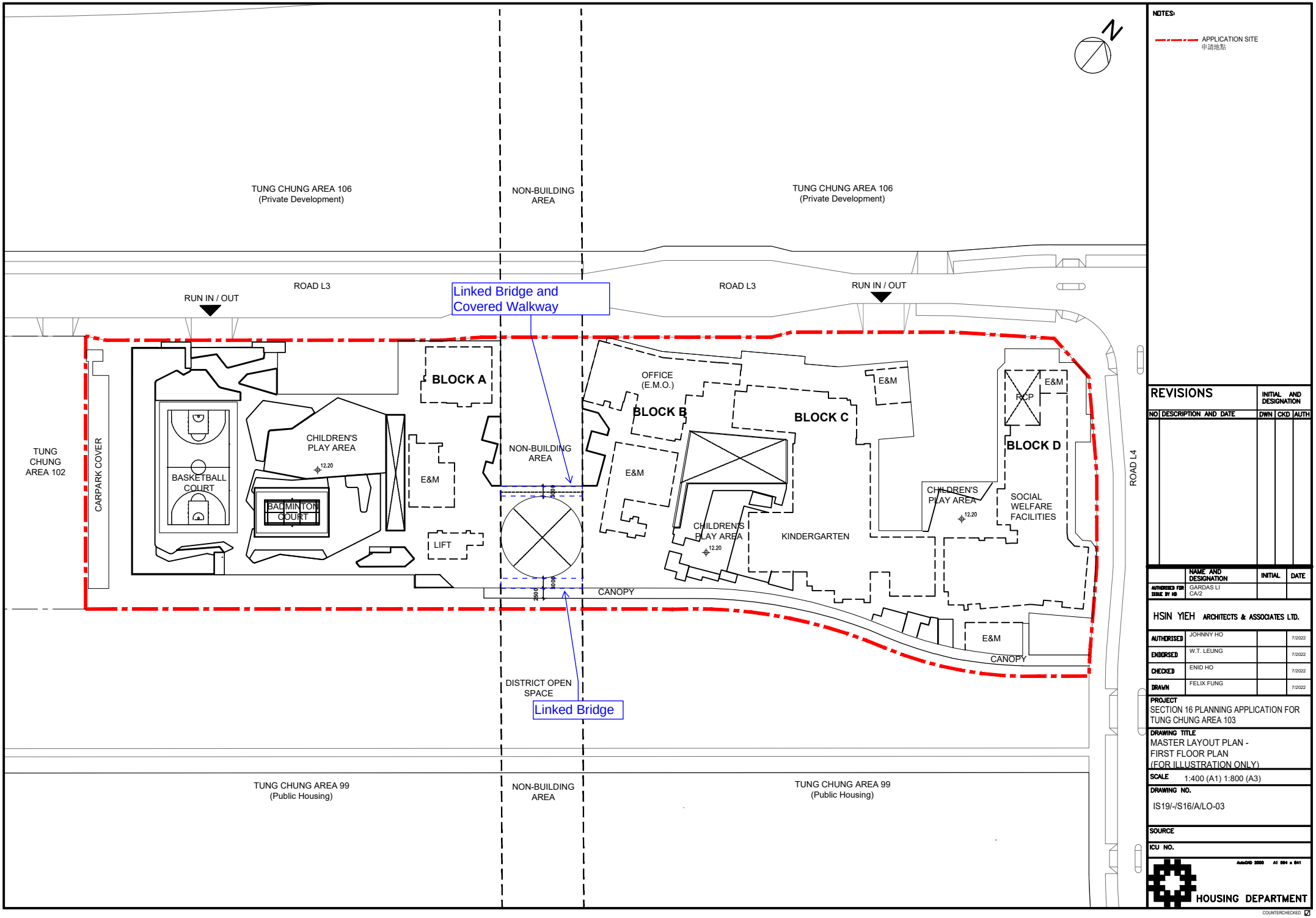

NOTES:

APPLICATION SITE
申請地點

REVISIONS		INITIAL AND DESIGNATION		
NO	DESCRIPTION AND DATE	DWN	CKD	AUTH

	NAME AND DESIGNATION	INITIAL	DATE
AUTHORISED FOR ISSUE BY HD	GARDAS LI CA/2		

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PROJECT
SECTION 16 PLANNING APPLICATION FOR TUNG CHUNG AREA 103

DRAWING TITLE
MASTER LAYOUT PLAN -
FIRST FLOOR PLAN
(FOR ILLUSTRATION ONLY)

SCALE 1:400 (A1) 1:800 (A3)

DRAWING NO.
IS19/-/S16/A/LO-03

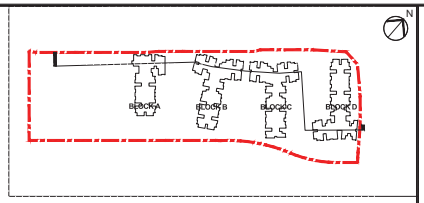
SOURCE

ICU NO.

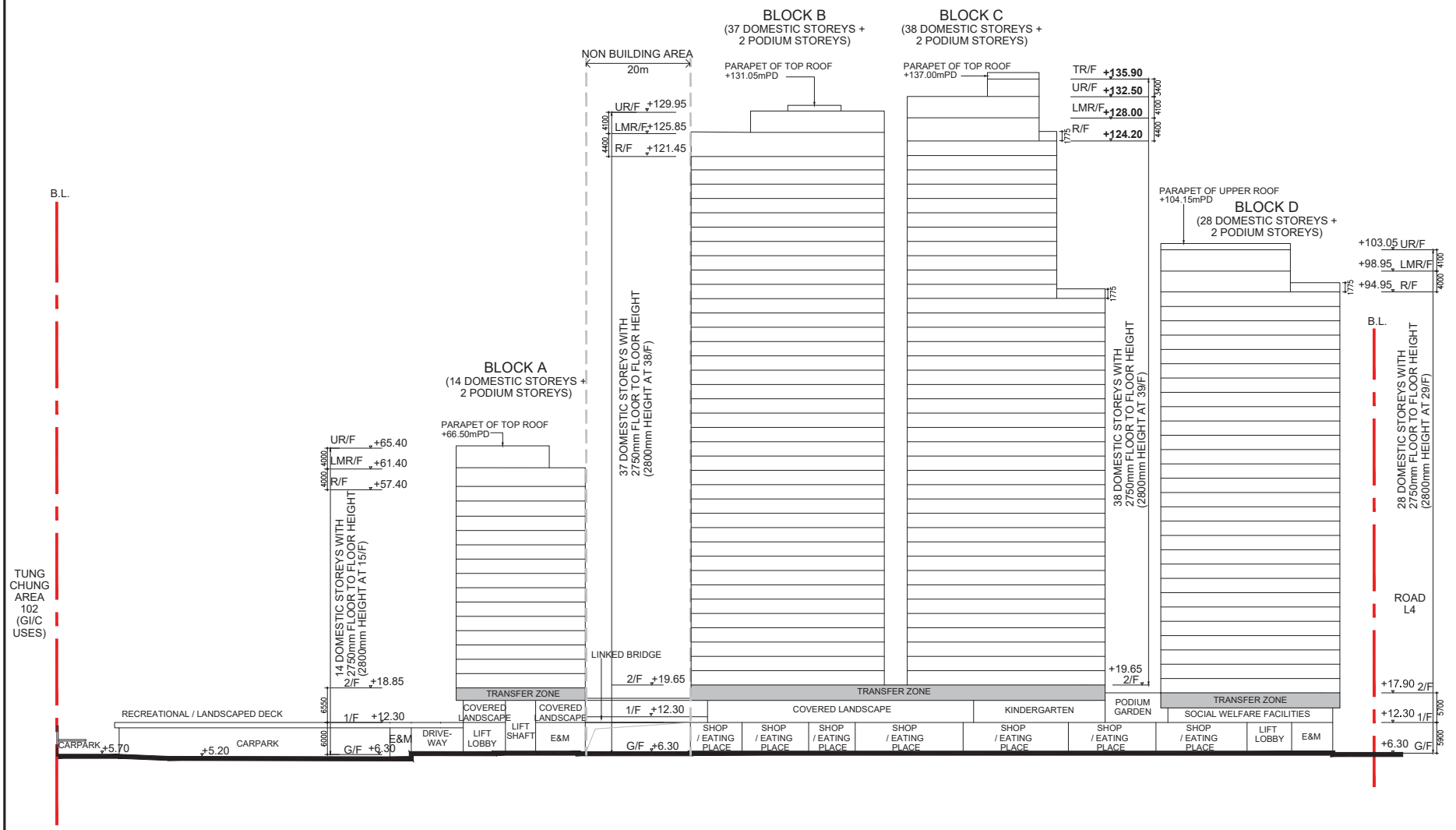
AutoCAD 2000 A1 594 x 841

HOUSING DEPARTMENT

COUNTERCHECKED ☑



KEY PLAN SCALE 1:1000(A3) 1:2000(A1)



NOTES:

APPLICATION SITE
申請地點

REVISIONS

NO	DESCRIPTION AND DATE	INITIAL AND DESIGNATION DWN	CKD	AUTH

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AUTHORISED FOR ISSUE BY HD	GARDAS LI CA/2		

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PROJECT
SECTION 16 PLANNING APPLICATION FOR TUNG CHUNG AREA 103

DRAWING TITLE
SECTION

SCALE 1:400 (A1) 1:800 (A3)

DRAWING NO.
IS19/-/S16/A/LO-05

SOURCE

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AutoCAD 2000 A1 594 x 841

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APPENDIX 3
FIGURE 2 – URBAN DESIGN CONCEEPT OF OZP OF TUNG CHUNG EXTENSION AREA

只作顯示用途
FOR INDICATIVE PURPOSE ONLY

本摘要圖於2017年2月6日擬備，
所根據的資料為東涌新市鎮擴展研究
EXTRACT PLAN PREPARED ON 6.2.2017
BASED ON TUNG CHUNG NEW TOWN EXTENSION STUDY

東涌擴展區 TUNG CHUNG EXTENSION AREA

城市設計概念
URBAN DESIGN CONCEPT

規劃署
PLANNING DEPARTMENT

參考編號
REFERENCE No.
M/LI/17/31

圖表FIGURE
2

Appendix 4

Technical Assessments – Part 2

(Visual Impact Assessment)

S16 PLANNING APPLICATION
APPROVED TUNG CHUNG EXTENSION AREA OZP NO. S/I-TCE/2

Proposed Minor Relaxation of Restrictions of Maximum Overall Plot Ratio from 5.4 to 5.9 and Maximum Building Height from 110mPD to 125mPD for the Public Housing Development at Tung Chung Area 103

VISUAL IMPACT ASSESSMENT

July 2022

香港房屋委員會
Hong Kong Housing Authority

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Section 16 Application for
Minor Relaxation of Restrictions of Maximum Overall Plot Ratio and Building Height for the Public Housing Development at Tung Chung Area 103

Visual Impact Assessment

1 INTRODUCTION

1.1 This Visual Impact Assessment ("VIA") is prepared by the Hong Kong Housing Authority ("HKHA") as the project proponent in support of a Section 16 ("s.16") Planning Application for minor relaxation of restrictions of maximum overall Plot Ratio ("PR") from 5.4 to 5.9, and maximum Building Height ("BH") from 110mPD to 125mPD for Tung Chung Area 103 ("the Application Site") to facilitate the proposed public housing development ("the Proposed Development").

1.2 The Application Site has a gross area of about 1.73ha, and is located within the Tung Chung East Extension Area (***Figure 1*** refers). It is zoned as "Residential (Group A) 5" ("R(A)5") for high-density residential development on the approved Tung Chung Extension Area Outline Zoning Plan No. S/I-TCE/2 ("the OZP"), subject to a maximum PR of 5.4 and BH of 110mPD. Following the Executive Council's refinement of its policy[1], the Town Planning Board ("TPB")'s approval for the minor relaxation of restrictions of maximum overall PR from 5.4 to 5.9, and maximum BH from 110mPD to 125mPD for TC 103 is sought to optimize its development potential under s.16 of the Town Planning Ordinance.

1.3 This VIA evaluates, with reference to the "Town Planning Board Guidelines on Submission of Visual Impact Assessment for Planning Applications to the Town Planning Board" ("TPB PG-No. 41"), the existing visual quality, visual compatibility and degree of anticipated visual impacts of the Proposed Development of the visually sensitive receivers ("VSRs") relevant to the Application Site. The VIA comments on the visual acceptability of the proposed public housing development and concludes with recommendation on mitigation measures if necessary.

[1] In line with Government's initiative announced in December 2018 on "Enhanced Development Intensity of Public Housing Sites" to increase the maximum domestic PR of the public housing sites in New Towns by up to 30% as appropriate where their technical feasibility permits.

2 OUTLINE OF VISUAL IMPACT ASSESSMENT

2.1 The outline for this VIA is set out below:

- Section 3 examines the existing visual context, characters and elements of the Application Site and its surroundings;
- Section 4 outlines the development proposal under the Baseline Scheme and Proposed Scheme;
- Section 5 defines the Assessment Area;
- Section 6 identifies the potential visual receptors and selected viewpoints;
- Section 7 assesses the potential visual impacts; and
- Section 8 recommends any necessary mitigation measures.

3 VISUAL CONTEXT AND VISUAL ELEMENTS

Site Location and Existing Site Condition

3.1 With a gross site area of about 1.73ha, the Application Site is located at northwestern part of the Tung Chung East Extension Area. The Application Site has been formed by reclamation. The proposed pedestrian and vehicular accesses of the Application Site would be via Road L3 and Road L4.

The Surrounding Context

3.2 The Application Site is located in an area compromising medium-density and high-density residential developments. To the west is Tung Chung Area 102 ("TC 102"), zoned as "Government, Institution and Community" ("GIC"). To the north is the proposed Road L3 and Tung Chung Area 106 ("TC 106") planned for medium-density residential development. To the east is the proposed L4 Road and Tung Chung Area 109 ("TC 109") planned for public housing development. To the south is an area zoned as "Open Space", and Tung Chung Area 99 ("TC 99") planned for public housing development.

3.3 As Tung Chung East Extension Area is currently undergoing different phases of reclamation, the extent of contrast between the Proposed Development in the relation to the environment may differ depending on the progress of the reclamation.

4 DEVELOPMENT PROPOSAL

4.1 The Proposed Scheme adopts a maximum PR of 5.9 of which PR of 5.5 and 0.4 are for domestic and non-domestic portions respectively, as well as a maximum BH of 125mPD. The Proposed Scheme would provide about 2,018 flats with a design population of about 5,651 persons, which are subject to detailed design.

4.2 The Master Layout Plan and Schematic Section of the Proposed Development are presented at ***Figure 2a*** and ***2b***. The key development parameters are detailed in *Table 1* below:

Table 1: Key Development Parameters of the Proposed Scheme in TC 103

Development Parameters	Proposed Scheme
Site Area[1]	About 1.73ha
PR - **Overall** - **Domestic** - **Non-domestic**	 5.9 5.5 0.4
GFA[2, 3] - **Total** - **Domestic** - **Non-domestic**	 About 102,070 m^2 About 95,150 m^2 About 6,920 m^2
Building Height (Measured at Main Roof Level)	Not exceeding +125mPD
No. of Storeys of Housing Block	Blocks 1 -4: 14 - 38 (Domestic) + 2 (Podium) storeys
Number of Housing Block	4
Flat Production	About 2,018
Design Population[4]	About 5,651
Local Open Space	Not less than 5,651m^2
Children's Play Area	Not less than 452m^2
Green Coverage (% of Gross Site Area)	20%
Parking Provision[3]	
Car Parking Spaces (Domestic)	181
Car Parking Spaces (Visitors)	20
Car Parking (R&C)	5
Private Light Bus Parking Space (Welfare Facilities)	1
Motorcycle Parking Spaces	19
Light Good Vehicle Parking (Domestic)	8

Loading/ Unloading ("L/UL") Bay (Domestic)	8
L/UL (R&C)	1
Bicycle Parking (Domestic)	135

Note 1: The gross site area is subject to detailed survey and layout finalization.
Note 2: Calculation based on the net site area of 17,300 m^2.
Note 3: Full GFA exemption for parking spaces. Provision in accordance with Hong Kong Planning Standards and Guidelines as advised by Transport Department. The parking provisions are subject to finalized flat mix.
Note 4: Based on average household size of 2.8.

4.3 Landscape treatment will be provided at-grade and podium level as far as possible to maximize the green coverage so as to minimize the visual impact of the Proposed Development. With the lower building height to the west of the Application Site in the Proposed Scheme, the possibility of providing greeneries at the covered car parking has been explored. For details of the landscape treatment, please refer to the Landscape Master Plan attached to the s.16 application.

5 ASSESSMENT AREA

5.1 This VIA follows the visual envelope of the Tung Chung New Town Extension Study (***Figure 3***) to cover the strategic locations in northeast, northwest, west, southwest, south and east directions. A total of 7 viewpoints ("VPs") are selected that can best facilitate the Rural and New Town Planning Committee of the TPB to visualize the three-dimensional relationship of the Proposed Development with the surrounding context. The Proposed Development is pronouncedly visible from key sensitive viewers. The extent of which is delineated based on the size of the Proposed Development in both Baseline and Proposed Schemes, the site context, and the distance and location of the sensitive viewers.

6 IDENTIFICATION AND CLASSIFICATION OF VIEWPOINTs ("VPs")

6.1 In accordance with TPB PG-No. 41 para 4.5, the VIA focuses on key strategic views and local vantage points that are easily accessible and popular to the public. The effects of visual changes concerning the sensitive viewers within the assessment area are primarily appraised. These include users of the nearby open spaces and pedestrian passers-by in the surrounding neighborhoods.

6.2 As demonstrated in ***Figure 3***, seven public VPs have been agreed with the Planning Department that can best represent the visual change of the public viewers of the Proposed Development. The visual sensitivity of the public viewers from the VPs are qualitatively graded as high, medium or low. The viewers' activity and visual prominence of the Proposed Development are also taken into account. A brief evaluation on the identified VPs is summarized below:

(i) Viewpoint 1 ("VP 1"): View from Chep Lap Kok Road (***Figure 4*** refers)

This VP is located about 1.55km to the northeast of the Application Site, this medium-range transient VP is located at the Chep Lap Kok Road of the Hong Kong-Zhuhai-Macau Bridge Hong Kong Port. Currently, this VP has minimal traffic flow but it is anticipated to have an increase in traffic volume in the near future. Given this VP is located at a cross-border port, it may experience higher

traffic flow in the future, the visual sensitive receivers ("VSRs") at this VP are considered to have a low to medium sensitivity.

(ii) Viewpoint 2 ("VP 2"): View from Kwo Lo Wan Road (***Figure 5*** refers)

This medium-range static VP is situated in between the CNAC House Loading Area and Hong Kong Airlines Headquarter and to the northwest of the Application Site with a viewing distance of about 1.53km. This VP is not frequently visited by the public as there are no public amenities in the surrounding area, with only commercial buildings situated in the vicinity. Given the isolated nature of this VP and medium range of viewing distance, the VSRs from this VP would have a low sensitivity.

(iii) Viewpoint 3 ("VP 3"): View from Scenic Hill Pavilion (***Figure 6*** refers)

This medium-range static VP is located at the top of the Scenic Hill and to northwest of the Application Site with a viewing distance of approximately 1.76km. This VP is a local hotspot as well as frequently visited by recreational users. The public viewers from this VP can overlook the Hong Kong International Airport and the Tung Chung Town Center. With the medium range of viewing distance and leisure nature of this VP, the VSRs from this VP would have medium sensitivity.

(iv) Viewpoint 4 ("VP 4"): View from Tung Chung New Development Pier (***Figure 7*** refers)

This medium-range static VP is located at the Tung Chung New Development Pier. This VP is located to the west of the Application Site with a viewing distance of about 1.26km. The pier offers routes to Tuen Mun and Tai O, and the usage of the pier is considered as low. It is appropriate to consider the VSRs of this VP to be transient in nature, hence in combination of the viewing distance, this VP is considered to have a low to medium sensitivity.

(v) Viewpoint 5 ("VP 5"): View from the Planned District Open Space (Tung Chung Area 16) In-between TC 103 and TC 99 (***Figure 8*** refers)

This short-range VP is located to the southwest of the Application Site with a viewing distance of about 220m from the Application Site which aims to capture

the visual effect of the increased PR and BH of the Proposed Scheme on the public viewers in the district open space. There are moderate numbers of VSRs at this VP, who are pedestrians, mainly the future residents of the surrounding area, utilizing this section of open space for recreational purposes. Therefore, the VSR's duration of view at this VP is considered medium/long. Taken into account of the close range, moderate number and medium/long duration of view of this VSR, it is considered to have a medium to high sensitivity.

(vi) Viewpoint 6 ("VP 6"): View from the NBA at TC 99 (***Figure 9*** refers)

This short-range VP is located to the south of the Application Site with a viewing distance of about 130m which aims to capture the visual effect of the increased PR and BH of the Proposed Scheme on the public viewers in the NBA at TC 99. The NBA is planned to serve as breezeway and view corridor towards the sea to promote better air ventilation and visual experience. This VP is considered to have a medium sensitivity.

(vii) Viewpoint 7 ("VP 7"): View from the Planned District Open Space at TC 111C (***Figure 10*** refers)

This short-range VP is located to the east of the Application Site with a viewing distance of about 380m from the Application Site which aims to evaluate the visual effect of the increased PR and BH of the Proposed Scheme on the VSRs whom are the park users. The VSR's duration of view at this VP is considered medium/ long. As the district open space serves the recreational needs of local residents and the general public, thus, it is considered to have a medium to high sensitivity. The proposed increase in development intensity would not cause any adverse visual impact.

7 ASSESSMENT OF VISUAL IMPACT

7.1 The primary objective of this VIA is to assess the visual impact of the Proposed Development under s.16 application for the proposed public housing development at TC 103. This VIA evaluates the visual impact of the proposed minor relaxation of restrictions of maximum overall PR from 5.4 to 5.9, and maximum BH from 110mPD to 125mPD for public housing development at TC 103. The assessment will hence focus on evaluating the potential visual impact of the Proposed Scheme in comparison to the Baseline Scheme with the statutory PR of 5.4 and BH of +110mPD at the Application Site. In accordance with TPB PG-No. 41, the assessment includes the following aspects:

(viii) **Visual Composition**: the total visual effects of all the visual elements due to their variation in locations, massing, height, forms, proportions in relation to the overall visual backdrop.

(ix) **Visual Obstruction**: the Proposed Development may cause views to be blocked or affected in the foreground or background. The degree of visual obstruction and loss of views due to the Proposed Development in all VPs will be assessed.

(x) **Effect on Public Viewers**: the visual changes arise from the Proposed Development at the VPs with direct sightlines will be demonstrated and assessed.

(xi) **Effect on Visual Resources**: the assessment will appraise if the Proposed Development would improve or degrade the condition, quality and character of the assessment area.

An evaluation of the visual impact will also be included and classified as the following:

- **Enhanced:** the Proposed Development will improve the visual effects in relation to the VPs.

- **Negligible:** the Proposed Development will have insignificant visual

effects in relation to the VPs.

- **Slightly Adverse:** the Proposed Development will result in some negative visual effects to the VPs.

- **Moderately Adverse:** the Proposed Development will result in negative visual effects to the VPs.

- **Significantly Adverse:** the Proposed Development will result in serious and detrimental visual effect to the VPs.

VP1: View from Chep Lap Kok Road (***Figure 4*** refers)

7.2 **Visual Composition:** The existing view of VP1 is formed by the sea and road barriers in the foreground. The background consists of the sky and the hillside greenery of Por Kai Shan. TC 99, TC 100, TC 109 in combination with the Proposed Development form a coherent building form, which is appeared to be visually compatible and conformed with the local context.

7.3 **Visual Obstruction:** As shown in ***Figure 4***, the increased PR and BH have minimal impact on the open sky view. In comparison with the Baseline Scheme, the Proposed Scheme will obstruct the view towards Por Kai Shan and Caribbean Coast, which are situated behind, to a minor extent. It is concluded that no significant visual obstruction is caused by the increased PR and BH for TC 103.

7.4 **Effect of Public Viewers:** The effect on the visual experience of the public viewers from the minor relaxation of restrictions of maximum overall PR and BH is negligible as the visual resources are insignificantly affected in the Proposed Scheme. It is concluded that the VSRs of this VP will not experience any major visual degradation given the transient nature at this VP.

7.5 **Effect on Visual Resources:** As evident in ***Figure 4***, the Baseline Scheme and Proposed Scheme would provide a similar effect on the visual resources' conditions from this VP. Therefore, no significant effect on the visual resource

was caused in the Proposed Scheme.

7.6 Based on the above, having regard to the low to medium sensitivity of this VP, a negligible visual impact will be resulted.

VP2: View from Kwo Lo Wan Road (***Figure 5*** refers)

7.7 **Visual Composition:** Majority of the view at this VP is dominated by the open space in the foreground; whilst the open sky view and Tai Che Tung serve as backdrop. As evident in ***Figure 5***, most of the open sky backdrop is maintained at this VP. The Baseline Scheme and Proposed Scheme will result in a similar effect in visual openness.

7.8 **Visual Obstruction:** The Proposed Scheme will obstruct a minimal portion of the open sky view in comparison to the Baseline Scheme. As evident in ***Figure 5***, majority of the open sky view would be preserved. No other visual resources will be affected.

7.9 **Effect of Public Viewers:** As this VP is situated in an isolated location with the open space dominating majority of the view, the VSRs will have only limited view of the Application Site. The Proposed Scheme will only result in negligible visual impact for public viewers.

7.10 **Effect on Visual Resources:** The Proposed Development will form part of the townscape view which is compatible with the surrounding area's BH. Given the attenuation by distance, the Proposed Scheme will only slightly block off TC 99 and a minimal portion of the open sky. The visual resources will not be significantly affected.

7.11 In consideration of the factors above and the low sensitivity of public viewers, the overall visual impact is considered negligible.

VP3: View from Scenic Hill Pavilion (***Figure 6*** refers)

7.12 **Visual Composition:** The existing visual composition of this VP comprises greenery and the sea in the foreground, a cluster of private housing developments including Seaview Crescent, Coastal Skyline and Caribbean Square to the right; and an open sky view and Tai Che Tung in the distant backdrop. From this VP, the Proposed Development along with TC 99, TC 100 and TC 109 form a cluster of high-rise developments. The Proposed Development is visually compatible and harmonious with its surroundings.

7.13 **Visual Obstruction:** In comparison to the Baseline Scheme, with the increased PR and BH of the Proposed Scheme, only a minimal part of the Tai Che Tung's greenery is blocked in the distant backdrop. No visual obstruction will be caused by the Baseline Scheme and Proposed Scheme to the sea and the open sky view, which are the key visual resources at this VP.

7.14 **Effect of Public Viewers:** Given the ample green amenity and sea in the foreground which dominate majority of the view, the VSRs will only have a limited view of the Application Site at this VP. The Proposed Development will only result in a negligible visual change for public viewers.

7.15 **Effect on Visual Resources:** The Proposed Development will form part of the townscape view and is compatible with the surrounding BH profile. Both Baseline Scheme and Proposed Scheme will have minimal impact on key visual resources of the sea and open sky. It is noted the Proposed Development would carefully design the building façade, color and treatment to ensure conformity with the surroundings.

7.16 After consideration of the factors above, the overall visual impact is considered negligible.

VP4: View from Tung Chung New Development Pier (***Figure 7*** refers)

7.17 **Visual Composition:** This VP captures mainly of the sea in the foreground and the private housing developments, including Le Bleu Deux, Coastal Skyline and Caribbean Square, to the right. A large open sky view is present at this VP. Both the Baseline Scheme and Proposed Scheme conform with the character within the assessment area, including Sheraton Hong Kong Tung Chung and Tung Chung Area 54 (which is also a public housing development under construction). As shown in ***Figure 7***, the increased PR and BH of the Proposed Scheme only affects the open sky to a minor extent. Given that the open sky dominates majority of the view at this VP, the Proposed Scheme will have a negligible impact on the visual composition.

7.18 **Visual Obstruction:** The increased PR and BH at the Application Site will have minimal obstruction to the open sky view. Both the Baseline Scheme and Proposed Scheme will have a similar effect on the view of the open sky. As evident in ***Figure 7***, there will be minimal visual change to the visual openness. Therefore, only insignificant visual obstruction is caused by the Proposed Scheme.

7.19 **Effect of Public Viewers:** The public viewers from this VP are mainly the ferry passengers and nearby residents for leisure activities, whom are of transient nature. The users will have a limited view of the Proposed Development from a medium range of about 1.26km. As shown in ***Figure 7***, the Baseline Scheme and Proposed Scheme will form a cluster of high-rise developments, which conform with the surrounding built environment; hence there is minimal visual impact on the public viewers. In combination of the low to medium sensitivity of the public viewers and the slight magnitude in change both within the Baseline Scheme and Proposed Scheme, public viewers will have a negligible visual impact.

7.20 **Effect on Visual Resources:** The Baseline Scheme and Proposed Scheme will merge with the existing built environment of Tung Chung Extension Area and will have minimal impact on key visual resources of the sea and the open sky.

7.21 Based on the above factors, the visual impact deriving from the Proposed Development at VP4 is considered negligible.

VP5: View from the Planned District Open Space (Tung Chung Area 16) In-between TC 103 and TC 99 (***Figure 8*** refers)

7.22 **Visual Composition:** This VP comprises of the planned open space and TC 99 in the foreground. An open sky view is apparent in the Baseline Scheme and Proposed Scheme. As evident in ***Figure 8***, the lower building height to the west of the Application Site would preserve a greater extent of the open sky view. Therefore, the visual composition of the Proposed Scheme as compared with the Baseline Scheme is considered enhanced.

7.23 **Visual Obstruction:** As seen in ***Figure 8***, the visual obstruction to the open sky view from the Proposed Scheme is reduced as compared with the Baseline Scheme due to the lower building height in the foreground. The open sky view is preserved to a greater extent, with a lower extent of the visual obstruction as compared with the Baseline Scheme.

7.24 **Effect of Public Viewers:** The VSRs at this VP are mainly for recreational purposes. The effect of public viewers from the Proposed Development is considered insignificant, and the Proposed Development will blend with the surrounding built environment harmoniously. The Proposed Development will have insignificant impact on the VSRs given the key visual resources are still present and retained.

7.25 **Effect on Visual Resources:** As demonstrated in ***Figure 8***, majority of the key visual resources are still being retained. The Proposed Development will carefully consider the building façade, color, and treatment in the detailed design stage to ensure uniformity is achieved in the surrounding area.

7.26 Considering the assessment above, the overall visual impact resulted from the Proposed Development is considered enhanced with a greater extent of the open sky view being preserved with the lower building height in the foreground.

VP6: View from the NBA at TC 99 (***Figure 9*** refers)

7.27 **Visual Composition:** The NBA in between the Proposed Development's building block serves as a view corridor towards the open sky and sea with a covered footbridge connecting to the building blocks of TC 103 in the Proposed Scheme. The footbridge is aimed to enhance pedestrian connectivity. The visual impact of BH to 125mPD is considered slightly adverse at this VP.

7.28 **Visual Obstruction:** From this VP, the Baseline Scheme and Proposed Scheme will largely preserve the viewing corridor, and the open sky and sea views viewed from the NBA at TC 99 will be slightly obstructed by the footbridge. The visual obstruction is considered minor and acceptable. No significant visual obstruction was caused by the Proposed Development at this VP as compared with the Baseline Scheme.

7.29 **Effect of Public Viewers:** As evident in ***Figure 9***, given the close proximity to the Application Site at this VP and as the normal field of vision is at 60^{o}, the increased PR and BH of the Proposed Development is not a key visual element in this VP. The open sky and sea views would be largely preserved, with minor effect on public viewers with the footbridge, but the extent is considered acceptable.

7.30 **Effect on Visual Resources:** As evident in ***Figure 9***, the footbridge in the Proposed Scheme would slightly obstruct the visual resources of the open sky and sea views, but the effect is considered insignificant. Therefore, no significant effect on the visual resource was caused in the Proposed Scheme.

7.31 Considering that changes in shown in ***Figure 9***, the resultant visual impact from the Proposed Scheme is considered slightly adverse.

VP7: View from the Planned District Open Space at Tung Chung Area 111C (***Figure 10*** refers)

7.32 **Visual Composition:** The visual composition at this VP consists of the planned district open space, Road D4, pedestrian pathway, planned public housing developments at TC 99, TC 100, TC 109, and the Proposed Development in the foreground. Caribbean Coast and Ngong Ping along with the open sky view serve as the distant backdrop.

7.33 **Visual Obstruction:** Given the close proximity to the Application Site at this VP and as the normal field of vision is at 60^{o} , the increased PR and BH of the Proposed Scheme creates negligible to slightly adverse visual obstruction to the existing open sky view and the future Tung Chung Town Park with minor impact on the visual openness.

7.34 **Effect of Public Viewers:** The VSRs at this VP will be intended for recreational uses, and the visual impact caused by the increased PR and BH of the Proposed Scheme will cause negligible to slightly adverse visual impacts to the VSRs. As demonstrated in ***Figure 10***, the planned district open space will provide screening effect and visual relief that harmonizes the visual effect of the high-rise developments.

7.35 **Effect on Visual Resources:** Due to the close proximity of the VP, the loss of the open sky view and adverse effects on visual resources is negligible to slightly adverse. No significant impact on other visual resources is observed. The Proposed Development would be carefully designed at the detailed design stage to conform with the surrounding contexts.

7.36 Taken into account of the sensitivity of VSRs and the overall visual impact implemented, the visual impact of the Proposed Scheme at this VP is considered negligible to slightly adverse.

8 MITIGATION MEASURES

8.1 Various mitigation measures are proposed in order to enhance the visual resources and minimize the visual impact of the Proposed Development. Building blocks are to be carefully designed at the detailed design stage with consideration on the building façade, color and treatment for the Application Site. Wind corridors with a minimum width of 20m at ground level will be provided to achieve visual permeability and air ventilation. With the lower building height to the west of the Application Site in the Proposed Scheme, the possibility of providing additional greenery has been explored.

9 CONCLUSION

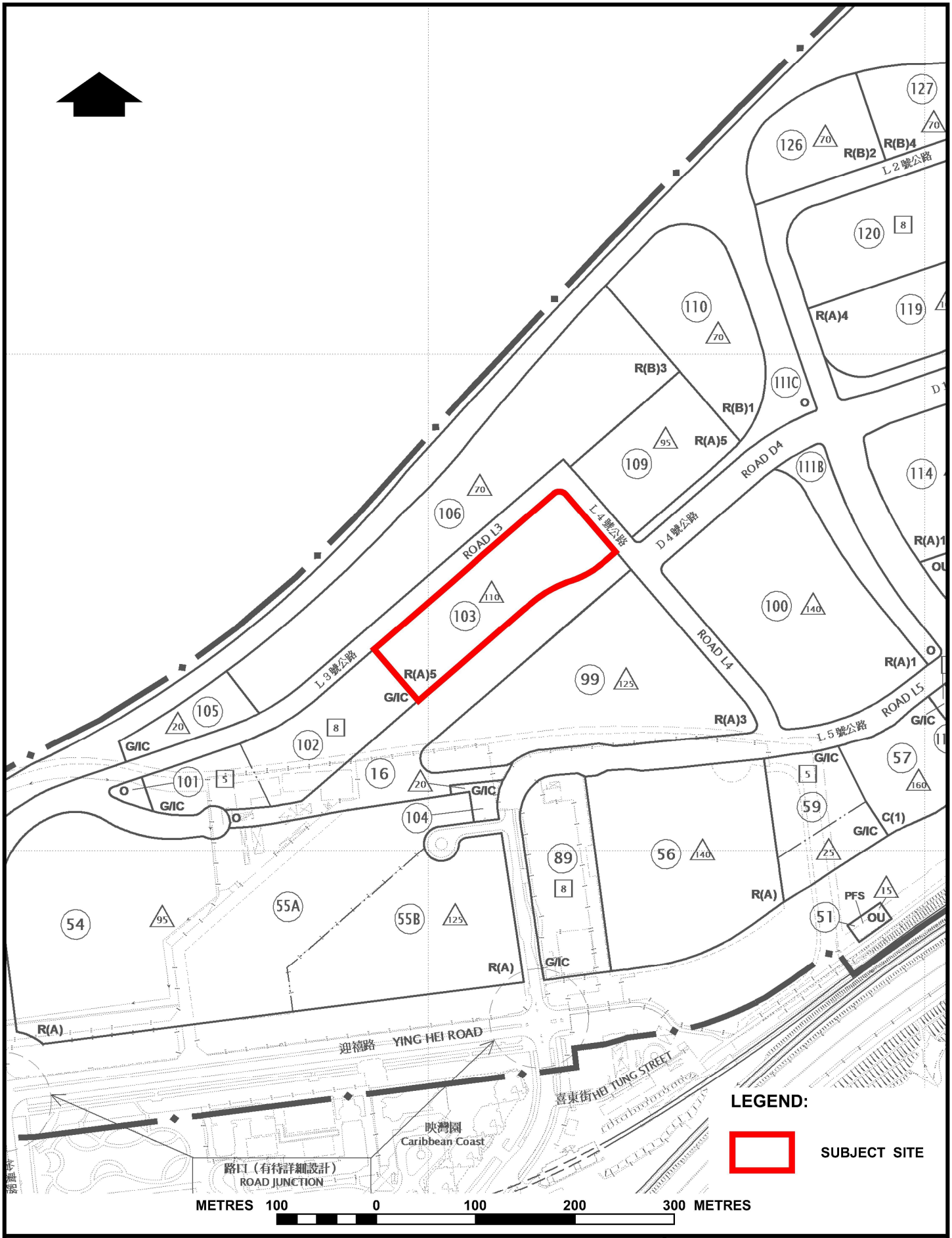
9.1 The VIA is prepared in support of a s.16 Planning Application for minor relaxation of restrictions of maximum overall PR from 5.4 to 5.9, and maximum BH from 110mPD to 125mPD for public housing development at the Application Site. A total of seven VPs were selected for assessment through comparison of the Baseline Scheme and Proposed Scheme.

9.2 Having conducted the analysis on the appraisal of visual impact on Visual Composition, Visual Obstruction, Effect on Public Views and Effect on Visual Resources, *Table 2* below presents the overall cumulative visual impact caused by the Proposed Development.

Table 2 – Summary Table of Visual Impacts from the Viewpoints Assessed

Viewpoints Assessed	**Visual Sensitivity**	**Resultant Visual Impact**
VP1: Chep Lap Kok Road	Low to medium	Negligible
VP2: Kwo Lo Wan Road	Low	Negligible
VP3: Scenic Hill Pavilion	Medium	Negligible
VP4: Tung Chung New Development Pier	Low to medium	Negligible
VP5: Planned District Open Space (TC 16) In-Between TC 103 and TC 99	Medium to high	Enhanced
VP6: Non-Building Area at TC 99	Medium	Slightly adverse
VP7: Planned District Open Space at TC 111C	Medium to high	Negligible to slightly adverse

9.3 In conclusion, as evident from the VPs, the residual cumulative visual impact of the Proposed Development is considered negligible and conforms with the surroundings as an extension of the high-rise townscape.



LOCATION PLAN
PUBLIC HOUSING DEVELOPMENT
TUNG CHUNG AREA 103

HOUSING DEPARTMENT
PLANNING SECTIONS

Figure 1

DATE :
14. 6. 2022

BASE EXTRACTED FROM OZP No. S/I-TCE/2

22_0459I_OZP

TUNG CHUNG AREA 106
(Private Development)

NON-BUILDING AREA

TUNG CHUNG AREA 106
(Private Development)

ROAD L3

RUN IN / OUT

ROAD L3

RUN IN / OUT

TUNG CHUNG AREA 102

CARPARK COVER

RECREATIONAL / LANDSCAPED DECK

BLOCK A

DOMESTIC BLOCK WITH PODIUM

EVA

BLOCK B

BLOCK C

DOMESTIC BLOCK WITH PODIUM

EVA / SERVICE ACCESS BELOW

EVA / SERVICE ACCESS

BLOCK D

DOMESTIC BLOCK WITH PODIUM

DOMESTIC BLOCK WITH PODIUM

ROAD L4

5m SET BACK FROM DOS

DISTRICT OPEN SPACE

TUNG CHUNG AREA 99
(Public Housing)

NON-BUILDING AREA

TUNG CHUNG AREA 99
(Public Housing)

N

NOTES:

APPLICATION SITE
申請地點

AT GRADE OPEN SPACE/
LANDSCAPED DECK
地面休憩空間 / 園景平台

REVISIONS

NO	DESCRIPTION AND DATE	INITIAL AND DESIGNATION DWN	CKD	AUTH

	NAME AND DESIGNATION	INITIAL	DATE
AUTHORISED FOR ISSUE BY HD	GARDAS LI CA/2		

興業建築師
HSIN YIEH ARCHITECTS & ASSOCIATES LTD.
8/F, GUARDIAN HOUSE, 32 O KWAN ROAD, WANCHAI, HONG KONG.

AUTHORISED	JOHNNY HO		7/2022
ENDORSED	W.T. LEUNG		7/2022
CHECKED	ENID HO		7/2022
DRAWN	FELIX FUNG		7/2022

PROJECT
SECTION 16 PLANNING APPLICATION FOR TUNG CHUNG AREA 103

DRAWING TITLE
Figure 2a - MASTER LAYOUT PLAN - BLOCK PLAN

SCALE 1:400 (A1) 1:800 (A3)

DRAWING NO.
IS19/-/S16/A/LO-01

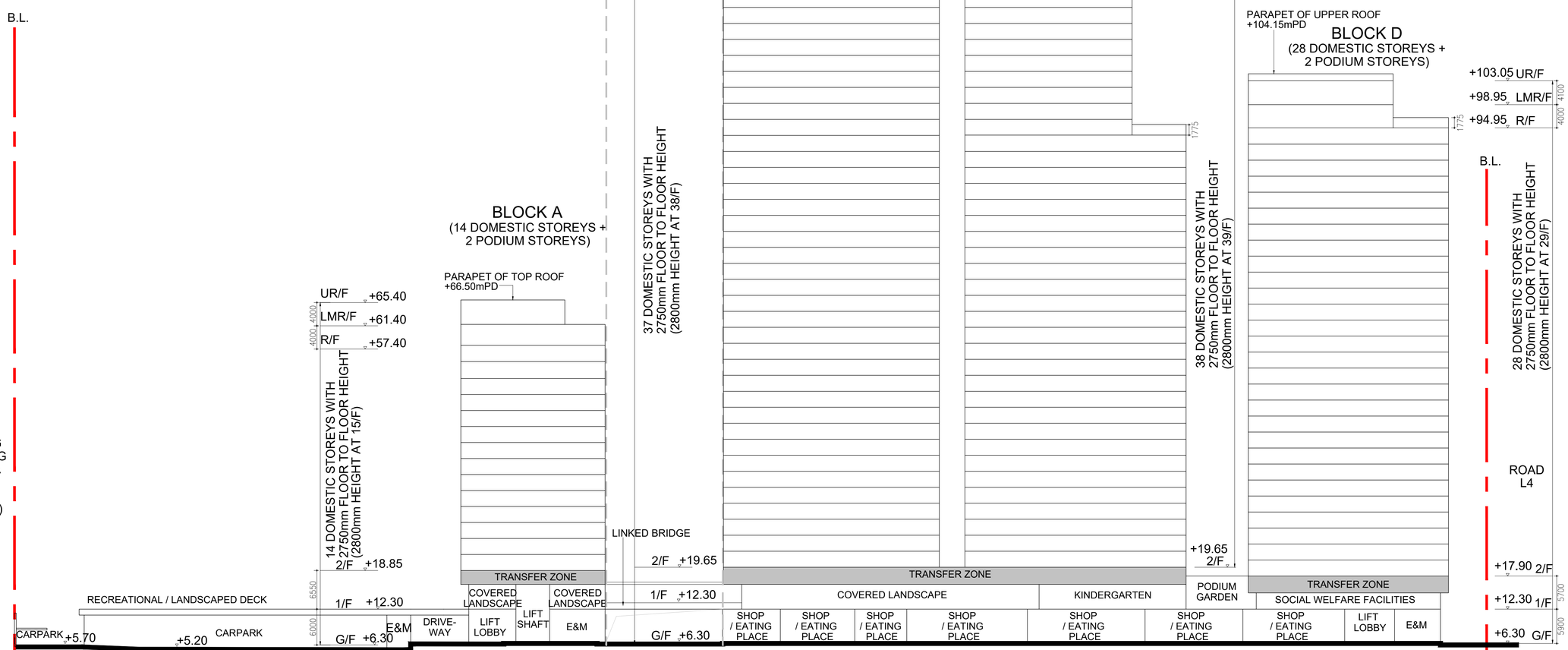
SOURCE

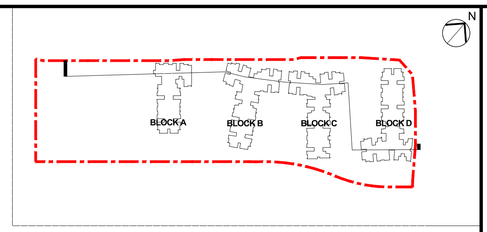
ICU NO.

AutoCAD 2000 A1 594 x 841

HOUSING DEPARTMENT

COUNTERCHECKED





KEY PLAN SCALE 1:1000(A3) 1:2000(A1)

NOTES:

APPLICATION SITE
申請地點

REVISIONS

NO	DESCRIPTION AND DATE	INITIAL AND DESIGNATION DWN	CKD	AUTH

	NAME AND DESIGNATION	INITIAL	DATE
AUTHORISED FOR ISSUE BY HD	GARDAS LI CA/2		

興業建築師
HSIN YIEH ARCHITECTS & ASSOCIATES LTD.
8/F, GUARDIAN HOUSE, 32 OI KWAN ROAD, WANCHAI, HONG KONG.

AUTHORISED	JOHNNY HO		7/2022
ENDORSED	W.T. LEUNG		7/2022
CHECKED	ENID HO		7/2022
DRAWN	FELIX FUNG		7/2022

PROJECT
SECTION 16 PLANNING APPLICATION FOR TUNG CHUNG AREA 103

DRAWING TITLE
Figure 2b - SECTION

SCALE 1:400 (A1) 1:800 (A3)

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IS19/-/S16/A/LO-05

SOURCE

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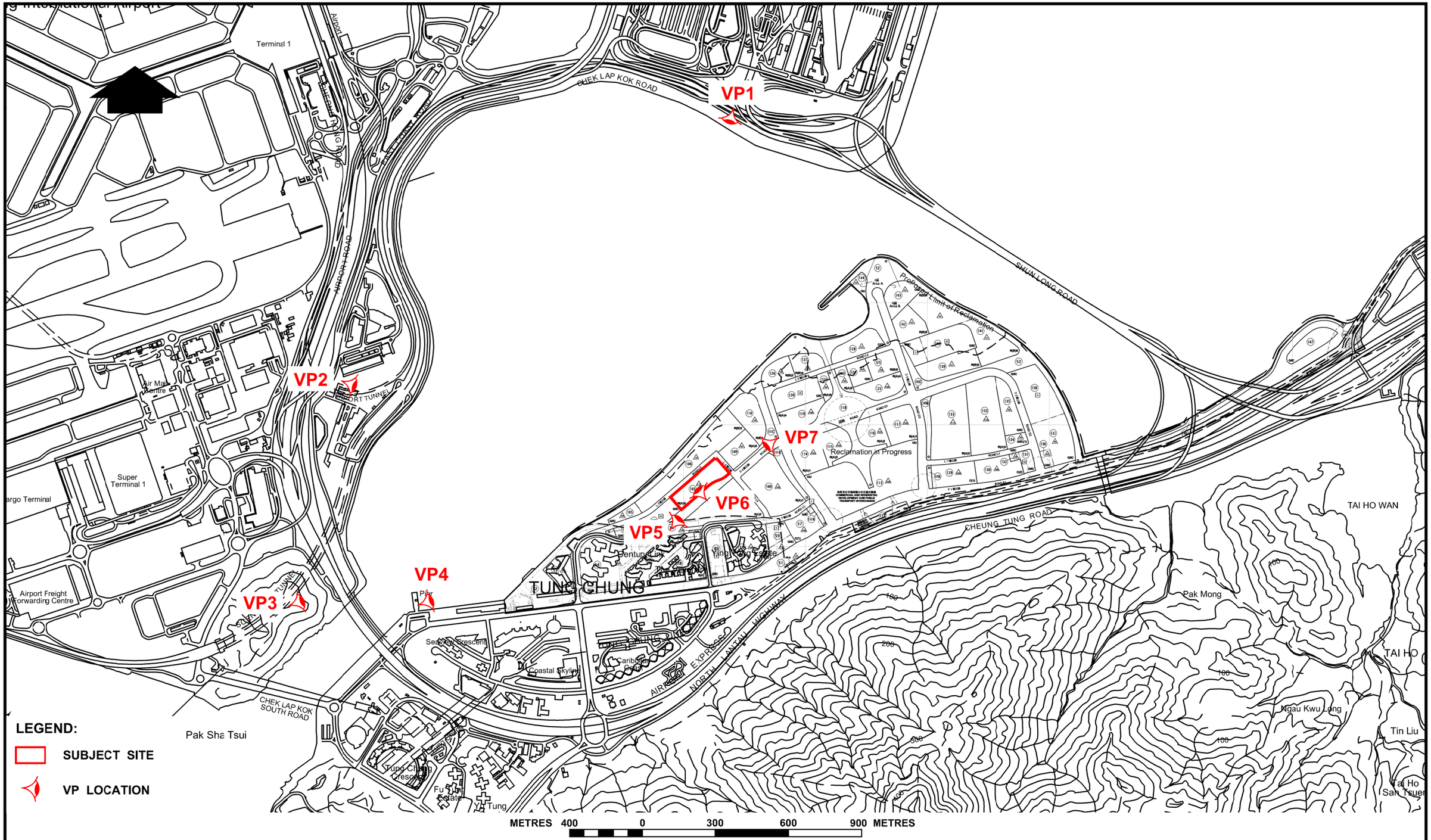
HOUSING DEPARTMENT

COUNTERCHECKED ☑



PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 VIEWPOINTS LOCATION

HOUSING DEPARTMENT
PLANNING SECTIONS

Figure 3

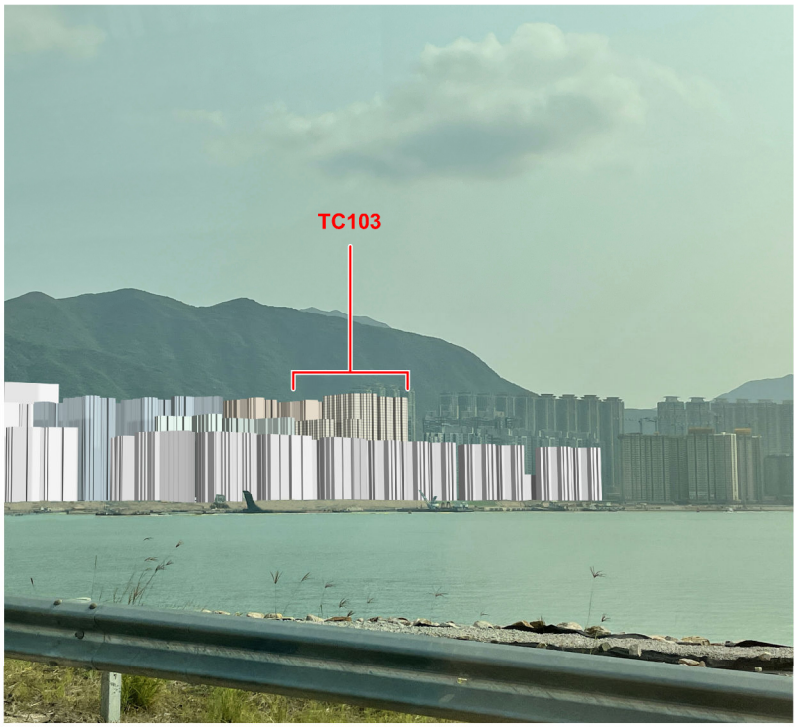
DATE : 14. 6. 2022

BASE EXTRACTED FROM OZP No. S/I-TCE/2 AND SHT. No. 9

22_0459I_PLAN1

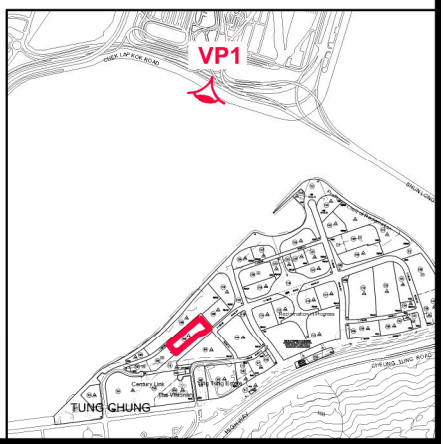
Baseline Scheme

Proposed Scheme



LEGEND:

- TC99
- TC100
- TC103
- TC109
- TC113



PHOTOMONTAGE AT VIEWPOINT 1 (VIEW FROM CHEP LAP KOK ROAD)

HOUSING DEPARTMENT
PLANNING SECTIONS

Figure 4

DATE :
14. 6. 2022

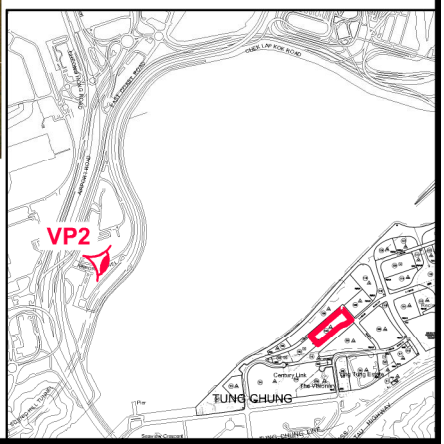
22_0459I_VP1

Baseline Scheme

Proposed Scheme

LEGEND:

- TC99
- TC100
- TC103
- TC109
- TC113



PHOTOMONTAGE AT VIEWPOINT 2 (VIEW FROM KWO LO WAN ROAD)

HOUSING DEPARTMENT
PLANNING SECTIONS

Figure 5

DATE :
14. 6. 2022

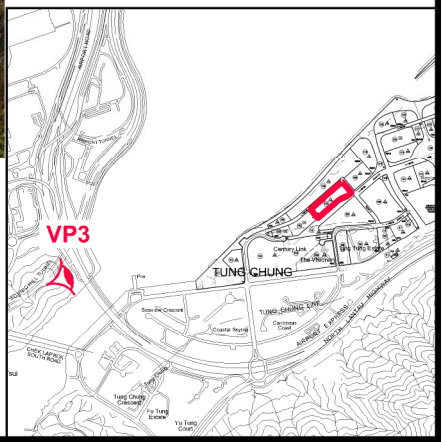
22_0459I_VP2

Baseline Scheme

Proposed Scheme

LEGEND:

- TC99
- TC100
- TC103
- TC109
- TC113



PHOTOMONTAGE AT VIEWPOINT 3 (VIEW FROM SCENIC HILL PAVILION)

HOUSING DEPARTMENT
PLANNING SECTIONS

Figure 6

DATE :
14. 6. 2022

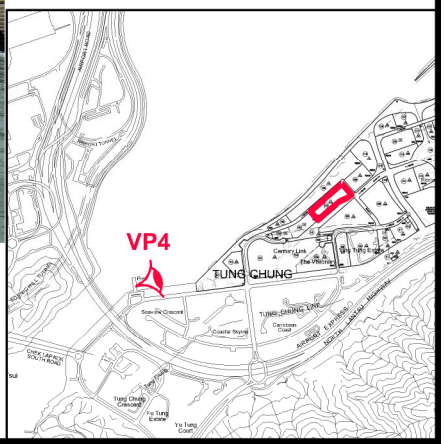
22_0459I_VP3

Baseline Scheme

Proposed Scheme

LEGEND:

- TC99
- TC100
- TC103
- TC109
- TC113



PHOTOMONTAGE AT VIEWPOINT 4 (VIEW FROM TUNG CHUNG NEW DEVELOPMENT PIER)

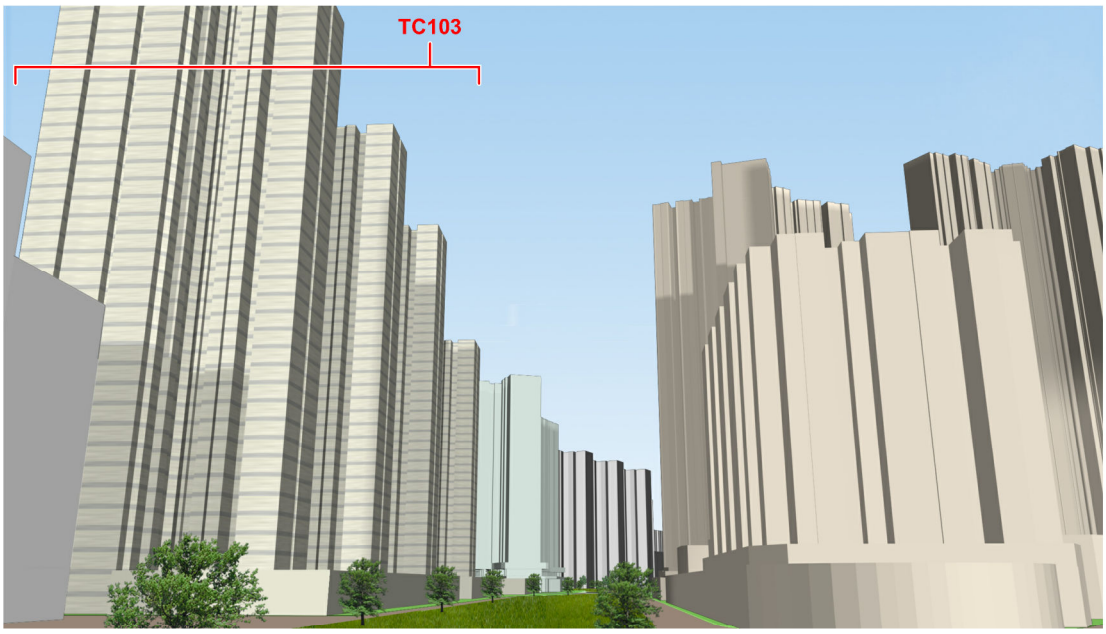
HOUSING DEPARTMENT
PLANNING SECTIONS

Figure 7

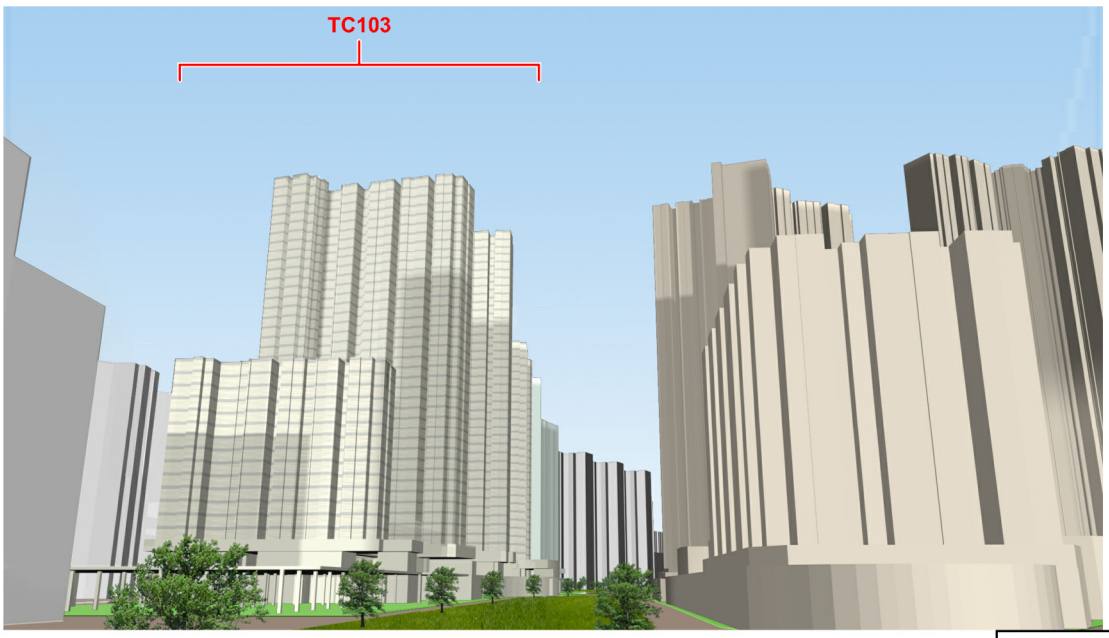
DATE :
14. 6. 2022

22_0459I_VP4

Baseline Scheme

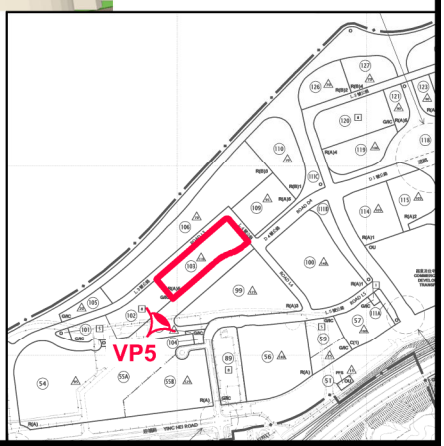


Proposed Scheme



LEGEND:

- TC99
- TC100
- TC103
- TC109
- TC113



PHOTOMONTAGE AT VIEWPOINT 5
(VIEW FROM PLANNED DISTRICT OPEN SPACE (TUNG CHUNG AREA 16) IN BETWEEN TUNG CHUNG AREA 103 AND TUNG CHUNG AREA 99)

HOUSING DEPARTMENT
PLANNING SECTIONS

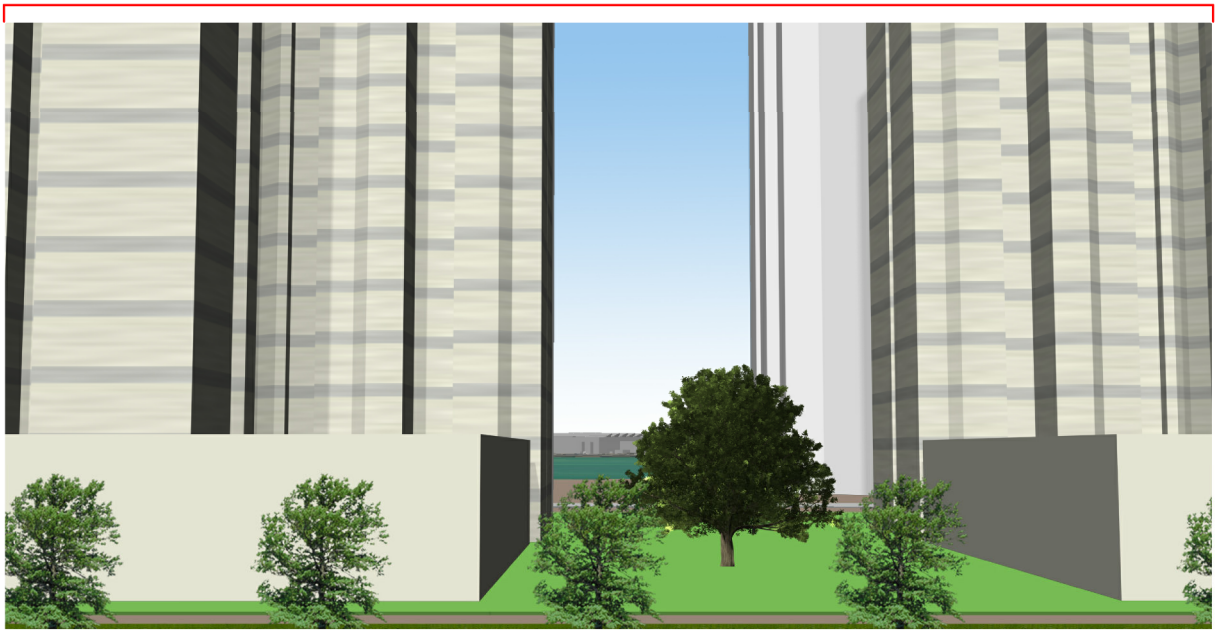
Figure 8

DATE :
14. 6. 2022

22_0459I_VP5

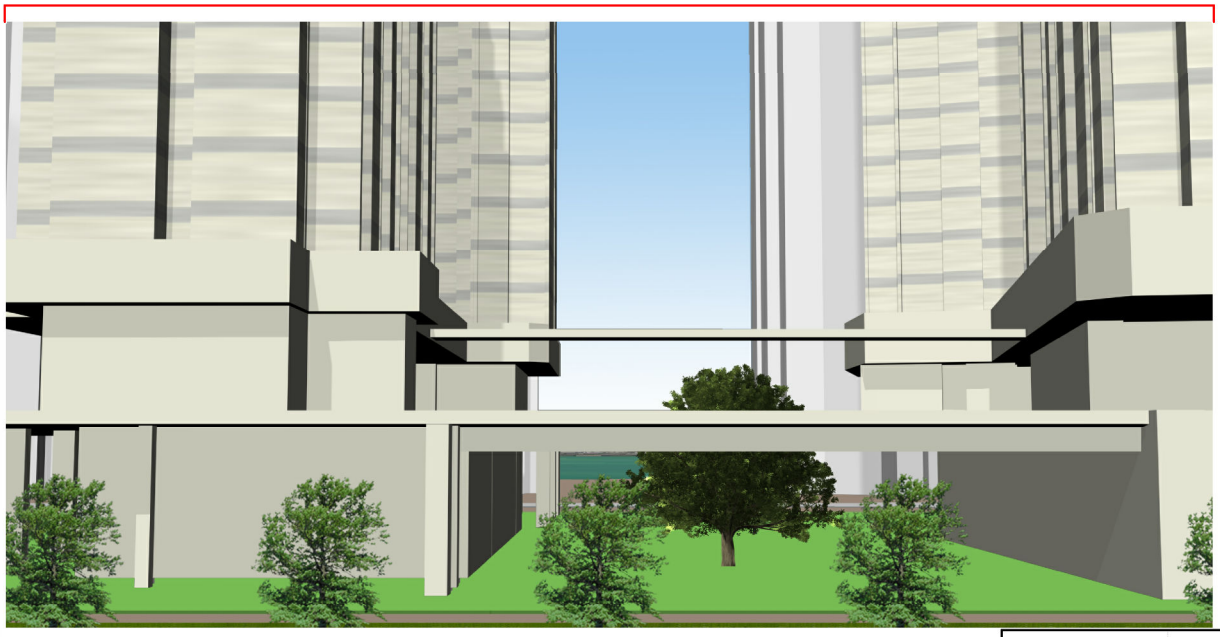
Baseline Scheme

TC103



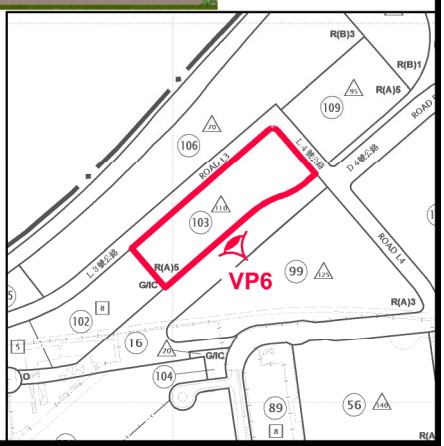
Proposed Scheme

TC103



LEGEND:

- TC99
- TC100
- TC103
- TC109
- TC113



PHOTOMONTAGE AT VIEWPOINT 6 (VIEW FROM NON-BUILDING AREA OF TUNG CHUNG AREA 99)

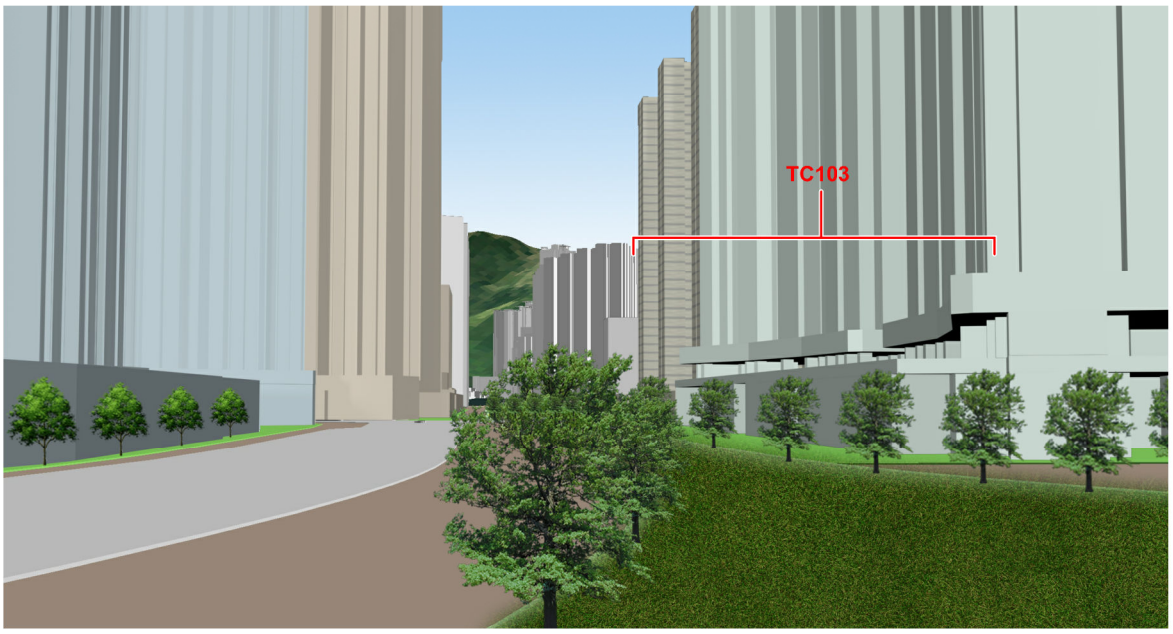
HOUSING DEPARTMENT
PLANNING SECTIONS

Figure 9

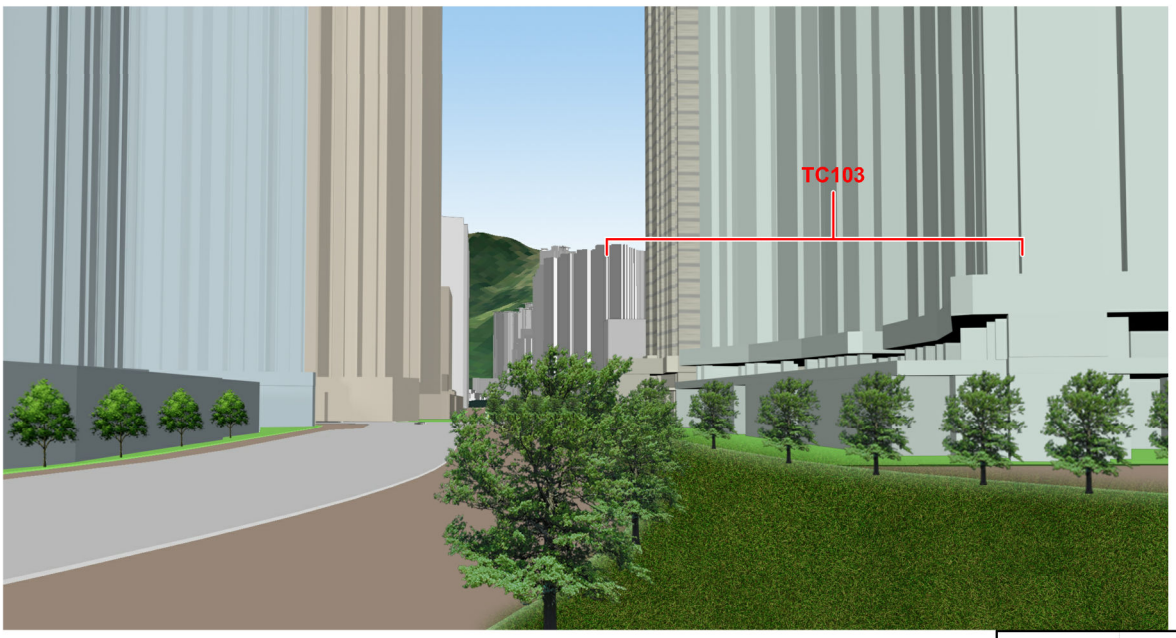
DATE :
14. 6. 2022

22_0459I_VP6

Baseline Scheme

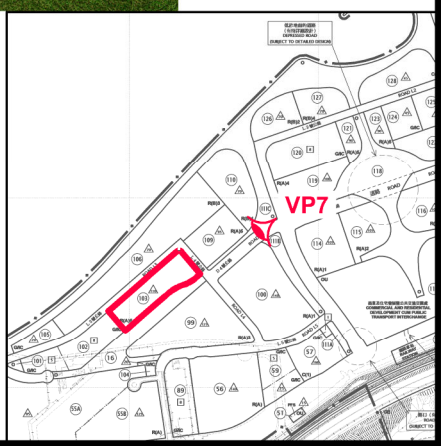


Proposed Scheme



LEGEND:

- TC99
- TC100
- TC103
- TC109
- TC113



PHOTOMONTAGE AT VIEWPOINT 7 (VIEW FROM DISTRICT OPEN SPACE AT TUNG CHUNG AREA 111C)

HOUSING DEPARTMENT
PLANNING SECTIONS

Figure 10

DATE :
14. 6. 2022

22_0459I_VP7

Appendix 5

Technical Assessments – Part 3

(Sewerage Impact Assessment)

Hong Kong Housing Authority

Agreement No. CB20180310
HKHA Term Engineering Consultancy Services 2018-2020
For Kowloon Central & West and Islands Region

Proposed Public Housing Development at Tung Chung Area 103

Sewerage Impact Assessment (Final)

Document No. Q1021/C005/2
Issue 2

June 2022

MANNINGS
(Asia) Consultants Limited

Q1021/C005/2
Issue 2
June 2022

Agreement No. CB20180310
HKHA Term Engineering Consultancy Services 2018-2020
For Kowloon Central & West and Islands Region

Proposed Public Housing Development at
Tung Chung Area 103

Sewerage Impact Assessment (Final)

Approved for Issue by:	
William SO	
Position:	Project Manager
Date:	June 2022

Hong Kong Housing Authority
6/F, Block 3
Hong Kong Housing Authority Headquarter
33 Fat Kwong Street
Ho Man Tin
Kowloon

Mannings (Asia) Consultants Ltd
5/F, Winning Commercial Building
46-48 Hillwood Road
Tsim Sha Tsui
Kowloon

Q1021/C005/2
Issue 2
June 2022

Agreement No. CB20180310
HKHA Term Engineering Consultancy Services 2018-2020
For Kowloon Central & West and Islands Region

Proposed Public Housing Development at
Tung Chung Area 103

Sewerage Impact Assessment (Final)

Issue	Prepared by	Reviewed by	Date
1	MWS	ST	April 2022
2	MWS	ST	June 2022

Content

1.0 Introduction 1
2.0 Tung Chung Area 103 2
3.0 Sewerage Impact Assessment 5
4.0 Conclusion 7

Appendix A – Site Layout Plan

Appendix B – Design Drawings from "Sewerage System and Sewage Treatment Implication Review for Population Increase and Development Intensity – CASE2 Scenario 2B (Final)" (ref. PI20-02) and HKHA

Appendix C – Extracts of Reference Guidelines and Materials

Appendix D – Sewerage Assessment

1.1 Background

1.1.1 Civil Engineering and Development Department (CEDD) is carrying out reclamation and infrastructure works for the development of Tung Chung New Town Extension (TCNTE) - East. In response to the policy on site optimisation and intensification, CEDD has carried out studies to assess the potential increase of housing provision in Tung Chung East. Tung Chung Area 103 (hereinafter refer as "the Subject Site") at Tung Chung East is being explored (See Appendix A). Tentatively, the proposed public housing development at the Subject Site is targeted to complete in year 2026/27.

1.1.2 Mannings (Asia) Consultants Ltd has been commissioned by the Hong Kong Housing Authority (HKHA) under the Agreement No. CB20180310 HKHA Term Engineering Consultancy Services 2018-2020 to undertake the Sewerage Impact Assessment (SIA) (hereinafter refer as "the Subject Study") to support the s.16 planning application for the proposed public housing development at the Subject Site.

1.2 Study Objective

1.2.1 The objective of the study is:

- To assess the sewerage impact to the proposed gravity sewers and the pumping station.

1.2.2 The major tasks to achieve these objectives include:

- To evaluate the Average Dry Weather Flow (ADWF) generated from the increased population of Area 103; and
- Assess the impacts of increased population in Area 103 to the proposed sewerage system.

Tung Chung Area 103 and 109

2.1 Sewerage Disposal Arrangement

2.1.1 According to the latest design of Tung Chung New Town Extension (East) by CEDD, the sewerage catchment of the reclamation area is divided two catchments, namely western catchment and eastern catchment. The western catchment covers the Tung Chung New Town Extension (East) Phase 1 and Phase 2 development area and the Ying Tung Estate (Area 56). The collected sewerage from the development area and the sewerage generate from Area 56 will be discharged into the proposed Western Sewerage Pumping Station (West SPS) located in adjacent to Ying Tung road and subsequently conveyed the flow into existing Tung Chung Sewage Pumping Station (TCSPS) for eventually pumping to Siu Ho Wan Sewage Treatment Works (SHWSTW). The latest sewage layout plans of the gravity sewer and the West SPS catchment and general layout of West SPS are presented in Appendix B.

2.2 Population

2.2.1 The Subject Site, with a site layout plan shown in Appendix A, will include domestic blocks, non-domestic facilities including retail and commercial. A summary of the development parameters of the Subject Site in the assessment were presented in the table below.

	Tung Chung Area 103
Target Completion Year	2026/27
Public Rental Housing (PRH)	
No. of Flats	2,018
Design Population	5651 (2018 x 2.8)
*Population adopted in the report *(Parameter extract from AECOM report "Sewerage System and Sewage Treatment Implication Review for Population Increase and Development Intensity – CASE 2 Scenario 2B (Final)" (ref. PI20-02)	6,322
Non-domestic Facilities	Commercial (Retail)
	Kindergarten
	Social Welfare Facilities
	F&B Trade

2.2.2 By referring to EPD's Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning, different unit flow factors have been stipulated for the following 2 different types of development:

- Domestic Flows (EPD's Guidelines Section 7, Table T-1); and
- Commercial and Institutional Flows (EPD's Guidelines Section 7, Table T-2);

Relevant tables are extracted in Appendix C for easy reference.

2.2.3 The total ADWF generated from Area 103 is estimated 1344.3m³/day and is proposed to be discharged into the proposed sewage manhole SE-D6 and SE-D9. The estimation of ADWF in the catchment of West SPS are summarized in the table below.

Development	Name	Population	Unit Flow Factor (m³/d/person)	ADWF (m³/day)	Types	Remarks and Assumption
Area 103	Residential Population (RS)	6,322	0.19	1,201	Domestic Private R1	Information from HD and AECOM report "Sewerage System and Sewage Treatment Implication Review for Population Increase and Development Intensity – CASE 2 Scenario 2B (Final)" (ref. PI20-02)
	Commercial (Retail)	287	0.28	80	Commercial: Community, Social & Personal Services (J11)	
	Kindergarten (Student)	180	0.04	7	School Student	
	Kindergarten (Employee)	20	0.28	5.6	Commercial Employee	
	Community & Social Centers	33	0.28	9	Commercial: Community, Social & Personal Services (J11)	
	Assumed F&B Trade(1)	28.7	1.58	45.3	Restaurants & Hotels (J10	
Area 109	Residential Population (R3)	4,113	0.19	781	Domestic Private R1	
	Commercial (Retail)	180	0.28	50	Commercial: Community, Social & Personal Services (J11)	
	Assumed F&B Trade(1)	18	1.58	28.4	Restaurants & Hotels (J10	
Total		11182	-	2207.3	-	-

(1) Population of possible F&B trade in TCE is assumed to be 10% of retail employee.

2.2.4 Area 109, being in close proximity of Area 103 and close targeted completion year, 2025/26, with Area 103, the proposed increased intensity for Area 109 will be considered together with the Subject Site.

2.2.5 As referred to AECOM report "Sewerage System and Sewage Treatment Implication Review for Population Increase and Development Intensity – CASE 2 Scenario 2B[1] (Final)" (ref. P120-02), the revised ADWF generated from Area 56 and other area in catchment for West SPS, except Area 103 and Area 109, will be 12503.00m³/ day. There will be totally 14706.7 m³/day discharged into the West SPS. The build-up of sewerage flow of catchment is extracted in Appendix C. The estimation of ADWF in the catchment of West SPS are summarized in the table below.

Area No.	Population/ Employee	ADWF (m^3/day)
103	6871	1347.90
109	4311	859.40
Other Areas in West SPS Catchment (Including Area 56)		12503.00
Total		14,710.30

Remarks: The estimation of ADWF from Area 103 refers to the approved report named "Proposed Public Housing Development at Tung Chung Area 103 Sewerage Impact Assessment (Draft Final)" (Document no. Q1021/C005/1) under separate submission.

[1] Case 2 Scenario 2B covers the increase development intensity for Area 99, 103, 109, 133A, 133B and 133C by HD's Site Optimisation and Executive Council (ExCo)'s Intensification Policy and all other public housing sites at Tung Chung East Extension increased by HD's Site Optimisation.

Sewerage Impact Assessment

3.1 Proposed Gravity Sewer Network in Western SPS Catchment

3.1.1 Comparing with AECOM report "Sewerage Design Report (Final)" (ref. C20-02), the designed flow of sewage generated from West SPS catchment will remain 14,710.3 m3/day, with population increase in Western SPS catchment (including Area 103 and Area 109). The proposed gravity sewer network in western sewage catchment have been assessed based on the information, including the build-up of sewage in other areas other Area 103 and Area 109 and the distribution of sewage to discharge points, from AECOM report "Sewerage System and Sewage Treatment Implication Review for Population Increase and Development Intensity – CASE2 Scenario 2B (Final)" (ref. PI20-02) in West SPS and the design of the gravity sewer by CEDD's Consultant. By referencing to EPD's Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning (the Guidelines), peaking factor excluding stormwater allowance should be adopted as the proposed sewerage facilities are planned to receive flow from new upstream sewerage system which essentially have no misconnections and defects for infiltration. The assessment of the gravity sewer in West SPS is detailed in the Appendix D.

3.2 Proposed Pumping Station and its Rising Mains

3.2.1 The design of the proposed West SPS is made reference to AECOM report "Sewerage System and Sewage Treatment Implication Review for Population Increase and Development Intensity – CASE2 Scenario 2B (Final)" (ref. PI20-02). The storage capacity of West SPS is assessed and the capacity is adequate to cater for 6 hours of ADWF of the revised population in West SPS catchment for emergency storage. The calculation of the sewage retention volume is presented in Appendix D.

3.2.2 According to AECOM report "Sewerage System and Sewage Treatment Implication Review for Population Increase and Development Intensity – CASE2 Scenario 2B (Final)" (ref. PI20-02), the diameter of rising mains is adjusted to NS450. The hydraulic design of the proposed ND450 twin rising mains has been assessed based on the revised population in West SPS catchment. The flow velocities of the NS450 twin rising mains are estimated to be 1.41 m/s and 2.82 m/s under normal operation and emergency condition respectively. The calculation of the NS450 twin rising mains volume is presented in Appendix D.

3.3 Gravity Sewer Network at Tung Chung Town Centre

3.3.1 From the information in AECOM report "Sewerage System and Sewage Treatment Implication Review for Population Increase and Development Intensity – CASE2 Scenario 2B (Final)" (ref. PI2--02), the sewerage will be conveyed from the discharge chamber (DC1) of the rising mains mentioned in section 3.2 to existing TCSPS via the proposed sewerage system between the proposed manhole SE-G1 to F21. The capacity of the proposed gravity sewer between the proposed manhole SE-G1 to F21 is assessed and considered adequate. The assessment of the between the proposed manhole SE-G1 to F21 is detailed in the Appendix D.

3.4 Existing Tung Chung Sewage Pumping Station (TCSPS)

3.4.1 As referred to the Sewerage Impact Assessment under Agreement No. CE32/2011(CE): Planning & Engineering Study on the Remaining Development in Tung Chung – Feasibility Study, it is estimated that the projected, it is note that EPD has arranged with DSD to upgrade the to its design maximum handling capacity to 3,680 lit/s (317,952m3/day) which is sufficient to cater for ultimate sewage flow 280,831 m3/day, as referred to AECOM report "Sewerage System and Sewage Treatment Implication Review for Population Increase and Development Intensity – CASE2 Scenario 2B (Final)" (ref. PI20-03), in Year 2041. Sewerage impact to TCSPS arising from the population increase in Area 103 and Area 109 is not anticipated.

Conclusion

4.1 The sewerage impact assessment was based on the scenarios that the development intensity for Areas 99, 103, 109, and other sites were increased by both HD's Site Optimisation and Executive Council (ExCo)'s Intensification Policy and all other public housing sites at Tung Chung East Extension were increased by HD's Site Optimisation. The population of 6,322 in Area 103 is adopted in this assessment.

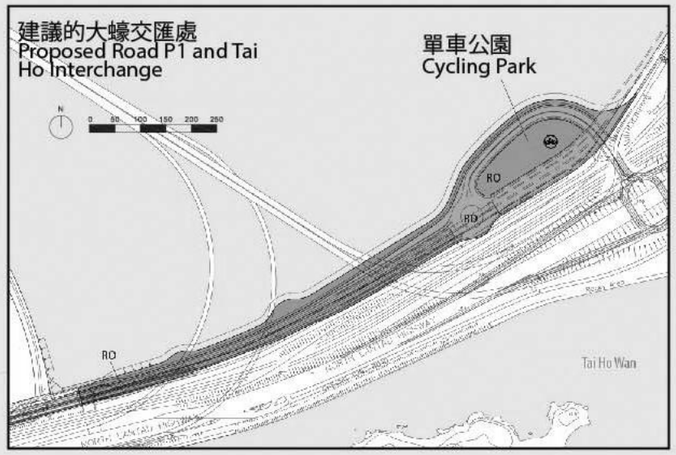
4.2 Based the latest design of the proposed sewerage system in AECOM report "Sewerage System and Sewage Treatment Implication Review for Population Increase and Development Intensity – CASE2 Scenario 2B (Final)" (ref. PI20-02), the sewerage generated from Area 109 is proposed to be discharged to Western Sewerage Pumping Station via the proposed gravity sewer. The capacity of the proposed gravity sewers and Western Sewerage Pumping Station and its rising mains were assessed to be adequate to cater the population increase in Area 103.

4.3 It is concluded that the sewerage generated from the increase in population in Area 103 could be accommodated in West Sewerage Pumping Station catchment by the proposed design of gravity sewers and pumping station and its rising mains in AECOM report "Sewerage System and Sewage Treatment Implication Review for Population Increase and Development Intensity – CASE 2 Scenario 2B (Final)" (ref. PI20-02).

4.4 Given that EPD has arranged with DSD to upgrade the maximum handling capacity Tung Chung Sewage Pumping Station, as reported in Sewerage Impact Assessment under Agreement No. CE32/2011(CE), it is concluded that adverse sewerage impact to TCSPS arising from the population increase in Area 103 is not anticipated.

APPENDIX A

SITE LAYOUT PLAN



海濱公園
Waterfront Park

運動中心
Sports Centre

遊艇停泊處
Marina

運動場
Sports Ground

專上學院及其他學校用途
Tertiary Institutes and Other School Uses

中央綠園
Central Green

已婚警察宿舍
Police Married Quarters

消防局
Fire Station

海水泵房
Salt Water Pumping Station

Area 103

污水泵房
Sewage Pumping Station

警局
Police Station

大蠔灣
Tai Ho Wan

運動中心
Sports Centre

污水泵房
Sewage Pumping Station

垃圾收集站
Refuse Collection Point

建議的東涌東鐵路站
Proposed Tung Chung East Railway Station

診所／健康中心
Clinic / Health Centre

North Lantau (Extension) Country Park

Tung Chung Centre District

Rev.	Description of Revision	Date	Ckd.

Client
HONG KONG HOUSING AUTHORITY

Consultants
MANNINGS (Asia) Consultants Limited

Scale in A3 N.T.S.	Date MAR 2021	
Designed MWS	Drawn MWS	Checked ST
Design Team Leader WS		Date MAR 2021
Approved KTC		Date MAR 2021

Project
HKHA TERM ENGINEERING CONSULTANCY SERVICES 2018-2020 FOR KOWLOON CENTRAL & WEST AND ISLANDS REGION

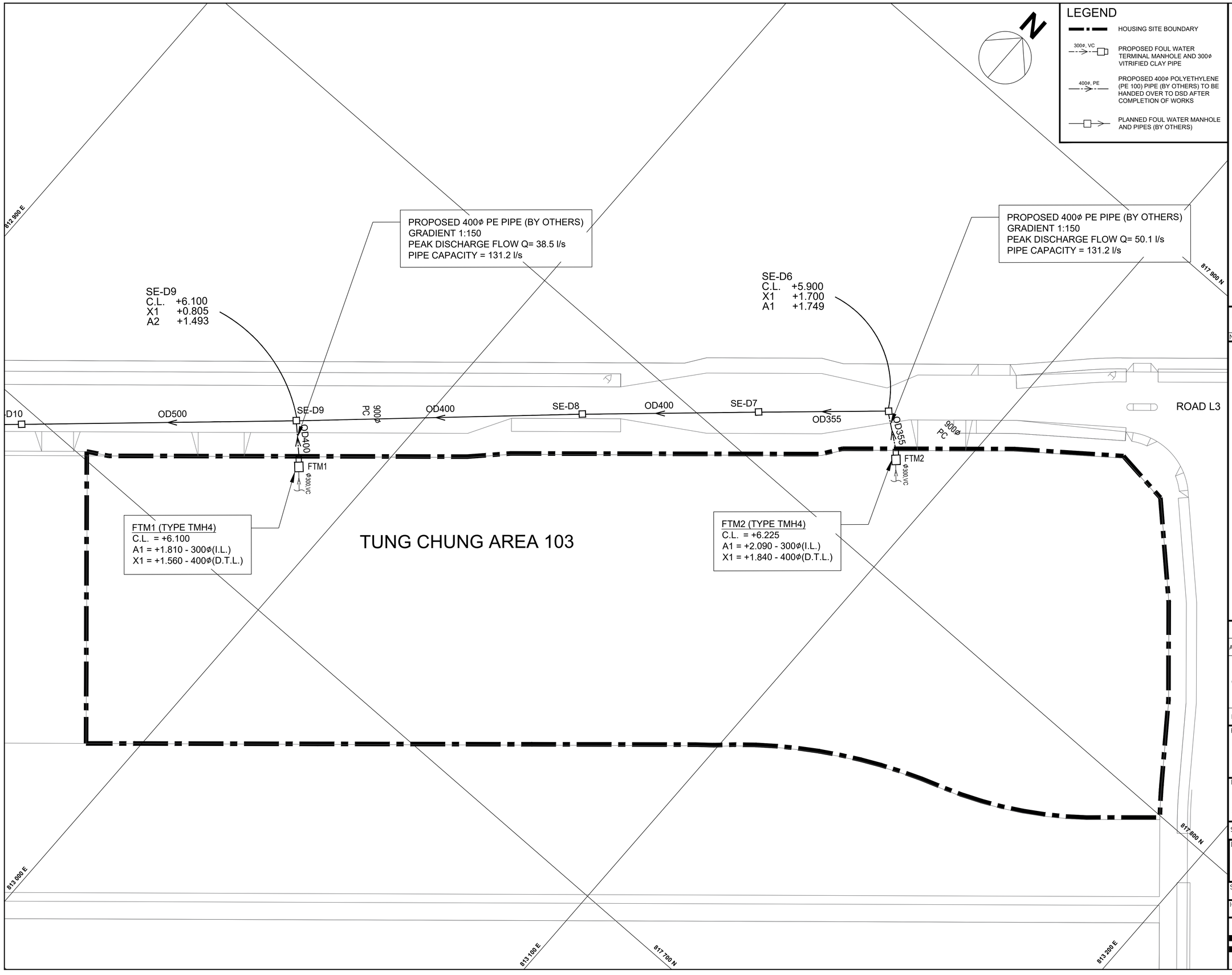
Title
SITE LAYOUT PLAN

(SHEET 1 OF 1)

Drawing No.	Stage	Rev.
Q1021/C006/001	P	

APPENDIX B

Design Drawings from "Sewerage System and Sewage Treatment Implication Review for Population Increase and Development Intensity – CASE2 Scenario 2B (Final)" (ref. PI20-02) and HKHA



LEGEND

- HOUSING SITE BOUNDARY
- 300ϕ, VC — PROPOSED FOUL WATER TERMINAL MANHOLE AND 300ϕ VITRIFIED CLAY PIPE
- 400ϕ, PE — PROPOSED 400ϕ POLYETHYLENE (PE 100) PIPE (BY OTHERS) TO BE HANDED OVER TO DSD AFTER COMPLETION OF WORKS
- PLANNED FOUL WATER MANHOLE AND PIPES (BY OTHERS)

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL LEVELS ARE IN METRES ABOVE HONG KONG PRINCIPAL DATUM.
3. PIPE ALIGNMENT, MANHOLE LOCATIONS AND INVERT LEVELS GIVEN IN THIS DRAWING ARE FOR REFERENCE ONLY. THE EXACT LEVELS AND LOCATIONS SHALL BE DETERMINED ON SITE BY THE C.M. TO SUIT THE SITE CONDITIONS.
4. FOR DETAILS OF MANHOLE TYPE TMH3, SEE DRG. NO. IS19/SUB/C/DR-03.

ABBREVIATIONS

VC DENOTES VITRIFIED CLAY PIPE TO BS EN 295

PE DENOTES POLYETHYLENE (PE100) PIPE

B125 DENOTES STANDARD 675mm SQUARE DUCTILE IRON MANHOLE COVER CLASS B125

DS DENOTES DOUBLE SEAL MANHOLE COVER

REVISIONS

NO	DESCRIPTION AND DATE	INITIAL AND DESIGNATION DWN	CKD	AUTH

	NAME AND DESIGNATION	INITIAL	DATE
AUTHORISED	B.M. LEUNG SCE/6		
CHECKED			
	C.S. WONG CE/T247		
	K.K. WONG STO(C)/14		
DRAWN	C.Y.TAM CTA(C)/224		

PROJECT

PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103

DRAWING TITLE

DRAINAGE SUBMISSION PLAN (FOUL WATER)

SCALE 1 : 400 (A1)

DRAWING NO.

IS19/SUB/C/DR-02

SOURCE

ICU NO.

AutoCAD 2000 A1 594 x 841

HOUSING DEPARTMENT

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

812750 E

813000 E

813250 E

813500 E

818000 N

817750 N

817500 N

N

Extracted from " Sewerage System and Sewerage Implication for Population Increase and Development Intensity - Case 2 Scenario 2B (Final)" (ref.: P120-02)

Catchments of West SPS

Original Sewers

Re-aligned sewers

Area 109

Area 103

Area 100

Area 99

CUT LINE A-A
SEE DRAWING NO. 60507694/SK4292

+5.800mPD
FINISH GROUND LEVEL

3200 200 3200 200 3200 200 3200

BACKFILL WITH FINE FILL/SANDY FILL (LIGHTLY COMPACTED BY HAND CR LIGHT ROLLER)

1800

+0.410mPD

1:1.0 1:1.0

GEOTEXTILE AMOCO 2001 OR EQUIVALENT

WELL COMPACTED 20mm SINGLE SIZE GRANULAR BEDDING MATERIAL

500 150 650

-0.720mPD

VIBRO COMPACTED SAND

-2.020mPD

OD800 PIPE

SECTION A - A
SCALE 1 : 100

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PROJECT
項目

TUNG CHUNG NEW TOWN EXTENSION (EAST) - DESIGN AND CONSTRUCTION

CLIENT
業主

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT
工程顧問公司

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ISSUE/REVISION
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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 複核

STATUS
階段

SCALE
比例

A1 1 : 1500

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60507694

CONTRACT NO.
合約編號

CE 69/2015 (CE)

SHEET TITLE
圖紙名稱

WEST SEWERAGE PUMPING STATION LAYOUT PLAN (EXCLUDING STORMWATER ALLOWANCE)

SHEET NUMBER
圖紙編號

60507694/Figure 5

Plot File by: Hongping.Ni@aecom.com
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02-March-2021

Project Management Initials:
Designer: CYCK
Checked: CCHY
Approved: SWKM
ISO A1 594mm x 841mm

Plot File by: Wei.Peng@aecom.com
18-February-2021
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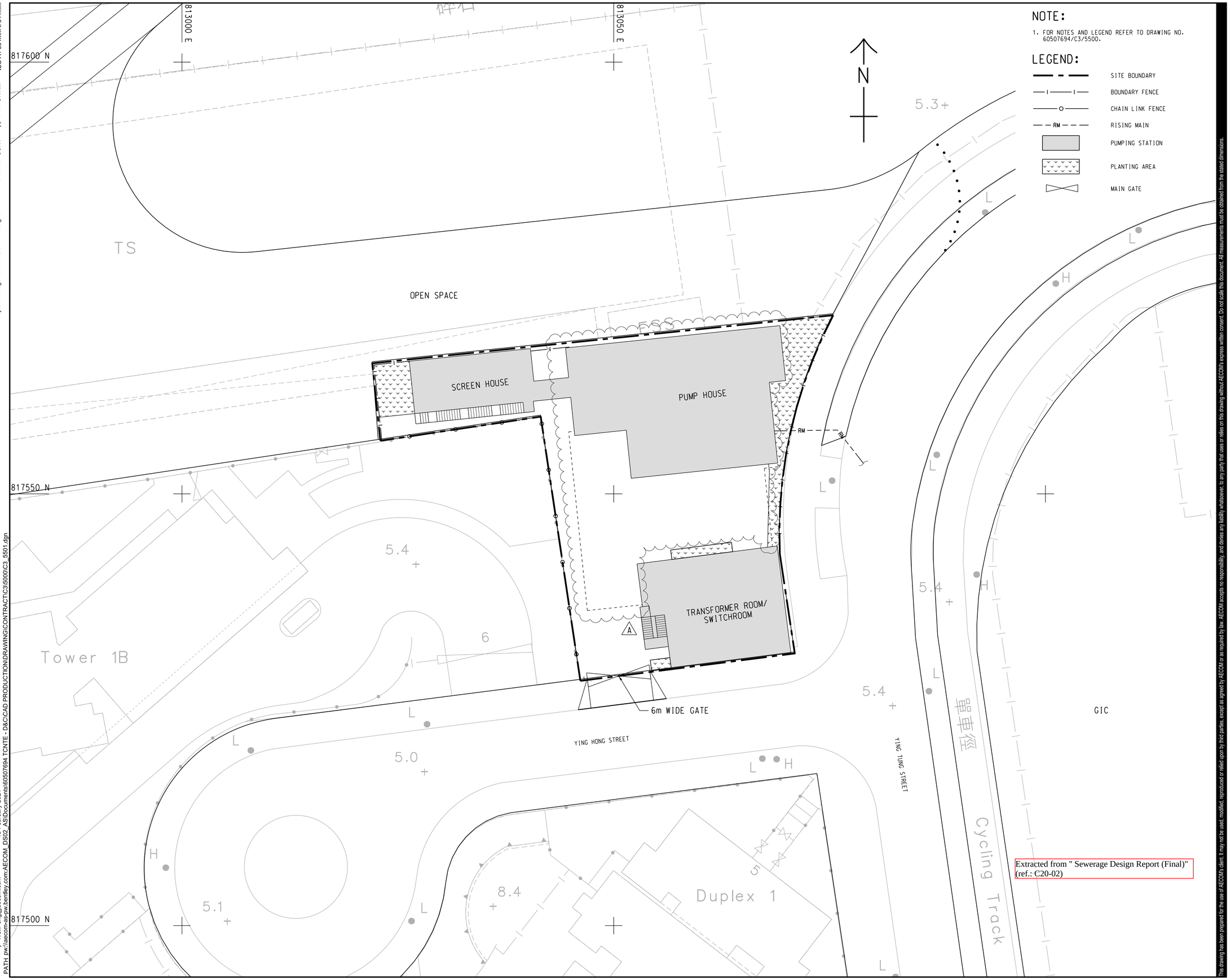

NOTE:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60507694/C3/5500.

LEGEND:

- SITE BOUNDARY
- BOUNDARY FENCE
- CHAIN LINK FENCE
- RISING MAIN
- PUMPING STATION
- PLANTING AREA
- MAIN GATE

Extracted from " Sewerage Design Report (Final)" (ref.: C20-02)

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PROJECT 項目

TUNG CHUNG NEW TOWN EXTENSION (EAST) - DESIGN AND CONSTRUCTION

CONTRACT TITLE

TUNG CHUNG NEW TOWN EXTENSION - MAJOR INFRASTRUCTURE WORKS IN TUNG CHUNG EAST

CLIENT 業主

土木工程拓展署
CEDD Civil Engineering and Development Department

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A	FEB. 21	TENDER ADDENDUM NO. 1	CCHY
-	DEC. 20	TENDER DRAWING	CCHY

STATUS 階段

SCALE 比例
A1 1 : 200

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖

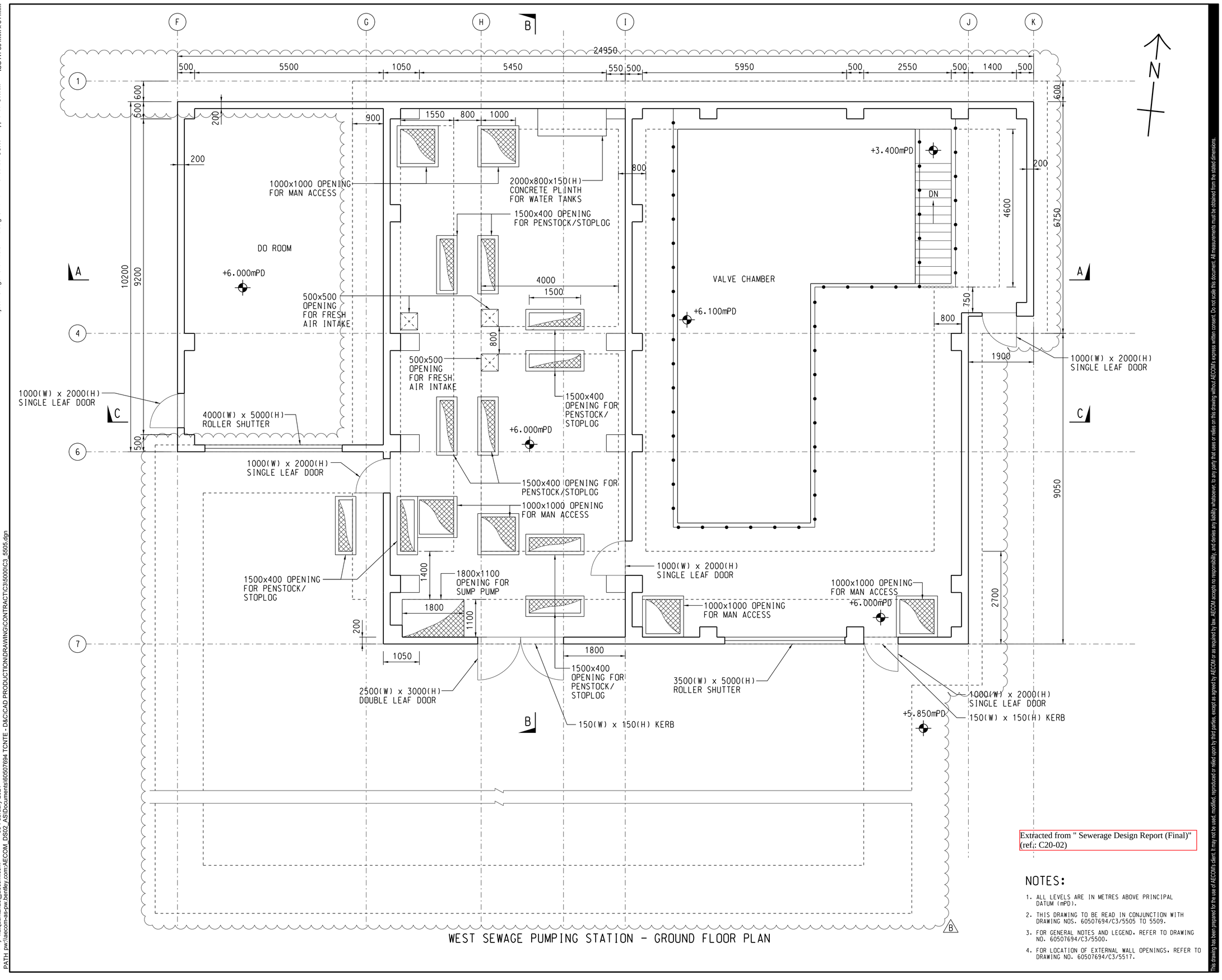
PROJECT NO. 項目編號
60507694

CONTRACT NO. 合約編號
NL/2020/03

SHEET TITLE 圖紙名稱
TCWSPS - SITE LAYOUT PLAN

SHEET NUMBER 圖紙編號
60507694/C3/5501A

Project Management Initials: Designer: CYCK Checked: CCHY Approved: SWKM ISO A1 594mm x 841mm



WEST SEWAGE PUMPING STATION - GROUND FLOOR PLAN

Extracted from " Sewerage Design Report (Final)" (ref.: C20-02)

NOTES:

1. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM (mPD).
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60507694/C3/5505 TO 5509.
3. FOR GENERAL NOTES AND LEGEND, REFER TO DRAWING NO. 60507694/C3/5500.
4. FOR LOCATION OF EXTERNAL WALL OPENINGS, REFER TO DRAWING NO. 60507694/C3/5517.

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TUNG CHUNG NEW TOWN EXTENSION (EAST) - DESIGN AND CONSTRUCTION

CONTRACT TITLE

TUNG CHUNG NEW TOWN EXTENSION - MAJOR INFRASTRUCTURE WORKS IN TUNG CHUNG EAST

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-	DEC. 20	TENDER DRAWING	CCHY

STATUS 階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A1 1 : 50	MILLIMETRES

KEY PLAN 索引圖

PROJECT NO. 項目編號	CONTRACT NO. 合約編號
60507694	NL/2020/03

SHEET TITLE 圖紙名稱

TCWSPS - PUMP HOUSE GENERAL ARRANGEMENT

SHEET 1 OF 5

SHEET NUMBER 圖紙編號

60507694/C3/5505B

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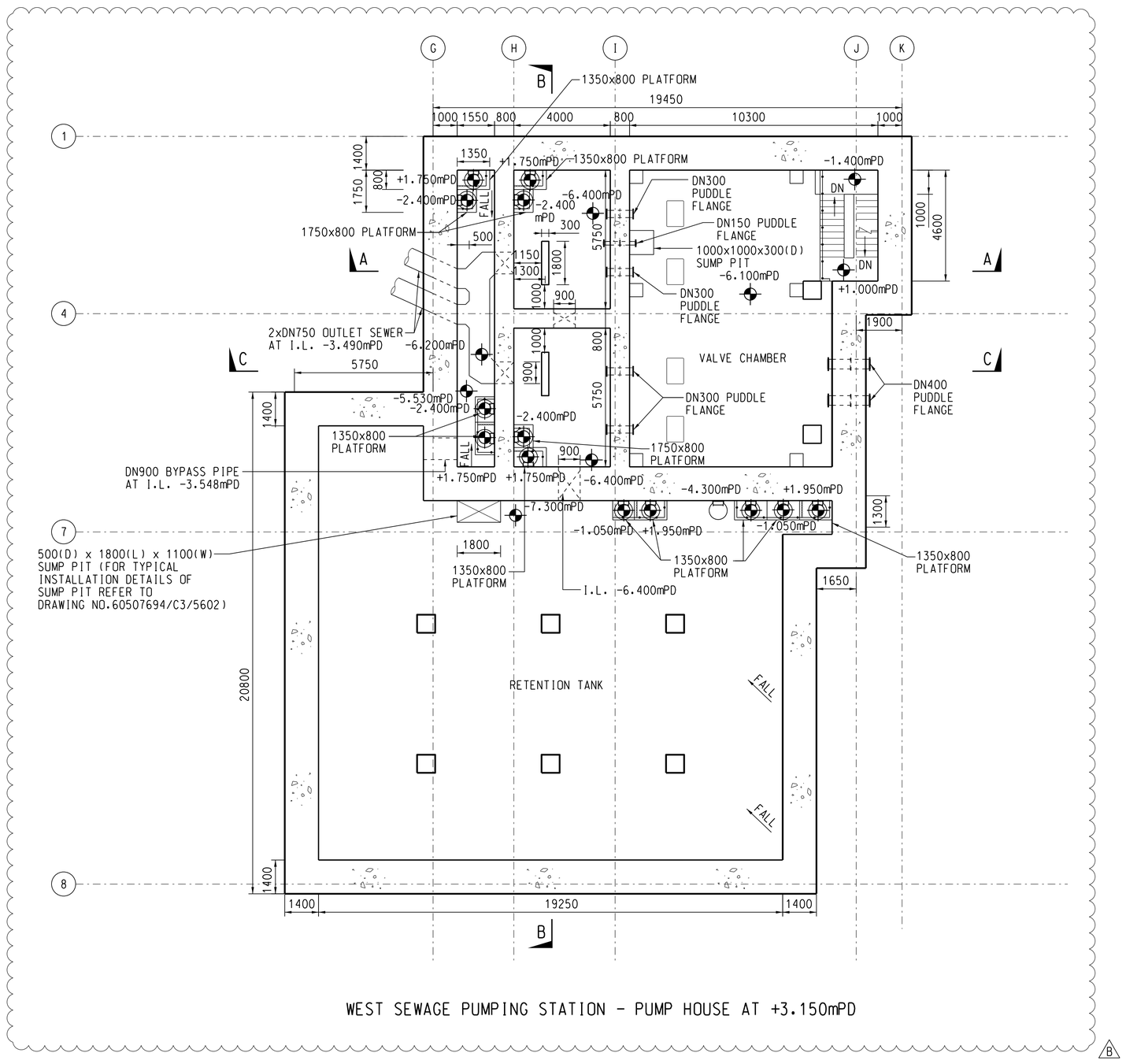
1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60507694/C3/5505 TO 5509.



WEST SEWAGE PUMPING STATION - PUMP HOUSE AT +3.150mPD

Extracted from " Sewerage Design Report (Final)" (ref.: C20-02)

Project Management Initials: Designer: CYCK Checked: CCHY Approved: SWKM ISO A1 594mm x 841mm

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PROJECT
項目

TUNG CHUNG NEW TOWN EXTENSION (EAST) - DESIGN AND CONSTRUCTION

CONTRACT TITLE

TUNG CHUNG NEW TOWN EXTENSION - MAJOR INFRASTRUCTURE WORKS IN TUNG CHUNG EAST

CLIENT
業主

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STATUS
階段

SCALE 比例
A1 1 : 100

DIMENSION UNIT 尺寸單位
MILLIMETRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60507694

CONTRACT NO. 合約編號
NL/2020/03

SHEET TITLE
圖紙名稱

TCWSPS - PUMP HOUSE GENERAL ARRANGEMENT

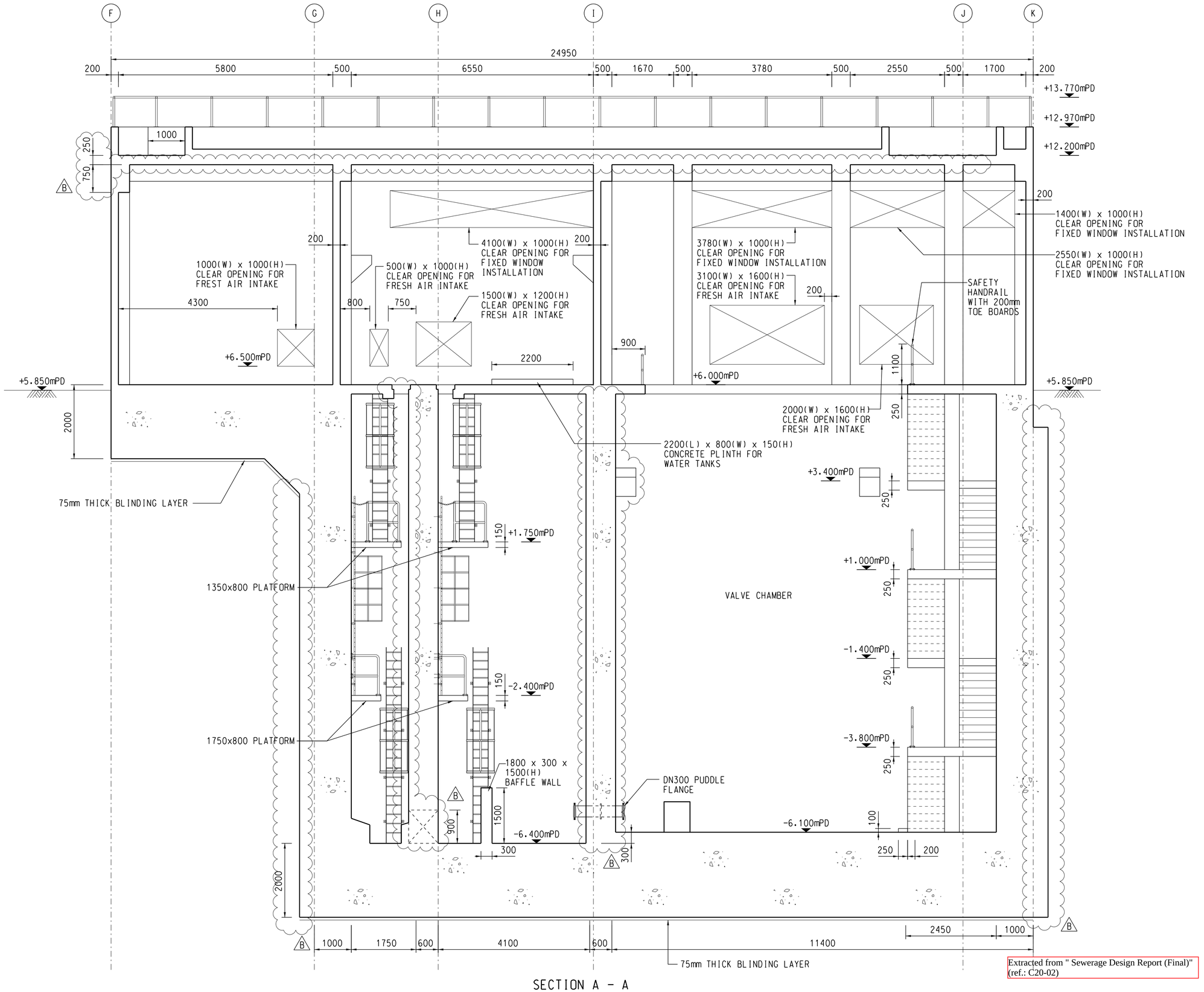
SHEET 2 OF 5

SHEET NUMBER
圖紙編號

60507694/C3/5506B

NOTE:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60507694/C3/5505 TO 5509.



Extracted from " Sewerage Design Report (Final)" (ref.: C20-02)

SECTION A - A

Project Management Initials: Designer: CYCK Checked: CCHY Approved: SWKM ISO A1 594mm x 841mm

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PROJECT 項目

TUNG CHUNG NEW TOWN EXTENSION (EAST) - DESIGN AND CONSTRUCTION

CONTRACT TITLE

TUNG CHUNG NEW TOWN EXTENSION - MAJOR INFRASTRUCTURE WORKS IN TUNG CHUNG EAST

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-	DEC. 20	TENDER DRAWING	CCHY

STATUS 階段

SCALE 比例
A1 1 : 50

DIMENSION UNIT 尺寸單位
MILLIMETRES

KEY PLAN 索引圖

PROJECT NO. 項目編號
60507694

CONTRACT NO. 合約編號
NL/2020/03

SHEET TITLE 圖紙名稱
TCWSPS - PUMP HOUSE GENERAL ARRANGEMENT

SHEET 3 OF 5

SHEET NUMBER 圖紙編號
60507694/C3/5507B

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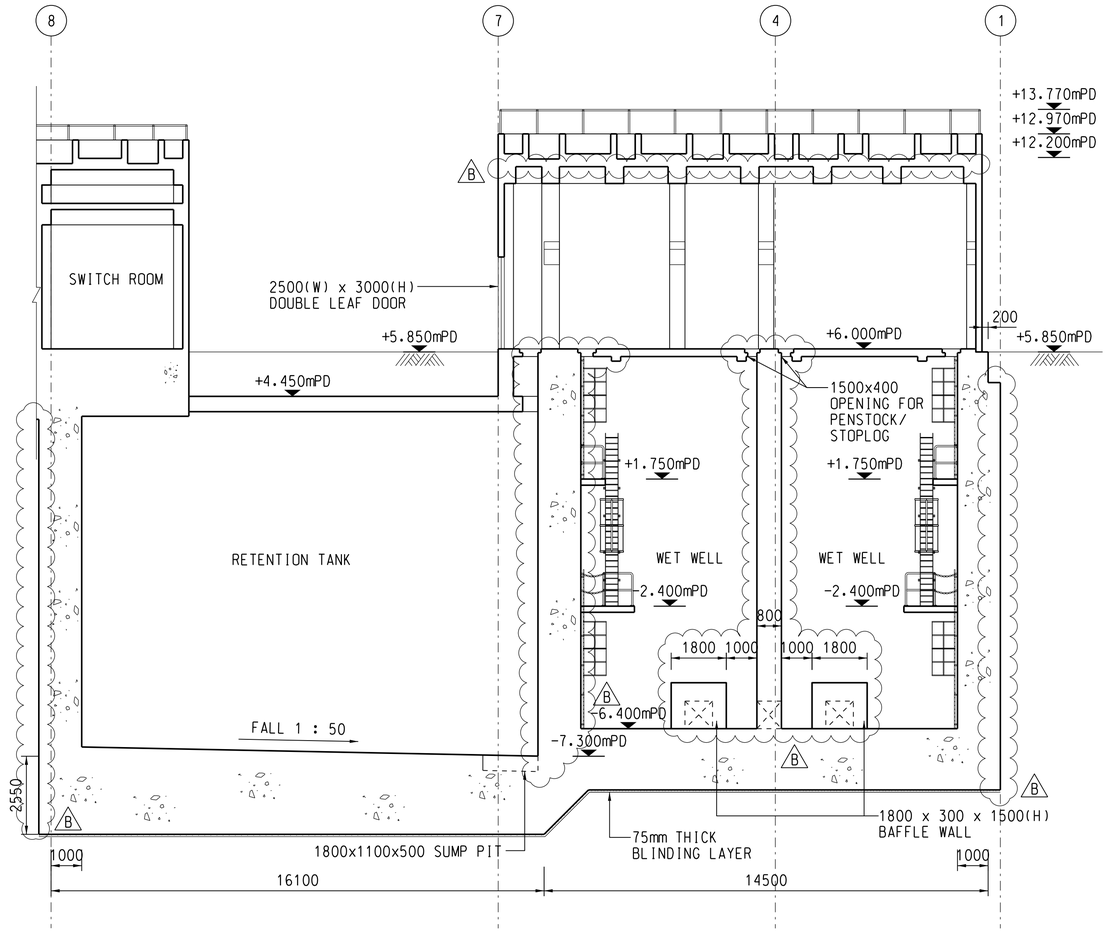

SECTION B - B

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AECOM

PROJECT
項目

TUNG CHUNG NEW TOWN EXTENSION (EAST) - DESIGN AND CONSTRUCTION

CONTRACT TITLE

TUNG CHUNG NEW TOWN EXTENSION - MAJOR INFRASTRUCTURE WORKS IN TUNG CHUNG EAST

CLIENT
業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

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A	JAN. 21	TENDER ADDENDUM NO. 1	CCHY
-	DEC. 20	TENDER DRAWING	CCHY

STATUS
階段

SCALE 比例
A1 1 : 100

DIMENSION UNIT 尺寸單位
MILLIMETRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60507694

CONTRACT NO. 合約編號
NL/2020/03

SHEET TITLE
圖紙名稱

TCWSPS - PUMP HOUSE GENERAL ARRANGEMENT

SHEET 4 OF 5

SHEET NUMBER
圖紙編號

60507694/C3/5508B

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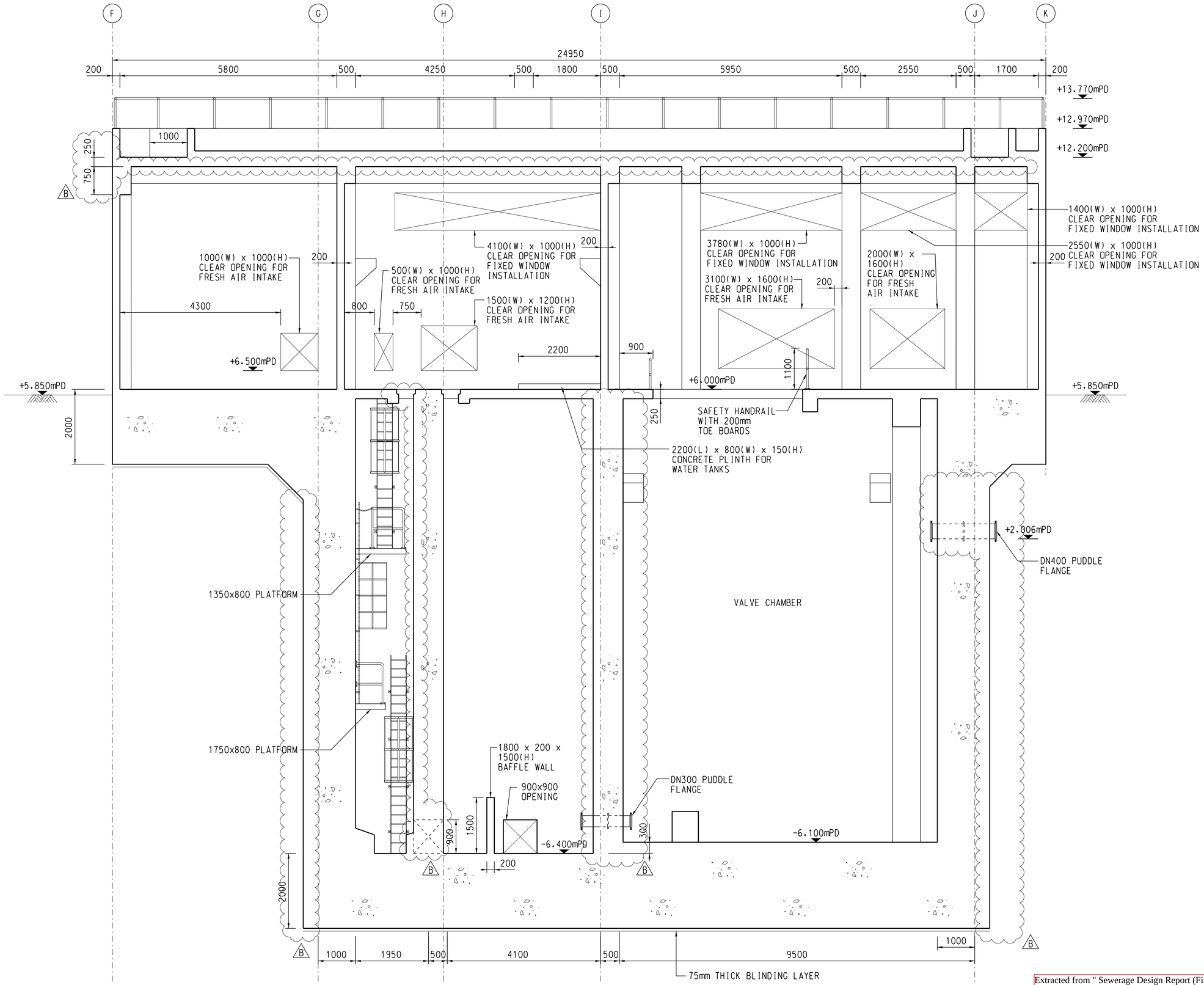

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SECTION C - C

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PROJECT 項目

TUNG CHUNG NEW TOWN EXTENSION (EAST) - DESIGN AND CONSTRUCTION

CONTRACT TITLE

TUNG CHUNG NEW TOWN EXTENSION - MAJOR INFRASTRUCTURE WORKS IN TUNG CHUNG EAST

CLIENT 業主

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-	DEC. 20	TENDER DRAWING	CCHY

STATUS 階段

SCALE 比例
A1 1 : 50

DIMENSION UNIT 尺寸單位
MILLIMETRES

KEY PLAN 索引圖

PROJECT NO. 項目編號
60507694

CONTRACT NO. 合約編號
NL/2020/03

SHEET TITLE 圖紙名稱
TCWSPS - PUMP HOUSE GENERAL ARRANGEMENT

SHEET 5 OF 5

SHEET NUMBER 圖紙編號
60507694/C3/5509B

Project Management Initials: Designer: CYCK Checked: CCHY Approved: SWKM ISO A1 594mm x 841mm

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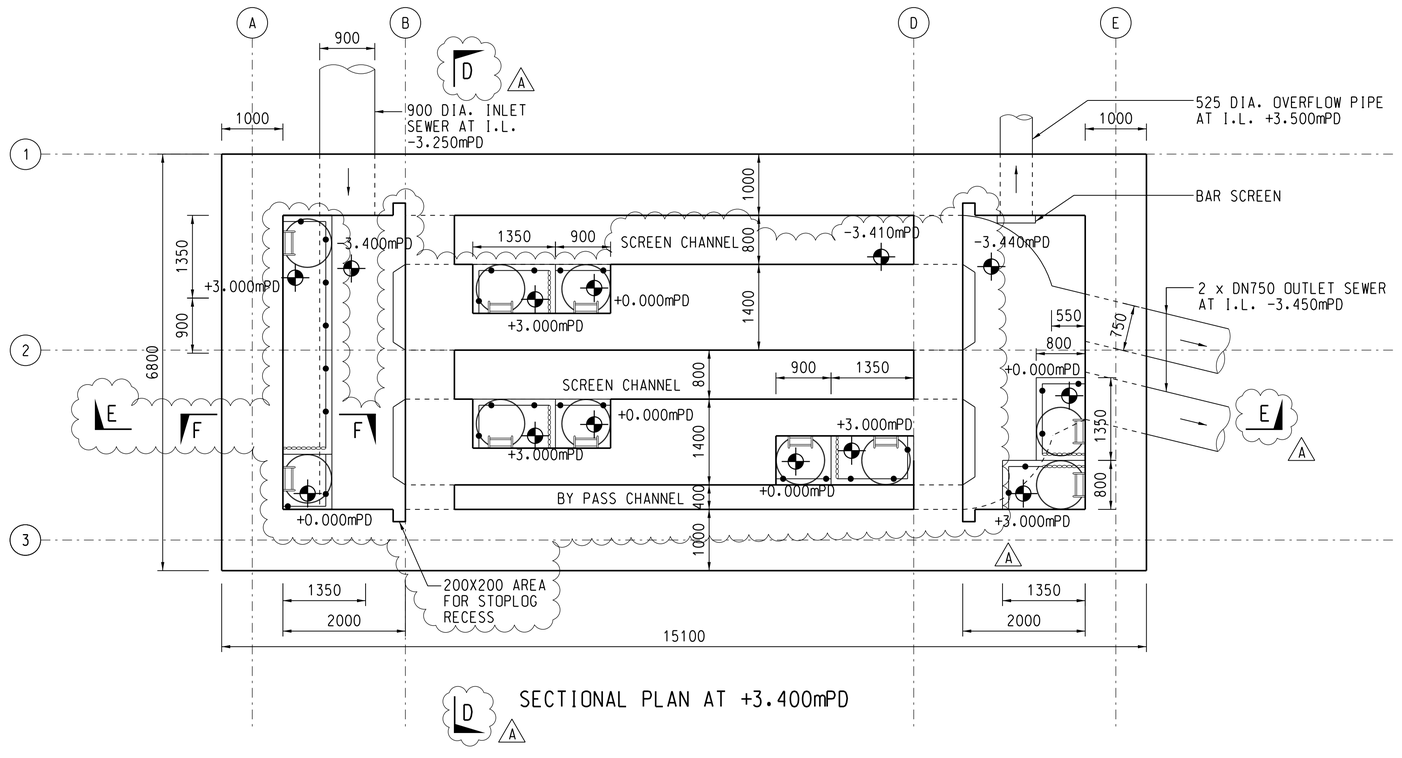

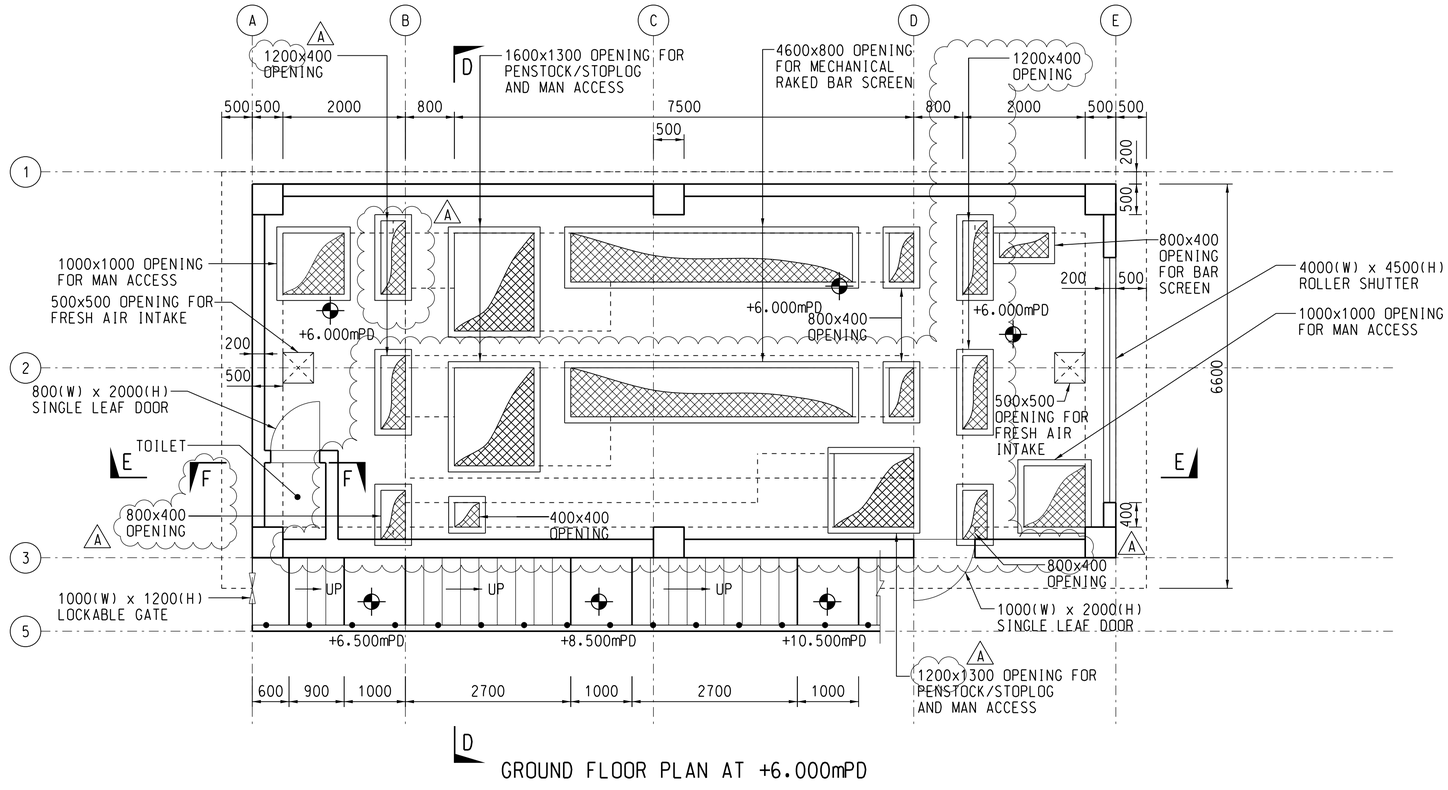

Extracted from " Sewerage Design Report (Final)" (ref.: C20-02)

AECOM

PROJECT 項目

TUNG CHUNG NEW TOWN EXTENSION (EAST) - DESIGN AND CONSTRUCTION

CONTRACT TITLE

TUNG CHUNG NEW TOWN EXTENSION - MAJOR INFRASTRUCTURE WORKS IN TUNG CHUNG EAST

CLIENT 業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

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-	DEC. 20	TENDER DRAWING	CCHY

STATUS 階段

SCALE 比例 A1 1 : 50

DIMENSION UNIT 尺寸單位 MILLIMETRES

KEY PLAN 索引圖

PROJECT NO. 項目編號 60507694

CONTRACT NO. 合約編號 NL/2020/03

SHEET TITLE 圖紙名稱

TCWSPS - SCREEN HOUSE GENERAL ARRANGEMENT

SHEET 1 OF 3

SHEET NUMBER 圖紙編號

60507694/C3/5510A

Project Management Initials: Designer: CYCK Checked: CCHY Approved: SWKM ISO A1 594mm x 841mm

Plot File by: haiquan.zhao@aecom.com 27-January-2021
PATH: pw://aecom-as-pw.bentley.com:AECOM_DS02_ASIDocuments/60507694 TCNTE - D&C\CAD PRODUCTION\DRAWING\CONTRACT\C3\60000\C3_5510.dgn

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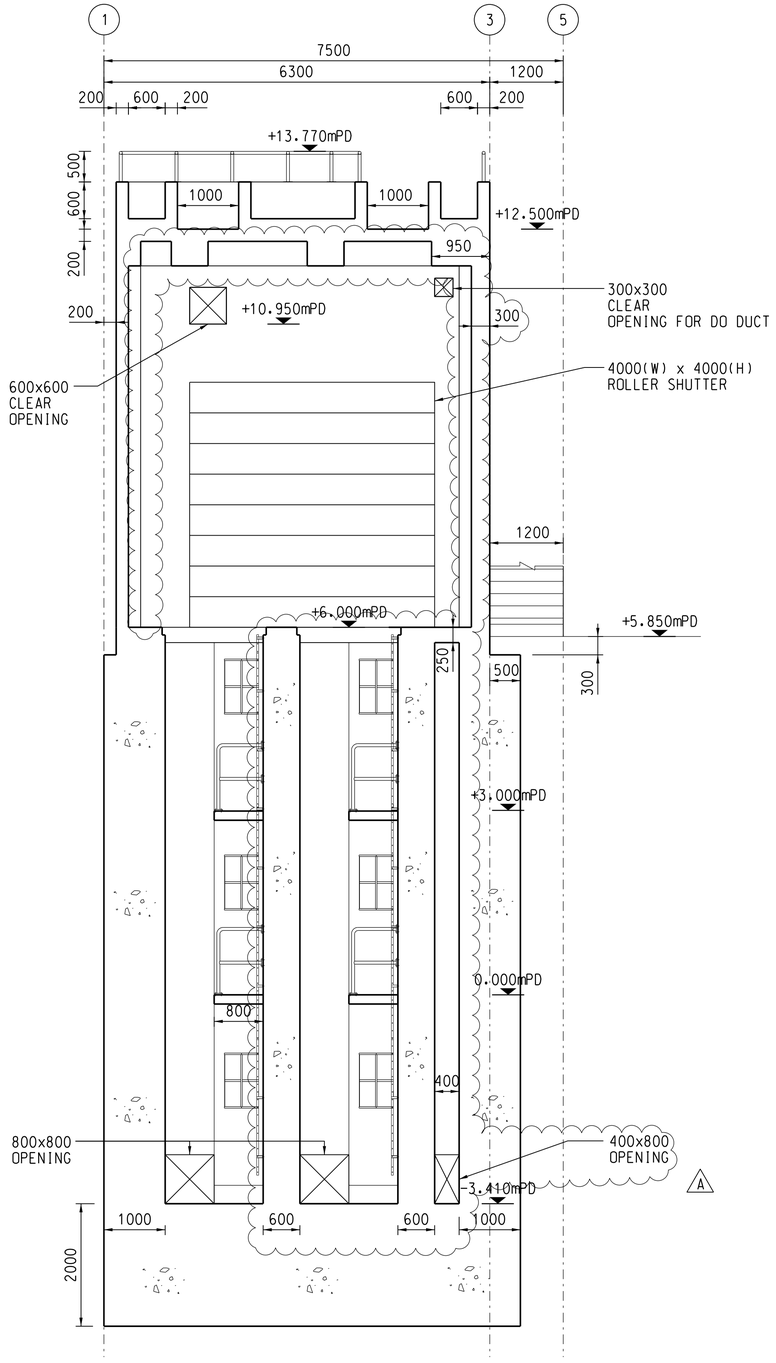
Project Management Initials: Designer: CYCK Checked: CCHY Approved: SWKM ISO A1 594mm x 841mm
Plot File by: cara.xu@consultant.aecom.com 28-January-2021
PATH: pw:\\aecom-as-pw.bentley.com:AECOM_DS02_ASIDocuments\60507694 TCNTE - D&C\CAD PRODUCTION\DRAWING\CONTRACT\C3\5500\C3_5511.dgn

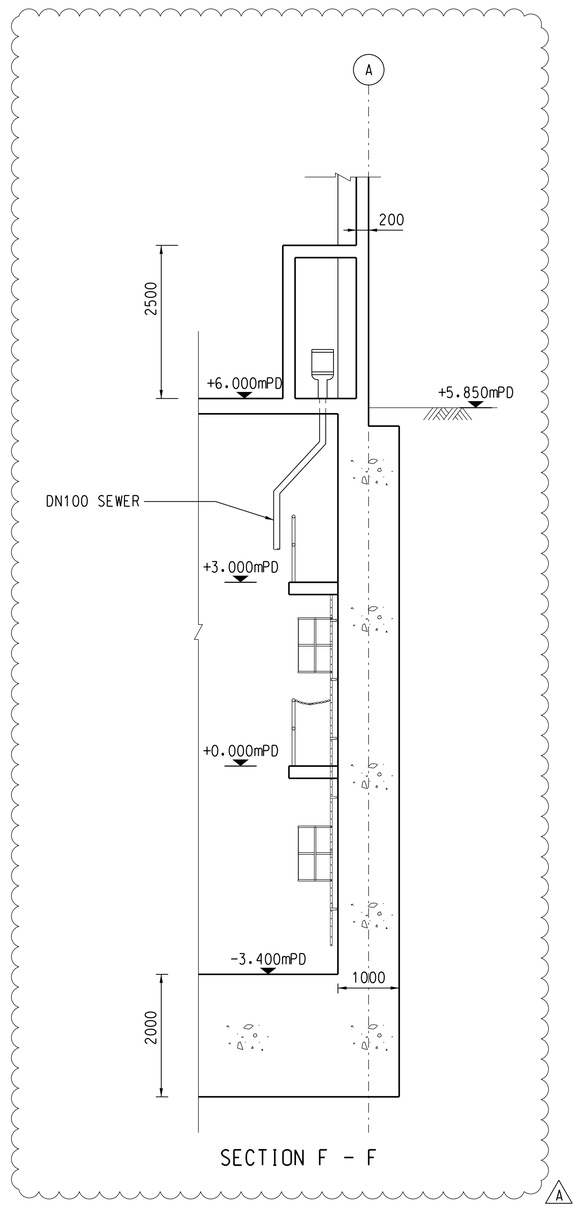
NOTES:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60507694/C3/5510 TO 5512.
2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM (mPD).
3. SEWER CONNECTION IN SECTION F-F ARE INDICATIVE ONLY. CONTRACTOR ARE RESPONSIBLE FOR DESIGN THE SANITARY FACILITIES SUBJECTED TO SUPERVISOR'S ACCEPTANCE.

A



SECTION D - D



SECTION F - F

Extracted from " Sewerage Design Report (Final)" (ref.: C20-02)

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AECOM

PROJECT
項目

TUNG CHUNG NEW TOWN EXTENSION (EAST) - DESIGN AND CONSTRUCTION

CONTRACT TITLE

TUNG CHUNG NEW TOWN EXTENSION - MAJOR INFRASTRUCTURE WORKS IN TUNG CHUNG EAST

CLIENT
業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS
分判工程顧問公司

ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 複核
A	JAN. 21	TENDER ADDENDUM NO. 1	CCHY
-	DEC. 20	TENDER DRAWING	CCHY

STATUS
階段

SCALE 比例
A1 1 : 50

DIMENSION UNIT 尺寸單位
MILLIMETRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60507694

CONTRACT NO. 合約編號
NL/2020/03

SHEET TITLE
圖紙名稱

TCWSPS -
SCREEN HOUSE GENERAL ARRANGEMENT

SHEET 2 OF 3

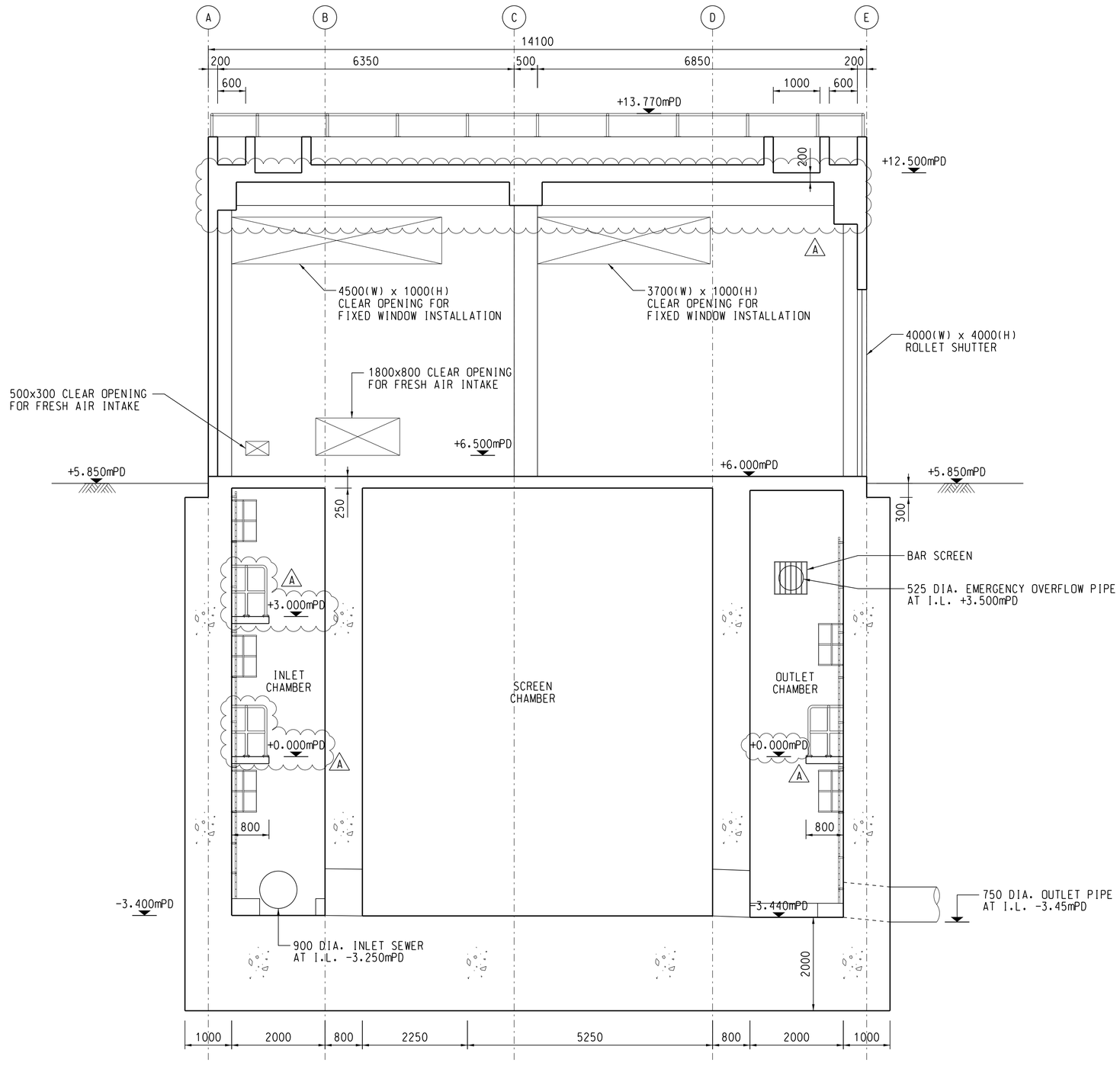
SHEET NUMBER
圖紙編號

60507694/C3/5511A

Project Management Initials: Designer: CYCK Checked: CCHY Approved: SWKM ISO A1 594mm x 841mm
Plot File by: fubao.yao@aecom.com 28-January-2021
PATH: pw:\\aecom-as-pw.bentley.com:AECOM_DS02_AS\Documents\60507694 TCNTE - D&C\CAD PRODUCTION\DRAWING\CONTRACT\C3\5500\C3_5512.dgn

NOTES:

1. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM (mPD).
2. THIS DRAWING TO BE READ IN WITH DRAWING NOS. 60507694/C3/5510 TO 5512.



SECTION E - E

Extracted from " Sewerage Design Report (Final)" (ref.: C20-02)

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AECOM

PROJECT 項目

TUNG CHUNG NEW TOWN EXTENSION (EAST) - DESIGN AND CONSTRUCTION

CONTRACT TITLE

TUNG CHUNG NEW TOWN EXTENSION - MAJOR INFRASTRUCTURE WORKS IN TUNG CHUNG EAST

CLIENT 業主

土木工程拓展署
CEDD Civil Engineering and Development Department

CONSULTANT 工程顧問公司

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ISSUE/REVISION 修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 複核
A	JAN. 21	TENDER ADDENDUM NO. 1	CCHY
-	DEC. 20	TENDER DRAWING	CCHY

STATUS 階段

SCALE 比例 A1 1 : 50

DIMENSION UNIT 尺寸單位 MILLIMETRES

KEY PLAN 索引圖

PROJECT NO. 項目編號 60507694

CONTRACT NO. 合約編號 NL/2020/03

SHEET TITLE 圖紙名稱

TCWSPS -
SCREEN HOUSE GENERAL ARRANGEMENT

SHEET 3 OF 3

SHEET NUMBER 圖紙編號

60507694/C3/5512A

AECOM

NS20150
13B0009

PROJECT NO. 60507694
DATE 26/10/2021

1	2	3	17	18	19.00	20	21	22.000	23	26.000	27.000	28.000	**29.000**	**30.000**	31	32.000	33.000	34.000	35.000	28

Parameters										29.602			**Roughness:**		Ks=	1.500	mm for PE		1.500	mm for PE	BY	hxy	CHKD

4/8/2011

Pipe	Manhole				Accumulation		EPD			Pipe Parameter														
	UP_MH	**DN_MH**	**Back-drop**	**CON_POP**	**ACC_POP**	**ACC_DWF**	**Contribute People**	**PEAK FACTOR**	**PEAK FLOW**	**DIA**	**LEN**	**UP_GL**	**DN_GL**	**UP_INV**	**DN_INV**	**GRAD.**	**UP_COV to Invert(m)**	**DN_COV to Invert(m)**	**VEL.**	**CAP**	**PF/CAP**	**PIPE MAT.**	**PIPE CLASS**	**BEDDING TYPE**
NO.	**NO.**	**NO.**		**(person)**	**(person)**	**(m^3/d)**	**(person)**		**(m^3/s)**	**(mm)**	**(m)**	**(mPD)**	**(mPD)**	**(mPD)**	**(mPD)**	**(1 IN)**			**(m/s)**	**(m^3/s)**				
SE- B1.1	SE- B1	SE-B2	normal	2070	2070	776.13	2875	5.000	0.045	400	39.000	5.550	5.800	**3.825**	**3.565**	150	1.725	2.235	1.364	0.120	37%	PE	PE100	B
SE-B2.1	SE-B2	SE-B3	normal	0	2070	776.13	2875	5.000	0.045	400	39.000	5.800	6.000	**3.565**	**3.305**	150	2.235	2.695	1.364	0.120	37%	PE	PE100	B
SE-B3.1	SE-B3	SE-B4	normal	1372	3442	1283.77	4755	5.000	0.074	560	36.000	6.000	5.700	**3.145**	**2.905**	150	2.855	2.795	1.694	0.300	25%	PE	PE100	B
SE-B4.1	SE-B4	SE-B5	normal	0	3442	1283.77	4755	5.000	0.074	560	25.000	5.700	5.500	**2.630**	**2.463**	150	3.070	3.037	1.694	0.300	25%	PE	PE100	B
SE-B5.1	SE-B5	SE-B6	normal	0	3442	1283.77	4755	5.000	0.074	560	19.200	5.500	5.700	**2.163**	**2.035**	150	3.337	3.665	1.694	0.300	25%	PE	PE100	B
SE-B6.1	SE-B6	SE-B7	normal	0	3442	1283.77	4755	5.000	0.074	560	82.000	5.700	5.700	**1.735**	**1.189**	150	3.965	4.511	1.694	0.300	25%	PE	PE100	B
SE-B7.1	SE-B7	SE-B8	normal	2151	5593	1706.82	6322	4.000	0.079	630	31.300	5.700	5.400	**1.119**	**0.962**	200	4.581	4.438	1.581	0.355	22%	PE	PE100	B
SE-B8.1	SE-B8	SE-B9	normal	0	5593	1706.82	6322	4.000	0.079	630	35.000	5.400	5.600	**0.962**	**0.787**	200	4.438	4.813	1.581	0.355	22%	PE	PE100	B
SE-B9.1	SE-B9	SE-B10	normal	0	5593	1706.82	6322	4.000	0.079	630	35.000	5.600	5.600	**0.787**	**0.612**	200	4.813	4.988	1.581	0.355	22%	PE	PE100	B
SE-B10.1	SE-B10	SE-B11	normal	0	5593	1706.82	6322	4.000	0.079	630	30.000	5.600	5.700	**0.612**	**0.462**	200	4.988	5.238	1.581	0.355	22%	PE	PE100	B
SE-B11.1	SE-B11	SE-B12	normal	2151	7744	2129.86	7888	4.000	0.099	630	35.000	5.700	5.900	**0.462**	**0.287**	200	5.238	5.613	1.581	0.355	28%	PE	PE100	B
SE-B12.1	SE-B12	SE-B13	normal	0	7744	2129.86	7888	4.000	0.099	630	34.000	5.900	5.800	**0.287**	**0.117**	200	5.613	5.683	1.581	0.355	28%	PE	PE100	B
SE-B13.1	SE-B13	SE-B14	normal	0	7744	2129.86	7888	4.000	0.099	630	17.000	5.800	5.850	**0.117**	**0.032**	200	5.683	5.818	1.581	0.355	28%	PE	PE100	B
SE-B14.1	SE-B14	SE-B15	normal	0	7744	2129.86	7888	4.000	0.099	630	18.800	5.850	5.650	**-0.468**	**-0.562**	200	6.318	6.212	1.581	0.355	28%	PE	PE100	B
SE-B15.1	SE-B15	SE-B16	normal	0	7744	2129.86	7888	4.000	0.099	630	24.500	5.650	5.550	**-0.562**	**-0.685**	200	6.212	6.235	1.581	0.355	28%	PE	PE100	B
SE-B16.1	SE-B16	SE-B17	normal	0	7744	2129.86	7888	4.000	0.099	630	30.000	5.550	5.600	**-0.685**	**-0.835**	200	6.235	6.435	1.581	0.355	28%	PE	PE100	B
SE-B17.1	SE-B17	SE-B18	normal	0	7744	2129.86	7888	4.000	0.099	630	73.500	5.600	5.900	**-0.835**	**-1.202**	200	6.435	7.102	1.581	0.355	28%	PE	PE100	B
SE-B18.1	SE-B18	SE-B19	normal	8596	16340	3831.62	14191	3.000	0.133	800	33.000	5.900	5.900	**-1.372**	**-1.482**	300	7.272	7.382	1.501	0.545	24%	PE	PE100	B
SE-B19.1	SE-B19	SE-B20	normal	0	16340	3831.62	14191	3.000	0.133	800	69.000	5.900	5.600	**-1.482**	**-1.712**	300	7.382	7.312	1.501	0.545	24%	PE	PE100	B
SE-B20.1	SE-B20	SE-B21	normal	0	16340	3831.62	14191	3.000	0.133	800	23.700	5.600	5.700	**-1.712**	**-1.791**	300	7.312	7.491	1.501	0.545	24%	PE	PE100	B
SE-B21.1	SE-B21	SE-B22	normal	0	16340	3831.62	14191	3.000	0.133	800	32.000	5.700	5.800	**-1.791**	**-1.898**	300	7.491	7.698	1.501	0.545	24%	PE	PE100	B
SE-B22.1	SE-B22	SE-B23	normal	3033	19373	4383.48	16235	3.000	0.152	800	40.000	5.800	5.550	**-1.898**	**-2.031**	300	7.698	7.581	1.501	0.545	28%	PE	PE100	B
SE-B23.1	SE-B23	SE-B24	normal	0	19373	4383.48	16235	3.000	0.152	800	40.000	5.550	5.750	**-2.031**	**-2.164**	300	7.581	7.914	1.501	0.545	28%	PE	PE100	B
SE-B24.1	SE-B24	SE-B25	normal	8596	27968	6085.24	22538	3.000	0.211	800	18.000	5.750	5.650	**-2.164**	**-2.224**	300	7.914	7.874	1.501	0.545	39%	PE	PE100	B
SE-B25.1	SE-B25	SE-B26	normal	3033	31001	6637.09	24582	3.000	0.230	800	40.000	5.650	5.900	**-2.224**	**-2.358**	300	7.874	8.258	1.501	0.545	42%	PE	PE100	B
SE-B26.1	SE-B26	SE-B27	normal	144	31145	6677.66	24732	3.000	0.232	800	45.000	5.900	5.650	**-2.358**	**-2.508**	300	8.258	8.158	1.501	0.545	43%	PE	PE100	B
SE-B27.1	SE-B27	SE-B28	normal	0	31289	6718.23	24882	3.000	0.233	800	37.000	5.650	5.500	**-2.508**	**-2.627**	310	8.158	8.127	1.477	0.536	43%	PE	PE100	B
SE-B28.1	SE-B28	SE-B29	normal	0	31289	6718.23	24882	3.000	0.233	900	57.500	5.500	5.450	**-2.627**	**-2.791**	350	8.127	8.241	1.497	0.688	34%	PE	PE100	B
SE-B29.1	SE-B29	SE-B30	normal	0	35139	7458.77	27625	3.000	0.259	900	58.500	5.450	5.700	**-2.791**	**-2.938**	400	8.241	8.638	1.400	0.644	40%	PE	PE100	B
SE-B30.1	SE-B30	SE-B31	normal	0	38988	8199.31	30368	3.000	0.285	900	57.500	5.450	5.700	**-2.938**	**-3.081**	400	8.388	8.781	1.400	0.644	44%	PE	PE100	B
SE-B31.1	SE-B31	SE-D25	normal	0	42837	8939.84	33111	3.000	0.310	900	90.000	5.700	5.500	**-3.081**	**-3.160**	400	8.781	8.660	1.400	0.644	48%	PE	PE100	B

Extracted from " Sewerage Design Report (Final)" (ref.: C20-02)

AECOM

NS20150
13B0009

PROJECT NO. 60507694
DATE 26/10/2021

1	2	3	17	18	19.00	20	21	22.000	23	26.000	27.000	28.000	**29.000**	**30.000**	31	32.000	33.000	34.000	35.000	28			
Parameters										29.602			**Roughness:**		Ks=	1.500	mm for PE		1.500	mm for PE	BY	hxy	CHKD

4/8/2011

Pipe	Manhole				Accumulation		EPD			Pipe Parameter														
	UP_MH	DN_MH	Back-drop	CON_POP	ACC_POP	ACC_DWF	Contribute People	PEAK FACTOR	PEAK FLOW	DIA	LEN	UP_GL	DN_GL	UP_INV	DN_INV	GRAD.	UP_COV to Invert(m)	DN_COV to Invert(m)	VEL.	CAP	PF/CAP	PIPE MAT.	PIPE CLASS	BEDDING TYPE
NO.	NO.	NO.		(person)	(person)	(m^3/d)	(person)		(m^3/s)	(mm)	(m)	(mPD)	(mPD)	(mPD)	(mPD)	(1 IN)			(m/s)	(m^3/s)				
SE-D6.1	SE-D6	SE-D7	normal	3435	3435	672.46	2491	5.000	0.039	355	64.304	5.760	5.595	**1.700**	**1.353**	185	4.060	4.242	1.135	0.080	49%	PE	PE100	B
SE-D7.1	SE-D7	SE-D8	normal	988	4423	1038.02	3845	5.000	0.060	400	33.344	5.595	5.621	**1.308**	**1.097**	158	4.287	4.524	1.328	0.117	51%	PE	PE100	B
SE-D8.1	SE-D8	SE-D9	normal	0	4423	1038.02	3845	5.000	0.060	400	68.064	5.621	5.831	**1.097**	**0.736**	189	4.524	5.095	1.216	0.107	56%	PE	PE100	B
SE-D9.1	SE-D9	SE-D10	normal	3435	7859	1710.49	6335	4.000	0.079	500	62.134	5.831	5.400	**0.636**	**0.286**	178	5.195	5.114	1.447	0.201	39%	PE	PE100	B
SE-D10.1	SE-D10	SE-D11	normal	0	7859	1710.49	6335	4.000	0.079	500	50.804	5.400	5.930	**0.286**	**-0.008**	173	5.114	5.938	1.467	0.203	39%	PE	PE100	B
SE-D11.1	SE-D11	SE-D12	normal	1303	9162	2192.60	8121	4.000	0.102	560	49.904	5.930	6.051	**-0.068**	**-0.296**	219	5.998	6.347	1.401	0.248	41%	PE	PE100	B
SE-D12.1	SE-D12	SE-D13	normal	1639	10801	2262.52	8380	4.000	0.105	560	43.542	6.051	5.660	**-0.296**	**-0.482**	234	6.347	6.142	1.355	0.240	44%	PE	PE100	B
SE-D13.1	SE-D13	SE-D14	normal	10	10811	2265.82	8392	4.000	0.105	630	53.569	5.660	5.836	**-0.482**	**-0.714**	231	6.142	6.550	1.471	0.331	32%	PE	PE100	B
SE-D14.1	SE-D14	SE-D15	normal	0	10811	2265.82	8392	4.000	0.105	630	32.566	5.836	5.718	**-0.714**	**-0.862**	220	6.550	6.580	1.507	0.339	31%	PE	PE100	B
SE-D15.1	SE-D15	SE-D16	normal	0	10811	2265.82	8392	4.000	0.105	710	53.000	5.750	5.600	**-0.942**	**-1.154**	250	6.692	6.754	1.525	0.431	24%	PE	PE100	B
SE-D16.1	SE-D16	SE-D17	normal	300	11111	2349.82	8703	4.000	0.109	710	15.000	5.600	5.500	**-1.154**	**-1.214**	250	6.754	6.714	1.525	0.431	25%	PE	PE100	B
SE-D17.1	SE-D17	SE-D18	normal	0	11111	2349.82	8703	4.000	0.109	710	19.000	5.500	5.500	**-1.214**	**-1.280**	288	6.714	6.780	1.421	0.402	27%	PE	PE100	B
SE-D18.1	SE-D18	SE-D19	normal	0	11111	2349.82	8703	4.000	0.109	710	32.306	5.500	5.500	**-1.280**	**-1.480**	162	6.780	6.980	1.899	0.537	20%	PE	PE100	B
SE-D19.1	SE-D19	SE-D20	normal	0	11111	2349.82	8703	4.000	0.109	710	61.395	5.500	5.500	**-1.480**	**-1.768**	213	6.980	7.268	1.652	0.467	23%	PE	PE100	B
SE-D20.1	SE-D20	SE-D21	normal	0	11111	2349.82	8703	4.000	0.109	710	41.095	5.500	5.500	**-1.768**	**-1.920**	270	7.268	7.420	1.466	0.415	26%	PE	PE100	B
SE-D21.1	SE-D21	SE-D22	normal	0	11111	2349.82	8703	4.000	0.109	710	46.049	5.500	5.500	**-1.920**	**-2.104**	250	7.420	7.604	1.524	0.431	25%	PE	PE100	B
SE-D22.1	SE-D22	SE-D23	normal	0	11111	2349.82	8703	4.000	0.109	710	57.730	5.500	5.500	**-2.104**	**-2.348**	237	7.604	7.848	1.568	0.443	25%	PE	PE100	B
SE-D23.1	SE-D23	SE-D24	normal	0	11111	2349.82	8703	4.000	0.109	710	40.338	5.500	5.500	**-2.348**	**-2.492**	280	7.848	7.992	1.440	0.407	27%	PE	PE100	B
SE-D24.1	SE-D24	SE-D25	normal	0	11111	2349.82	8703	4.000	0.109	710	40.599	5.500	5.500	**-2.492**	**-2.792**	135	7.992	8.292	2.075	0.587	19%	PE	PE100	B
SE-D25.1	SE-D25	SPS002	normal	3849	57797	12030.19	44556	3.000	0.418	900	29.600	5.500	5.500	**-3.160**	**-3.245**	350	8.660	8.745	1.497	0.688	61%	PE	PE100	B
SE-K1.1	SE-K1	SE-K2	normal	144	144	40.57	150	6.000	0.003	315	53.185	5.772	5.806	**2.500**	**2.145**	150	3.272	3.661	1.167	0.064	4%	PE	PE100	B
SE-K2.1	SE-K2	SE-K3	normal	0	144	40.57	150	6.000	0.003	315	32.993	5.806	5.900	**2.145**	**1.925**	150	3.661	3.975	1.167	0.064	4%	PE	PE100	B
SE-K3.1	SE-K3	SE-B27	BD3	0	144	40.57	150	6.000	0.003	315	29.910	5.900	7.495	**1.925**	**1.726**	150	3.975	5.769	1.167	0.064	4%	PE	PE100	B
DC1.1	DC1	SE-G1	normal	0	57796.8	11471.22	42486	3	0.333	710	14	7.683	7.74	**5.7**	**5.636**	219	1.983	2.104	1.626	0.499	67%	PE	PE100	B
SE-G1.1	SE-G1	SE-G2	normal	0	57796.8	11471.22	42486	3	0.333	710	26	7.74	7.55	**5.636**	**5.518**	220	2.104	2.032	1.626	0.499	67%	PE	PE100	B
SE-G2.1	SE-G2	SE-G3	normal	0	57796.8	11471.22	42486	3	0.333	710	41	7.55	7.3	**5.518**	**5.332**	220	2.032	1.968	1.626	0.499	67%	PE	PE100	B
SE-G3.1	SE-G3	SE-G4	normal	0	57796.8	11471.22	42486	3	0.333	710	41	7.3	7	**5.332**	**5.145**	219	1.968	1.855	1.626	0.499	67%	PE	PE100	B
SE-G4.1	SE-G4	SE-G5	normal	0	57796.8	11471.22	42486	3	0.333	710	45	7	6.75	**5.145**	**4.941**	221	1.855	1.809	1.626	0.499	67%	PE	PE100	B
SE-G5.1	SE-G5	SE-G6	normal	0	57796.8	11471.22	42486	3	0.333	710	37.5	6.75	6.75	**4.941**	**4.77**	219	1.809	1.98	1.626	0.499	67%	PE	PE100	B
SE-G6.1	SE-G6	SE-G7	BD3	0	57796.8	11471.22	42486	3	0.333	710	18.7	6.75	6.75	**4.77**	**4.689**	231	1.98	2.061	1.590	0.488	68%	PE	PE100	B
SE-G7.1	SE-G7	F12	BD3	0	57796.8	11471.22	42486	3	0.333	710	7.88	6.75	6.5	**1.689**	**1.653**	219	5.061	4.847	1.626	0.499	67%	PE	PE100	B
SE-B29a.1	SE-B29a	SE-B29	BD3	3849	3849	740.54	2743	5.000	0.043	500	20.860	5.718	7.495	**2.793**	**2.725**	307	2.925	4.770	1.100	0.152	28%	PE	PE100	B
SE-B30a.1	SE-B30a	SE-B30	BD3	3849	3849	740.54	2743	5.000	0.043	500	16.419	5.718	7.495	**2.340**	**2.272**	241	3.378	5.223	1.240	0.172	25%	PE	PE100	B

Extracted from " Sewerage Design Report (Final)" (ref.: C20-02)

APPENDIX C

Extracts of Reference Guidelines and Materials

Extracted from EPD's " Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning"

Table T-1 Unit Flow Factor for Domestic Flows

Location	Unit	Datum (2002) (m^3/d)	Increase per Annum (m3/d)	Planning for Future (m^3/day)
Domestic (housing type specific)				
Public rental	Person	0.19	-	0.19
Private R1	Person	0.19	-	0.19
R2	Person	0.27	-	0.27
R3	Person	0.34	0.003	0.37
R4	Person	0.34	0.003	0.37
Traditional Village	Person	0.15	-	0.15
Modern Village	Person	0.27	-	0.27
Institutional and special class	Person	0.19	-	0.19
Temporary and non-domestic	Person	0.15	-	0.15
Mobile residents	Person	0.19	-	0.19
Domestic (catchment specific)				
General- Permanent housing (for catchment wide planning)				
- Sandy Bay	Person	0.32	0.003	0.35
- Stanley, Discovery Bay	Person	0.29	-	0.29
- Shek O	Person	0.28	0.007	0.35
- Outlying Islands, Sai Kung	Person	0.26	0.001	0.27
- Yuen Long, Mui Wo	Person	0.23	0.002	0.25
- Aberdeen, Wan Chai, North Lantau	Person	0.23	-	0.23
- Sha Tin, Tai Po	Person	0.21	-	0.22
- San Wai	Person	0.20	0.003	0.23
-Wah Fu, Shek Wu Hui	Person	0.20	0.001	0.21
- Northwest Kowloon, Tuen Mun, Central, North Point	Person	0.20	-	0.20
- Ap Lei Chau, Chai Wan, Shau Kei Wan, Central Kowloon, East Kowloon, Kwai Chung, Tsing Yi, Tseung Kwan O	Person	0.19	-	0.19
General – Other housing (catchment wide planning				
- All catchments	person	0.175	-	0.175

Extracted from EPD's " Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning"

Notes of Table 1:

(1) For planning a new sewerage system, the planning unit flow factors should be used. Adequate allowance should be provided in the proposed sewerage system to ensure that the sewerage system will be adequate for the worst possible future development scenarios.

(2) Permanent housing comprises public rental housing, subsidized sales flats and private permanent housing (R1, R2, R3 and R4). Other housing consists of non-domestic, institutional & special classes, and temporary housing.

Extracted from EPD's " Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning"

Table T-2 : Unit Flow Factors of Commercial Flows and Student Flows

Location	Unit	Planning For Future (m3/d)
Commercial employee	Employee	0.08
Commercial employee		
(a) Specific trades:	Employee	
J2 Electricity Gas & Water	Employee	0.250
J3 Transport, Storage & Communication	Employee	0.100
J4 Wholesale & Retail	Employee	0.200
J5 Import & Export	Employee	-
J6 Finance, Insurance, Real Estate & Business Services	Employee	-
J7 Agriculture & Fishing	Employee	-
J8 Mining & Quarrying	Employee	-
J9 Construction	Employee	0.150
J10 Restaurants & Hotels	Employee	1.500
J11 Community, Social & Personal Services	Employee	0.200
J12 Public Administration	Employee	-
(b) General –territorial average	Employee	0.200
School student	Person	0.040

Notes of Table T-2:

(1) For planning of a new sewerage system, the planning unit flow factors should be used and the worst possible combination of commercial flows for the future development scenarios should be considered to ensure that the sewerage system under planning will be sustainable.

(2) For job types J10 and J11, the “per-employee” unit flow factor takes into account the flows of customers and/or tenants.

(3) The total unit flow generated from an employee in a particular trade is the sum of the unit flow factor of employee and the unit flow factor of commercial activities of a particular trade under consideration.

Extracted from EPD's " Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning"

Table T-5 : Peaking Factors, P

Population Range	Peaking Factor (including stormwater allowance) for facility with existing upstream sewerage	Peaking Factor (excluding stormwater allowance) for facility with new upstream sewerage
(a) For sewers		
<1,000	8	6
1,000 – 5,000	6	5
5,000 – 10,000	5	4
10,000 – 50,000	4	3
>50,000	$\text{Max}\left(\frac{7.3}{N^{0.15}}, 2.4\right)$	$\text{Max}\left(\frac{6}{N^{0.175}}, 1.6\right)$
(b) Sewage Treatment Works, Preliminary Treatment Works and Pumping Stations		
<10,000	4	3
10,000 – 25,000	3.5	2.5
25,000 – 50,000	3	2
>50,000	$\text{Max}\left(\frac{3.9}{N^{0.065}}, 2.4\right)$	$\text{Max}\left(\frac{2.6}{N^{0.065}}, 1.6\right)$

Notes of Table T-5:

(1) N is the contributing population in thousands.

Summarised Development parameter and estimated ADWF in West SPS (excluding Area 103 109)

Area No.	Category	Population/ Employee (Head)	ADWF
106A	Residential Population (R3)	1303	482.0
106B	Residential Population (R3)	988	366.0
106C	Residential Population (R3)	1372	508.0
110	Residential Population (R3)	1707	632.0
	Commercial (Retail)	330	92.0
	F&B Trade	33	52.1
99	Residential Population (R3)	14880	2827.0
	Commercial (Retail)	288	81.0
	F&B Trade	28.8	45.5
	Kindergarten (student)	180	7.0
	Kindergarten (employee)	20	2.0
100	Residential Population (R3)	16120	3063.0
	Commercial (Retail)	676	189.0
	F&B Trade	67.6	106.8
	Kindergarten (student)	180	7.0
	Kindergarten (employee)	20	2.0
	Community & Social Centres	128	36.0
57	Commercial (Office)	4122	330.0
	Commercial (Retail)	1767	495.0
	Commercial (Retail)	176.7	279.2
105	Salt-water Pumping Station	10	3.0
59	Electricity Substation	10	3.0
	Clinic	278	78.0
102	Sports Centre	300	84.0
	Primary School (student)	1530	61.0
	Primary School (employee)	109	9.0
56			2662.0
			12503.0

Total	Population	ADWF (m3/d)
To TCE West PS (including Area 56)*	46625 + Area103 & 109 + Area 56	14710.30

Note: * Assume 2662 m3/d sewerage from the Housing Site in Area 56

APPENDIX D

Sewerage Assessment

Table 1 Sewerage Impact Assessment

Proposed Gravity Sewer

Roughness Coefficient for Proposed Sewer, K_s = 1.50 mm

Kinematic Viscosity, n = 0.000001 m^2/sec @ 20°C

US Manhole	DS Manhole	Pipe Size (mm)	Internal Size DN (mm) (a)	No. of Pipe (b)	Approx. Length (m)	US I.L. (mPD)	DS I.L. (mPD)	Gradient %	Gradient 1 in	Population Increment	Population Accu.	ADWF (m^3/day) Increment	ADWF (m^3/day) Accu. (c)	Sources of Additional Sewage Flow	Contributing Population (f) = (c) /0.27	Peak Flow Factor (excl. stormwater allowance) (h)	PDWF (m^3/s) (i) = (c) x (h)/3600/24	Area of Flow (m^2) (j) =((a)^2 /4) x(b) x π /100000	Slope	Velocity (m/s) (k)	Capacity (m^3/s) (l) = (j) x (k)	Peak Flow/ Capacity (i) / (k)	Capacity> ADWF ?
SE-B1	SE-B2	400	351.3	1	39.0	3.825	3.565	0.667	150.000	2,070	2,070	776.13	776	110 & Assumed F&B Trade	2875	5	0.045	0.097	0.007	1.254	0.122	0.368	Ok
SE-B2	SE-B3	400	351.3	1	39.0	3.565	3.305	0.667	150.000	0	2,070	0.00	776		2875	5	0.045	0.097	0.007	1.254	0.122	0.368	Ok
SE-B3	SE-B4	560	491.8	1	36.0	3.145	2.905	0.667	150.000	1,372	3,442	507.64	1,284	106	4755	5	0.074	0.190	0.007	1.559	0.296	0.251	Ok
SE-B4	SE-B5	560	491.8	1	25.1	2.630	2.463	0.667	150.000	0	3,442	0.00	1,284		4755	5	0.074	0.190	0.007	1.559	0.296	0.251	Ok
SE-B5	SE-B6	560	491.8	1	19.2	2.163	2.035	0.667	150.000	0	3,442	0.00	1,284		4755	5	0.074	0.190	0.007	1.559	0.296	0.251	Ok
SE-B6	SE-B7	560	491.8	1	81.9	1.735	1.189	0.667	150.000	2,155	5,597	429.70	1,713	109	6346	4	0.079	0.190	0.007	1.559	0.296	0.268	Ok
SE-B7	SE-B8	630	553.4	1	31.4	1.119	0.962	0.500	200.000	2,156	7,753	429.70	2,143	109	7938	4	0.099	0.241	0.005	1.456	0.350	0.283	Ok
SE-B8	SE-B9	630	553.4	1	35.0	0.962	0.787	0.500	200.000	0	7,753	0.00	2,143		7938	4	0.099	0.241	0.005	1.456	0.350	0.283	Ok
SE-B9	SE-B10	630	553.4	1	35.0	0.787	0.612	0.500	200.000	0	7,753	0.00	2,143		7938	4	0.099	0.241	0.005	1.456	0.350	0.283	Ok
SE-B10	SE-B11	630	553.4	1	30.0	0.612	0.462	0.500	200.000	0	7,753	0.00	2,143		7938	4	0.099	0.241	0.005	1.456	0.350	0.283	Ok
SE-B11	SE-B12	630	553.4	1	35.0	0.462	0.287	0.500	200.000	0	7,753	0.00	2,143		7938	4	0.099	0.241	0.005	1.456	0.350	0.283	Ok
SE-B12	SE-B13	630	553.4	1	34.0	0.287	0.117	0.500	200.000	0	7,753	0.00	2,143		7938	4	0.099	0.241	0.005	1.456	0.350	0.283	Ok
SE-B13	SE-B14	630	553.4	1	17.0	0.117	0.032	0.500	200.000	0	7,753	0.00	2,143		7938	4	0.099	0.241	0.005	1.456	0.350	0.283	Ok
SE-B14	SE-B15	630	553.4	1	18.8	-0.468	-0.562	0.500	200.000	0	7,753	0.00	2,143		7938	4	0.099	0.241	0.005	1.456	0.350	0.283	Ok
SE-B15	SE-B16	630	553.4	1	31.8	-0.526	-0.685	0.500	200.000	0	7,753	0.00	2,143		7938	4	0.099	0.241	0.005	1.456	0.350	0.283	Ok
SE-B16	SE-B17	630	553.4	1	30.0	-0.685	-0.835	0.500	200.000	0	7,753	0.00	2,143		7938	4	0.099	0.241	0.005	1.456	0.350	0.283	Ok
SE-B17	SE-B18	630	553.4	1	73.4	-0.835	-1.202	0.500	200.000	0	7,753	0.00	2,143		7938	4	0.099	0.241	0.005	1.456	0.350	0.283	Ok
SE-B18	SE-B19	800	703.9	1	33.0	-1.372	-1.482	0.333	300.000	8,596	16,349	1701.76	3,845	100	14240	3	0.134	0.389	0.003	1.385	0.539	0.248	Ok
SE-B19	SE-B20	800	703.9	1	69.0	-1.482	-1.712	0.333	300.000	0	16,349	0.00	3,845		14240	3	0.134	0.389	0.003	1.385	0.539	0.248	Ok
SE-B20	SE-B21	800	703.9	1	23.7	-1.712	-1.791	0.333	300.000	0	16,349	0.00	3,845		14240	3	0.134	0.389	0.003	1.385	0.539	0.248	Ok
SE-B21	SE-B22	800	703.9	1	35.1	-1.781	-1.898	0.333	300.000	0	16,349	0.00	3,845		14240	3	0.134	0.389	0.003	1.385	0.539	0.248	Ok
SE-B22	SE-B23	800	703.9	1	36.9	-1.898	-2.021	0.333	300.000	3,033	19,382	551.86	4,397	57	16284	3	0.153	0.389	0.003	1.385	0.539	0.283	Ok
SE-B23	SE-B24	800	703.9	1	39.9	-2.031	-2.164	0.333	300.000	0	19,382	0.00	4,397		16284	3	0.153	0.389	0.003	1.385	0.539	0.283	Ok
SE-B24	SE-B25	800	703.9	1	18.0	-2.164	-2.224	0.333	300.000	8,596	27,978	1701.76	6,099	100 & Assumed F&B Trade	22587	3	0.212	0.389	0.003	1.385	0.539	0.393	Ok
SE-B25	SE-B26	800	703.9	1	40.2	-2.224	-2.358	0.333	300.000	3,033	31,011	551.85	6,650	57	24631	3	0.231	0.389	0.003	1.385	0.539	0.428	Ok
SE-B26	SE-B27	800	703.9	1	45.0	-2.358	-2.508	0.333	300.000	288	31,299	81.00	6,731	59	24931	3	0.234	0.389	0.003	1.385	0.539	0.434	Ok
SE-B27	SE-B28	800	703.9	1	36.9	-2.508	-2.627	0.323	310.000	0	31,299	0.00	6,731		24931	3	0.234	0.389	0.003	1.362	0.530	0.441	Ok
SE-B28	SE-B29	900	791.6	1	57.4	-2.627	-2.791	0.286	350.000	0	31,299	0.00	6,731		24931	3	0.234	0.492	0.003	1.381	0.680	0.344	Ok
SE-B29	SE-B30	900	791.6	1	58.8	-2.791	-2.938	0.250	400.000	3,850	35,149	740.54	7,472	99	27674	3	0.259	0.492	0.003	1.292	0.636	0.408	Ok
SE-B30	SE-B31	900	791.6	1	57.2	-2.938	-3.081	0.250	400.000	3,850	38,999	740.54	8,212	99	30417	3	0.285	0.492	0.003	1.292	0.636	0.448	Ok
SE-B31	SE-D25	900	791.6	1	31.6	-3.081	-3.160	0.250	400.000	3,849	42,848	740.53	8,953	99	33159	3	0.311	0.492	0.003	1.292	0.636	0.489	Ok
SE-D6	SE-D7	355	311.6	1	64.2	1.700	1.353	0.541	185.000	549	549	146.90	147	103	544	6	0.010	0.076	0.005	1.044	0.080	0.128	Ok
SE-D7	SE-D8	400	351.3	1	33.3	1.308	1.097	0.633	158.000	988	1,537	365.56	512	106	1898	5	0.030	0.097	0.006	1.222	0.118	0.251	Ok
SE-D8	SE-D9	400	351.3	1	68.2	1.097	0.736	0.529	189.000	0	1,537	0.00	512		1898	5	0.030	0.097	0.005	1.117	0.108	0.275	Ok
SE-D9	SE-D10	500	439.2	1	62.3	0.636	0.286	0.562	178.000	6,322	7,859	1201.00	1,713	103	6346	4	0.079	0.152	0.006	1.330	0.202	0.393	Ok
SE-D10	SE-D11	500	439.2	1	50.9	0.286	-0.008	0.578	173.000	0	7,859	0.00	1,713		6346	4	0.079	0.152	0.006	1.349	0.204	0.389	Ok
SE-D11	SE-D12	560	491.8	1	49.9	-0.068	-0.296	0.457	219.000	1,303	9,162	482.11	2,196	106	8132	4	0.102	0.190	0.005	1.289	0.245	0.415	Ok
SE-D12	SE-D13	560	491.8	1	43.5	-0.296	-0.482	0.427	234.000	1,639	10,801	69.92	2,265	102	8391	4	0.105	0.190	0.004	1.247	0.237	0.443	Ok
SE-D13	SE-D14	630	553.4	1	53.6	-0.482	-0.714	0.433	231.000	10	10,811	3.30	2,269	105	8403	4	0.105	0.241	0.004	1.354	0.326	0.322	Ok
SE-D14	SE-D15	630	553.4	1	32.6	-0.714	-0.862	0.455	220.000	0	10,811	0.00	2,269		8403	4	0.105	0.241	0.005	1.388	0.334	0.314	Ok
SE-D15	SE-D16	710	624.6	1	53.0	-0.942	-1.154	0.400	250.000	0	10,811	0.00	2,269		8403	4	0.105	0.306	0.004	1.406	0.431	0.244	Ok
SE-D16	SE-D17	710	624.6	1	15.0	-1.154	-1.214	0.400	250.000	0	10,811	0.00	2,269		8403	4	0.105	0.306	0.004	1.406	0.431	0.244	Ok
SE-D17	SE-D18	710	624.6	1	19.0	-1.214	-1.280	0.347	288.000	300	11,111	84.00	2,353	102	8714	4	0.109	0.306	0.003	1.310	0.401	0.272	Ok
SE-D18	SE-D19	710	624.6	1	32.4	-1.280	-1.480	0.617	162.000	0	11,111	0.00	2,353		8714	4	0.109	0.306	0.006	1.748	0.536	0.203	Ok
SE-D19	SE-D20	710	624.6	1	61.3	-1.480	-1.768	0.469	213.000	0	11,111	0.00	2,353		8714	4	0.109	0.306	0.005	1.524	0.467	0.233	Ok
SE-D20	SE-D21	710	624.6	1	41.0	-1.768	-1.920	0.370	270.000	0	11,111	0.00	2,353		8714	4	0.109	0.306	0.004	1.353	0.415	0.262	Ok
SE-D21	SE-D22	710	624.6	1	46.0	-1.920	-2.104	0.400	250.000	0	11,111	0.00	2,353		8714	4	0.109	0.306	0.004	1.406	0.431	0.253	Ok
SE-D22	SE-D23	710	624.6	1	57.8	-2.104	-2.348	0.422	237.000	0	11,111	0.00	2,353		8714	4	0.109	0.306	0.004	1.444	0.443	0.246	Ok
SE-D23	SE-D24	710	624.6	1	40.3	-2.348	-2.492	0.357	280.000	0	11,111	0.00	2,353		8714	4	0.109	0.306	0.004	1.328	0.407	0.268	Ok
SE-D24	SE-D25	710	624.6	1	40.5	-2.492	-2.792	0.741	135.000	0	11,111	0.00	2,353		8714	4	0.109	0.306	0.007	1.916	0.587	0.186	Ok
SE-D25	SP5002	900	791.6	1	29.8	-3.160	-3.245	0.286	350.000	46,697	57,808	9693.55	12,046.34		44616	3	0.418	0.492	0.003	1.381	0.680	0.615	Ok
PLUG D2.3	SE-B6	355	311.6	1	13.5	2.000	1.910	0.667	150.000	2,155	2,155	429.70	429.70		1591	5	0.025	0.076	0.005	1.044	0.079	0.315	Ok
PLUG D2.3A	SE-B7	355	311.6	1	11.0	1.500	1.427	0.667	150.000	2,156	2,156	429.70	429.70		1591	5	0.025	0.076	0.005	1.044	0.079	0.315	Ok
PLUG D2.4A	SE-D6	355	311.6	1	8.6	1.840	1.749	1.053	95.000	549	549	146.90	146.90		544	6	0.010	0.076	0.005	1.044	0.079	0.129	Ok
PLUG D2.4	SE-D9	355	311.6	1	8.6	1.560	1.503	0.667	150.000	6,204	6,204	1201.00	1,201.00		4448	5	0.070	0.076	0.005	1.044	0.079	0.880	Ok

Notes:

1. Contributing Population = Accu. ADWF*24*3600/0.27, the peak flow factor refer to contributing population
2. The Colebrook-White Equation is used to determine the velocity
3.Data adopted from CEDD's Sewerage Design Report (Final) (ref.: C20-02)

$$V = -\sqrt{(8gDs)}\log\left(\frac{k_s}{3.7D} + \frac{2.51\nu}{D\sqrt{(2gDs)}}\right)$$

V = mean velocity (m/s)
g = gravitational acceleration (m/s2)
R = hydraulic radius (m)
D = pipe diameter (m)
k_s = roughness (m)
ν = kinematic viscosity of fluid (m^2/s)
s = frictional slope (energy gradient due to frictional loss)

Table 3 Sewerage Impact Assessment

Existing Gravity Sewer

Roughness Coefficient for Proposed Sewer, K_s = 3.00 mm

Kinematic Viscosity, n = 0.000001 m^2/sec @ 20°C

US Manhole	DS Manhole	Pipe Size (mm)	No. of Pipe	Approx. Length (m)	US I.L. (mPD)	DS I.L. (mPD)	Gradient		Population		ADWF (m^3/day)		Sources of Additional Sewage Flow *	Contributing Population	Peak Flow Factor (incl. stormwater allowance)	PDWF (m^3/s)	Area of Flow (m^2)	Slope	Velocity (m/s)	Capacity (m^3/s)	Peak Flow/ Capacity	Capacity> ADWF ?
							%	1 in	Increment	Accu.	Increment	Accu.										
		(a)	(b)									(c)	Area	(f) = (c) /0.27	(h)	(i) = (c) x (h)/3600/24	(j) =((a)^2 /4) x(b) x π /100000		(k)	(l) = (j) x (k)	(i) / (l)	
FMH7063200	FMH7042751	375	1	32.0	-	4.050	-	-		0	1146.00	1,146	Area 55b	4244	6	0.080	0.110	-	-	-	-	-
FMH7042751	FMH7042750	450	1	45.0	4.050	3.920	0.289	346.154		0		1,146		4244	6	0.080	0.159	0.003	0.874	0.139	0.573	Ok
FMH7042750	FMH7042752	450	1	3.9	3.920	3.305	15.974	6.260		0	52.00	1,198	Gas stations, Public Works Regional Laboratory (North Lantau), The Visionary, a construction site office	4437	6	0.083	0.159	0.160	6.515	1.036	0.080	Ok
FMH7042752	FMH7042753	450	1	3.8	3.770	3.660	2.918	34.273		0		1,198		4437	6	0.083	0.159	0.029	2.783	0.443	0.188	Ok
FMH7042753	FMH7042754	450	1	40.0	3.660	2.463	2.993	33.417		0		1,198		4437	6	0.083	0.159	0.030	2.819	0.448	0.186	Ok
FMH7042754	FMH7042755	450	1	39.0	3.530	3.420	0.282	354.545		0		1,198		4437	6	0.083	0.159	0.003	0.863	0.137	0.607	Ok
FMH7042755	FMH7042756	450	1	39.0	3.410	3.290	0.308	325.000		0		1,198		4437	6	0.083	0.159	0.003	0.902	0.143	0.582	Ok
FMH7042756	FMH7042757	450	1	39.0	3.290	3.180	0.282	354.545		0		1,198		4437	6	0.083	0.159	0.003	0.863	0.137	0.607	Ok
FMH7042757	FMH7042758	450	1	29.0	3.160	3.090	0.241	414.286		0		1,198		4437	6	0.083	0.159	0.002	0.799	0.127	0.655	Ok
FMH7042758	FMH7042759	450	1	36.0	3.070	2.960	0.306	327.273		0		1,198		4437	6	0.083	0.159	0.003	0.899	0.143	0.582	Ok
FMH7042759	FMH7042743	450	1	38.0	2.920	2.800	0.316	316.667		0	1174.00	2,372	Caribbean Coast (1552 out of 5336 flat) , Ho Yu College and Primary Schoo	8785	5	0.137	0.159	0.003	0.914	0.145	0.947	Ok
FMH7042743	FMH7042744	450	1	39.0	2.660	1.160	3.846	26.000		0		2,372		8785	5	0.137	0.159	0.038	3.196	0.508	0.270	Ok
FMH7042744	FMH7042763	525	1	45.0	0.940	0.840	0.222	450.000		0	1300.00	3,672	Tung Chung Traction Substation, Caribbean Coast, Ho Yu College, Ho Yu Primary School, FMH7042744	13600	4	0.170	0.216	0.002	0.848	0.184	0.924	Ok
FMH7042763	FMH7042762	525	1	31.0	0.840	0.800	0.129	775.000		0		3,672		13600	4	0.170	0.216	0.001	0.646	0.140	1.214	Not OK
FMH7042762	FMH7042761	525	1	40.0	0.750	0.650	0.250	400.000		0		3,672		13600	4	0.170	0.216	0.003	0.900	0.195	0.872	Ok
FMH7042761	FMH7042760	525	1	38.0	0.640	0.530	0.289	345.455		0		3,672		13600	4	0.170	0.216	0.003	0.968	0.210	0.810	Ok
FMH7042760	FMH7042768	525	1	44.0	0.530	0.430	0.227	440.000		0		3,672		13600	4	0.170	0.216	0.002	0.858	0.186	0.914	Ok
FMH7042768	FMH7042767	525	1	39.0	0.410	0.340	0.179	557.143		0	2684.00	6,356	Caribean Coast (3784 of 5336 flats)	23541	4	0.294	0.216	0.002	0.762	0.165	1.783	Not OK
FMH7042767	FMH7042766	525	1	32.0	0.320	0.260	0.188	533.333		0		6,356		23541	4	0.294	0.216	0.002	0.779	0.169	1.741	Not OK
FMH7042766	FMH7042108	525	1	39.0	0.260	0.170	0.231	433.333		0		6,356		23541	4	0.294	0.216	0.002	0.864	0.187	1.574	Not OK
FMH7042108	FMH7042107	525	1	43.0	0.140	0.030	0.256	390.909		0		6,356		23541	4	0.294	0.216	0.003	0.910	0.197	1.494	Not OK
FMH7042107	FMH7042106	525	1	37.0	0.030	-0.010	0.108	925.000	2,009	2,009	563.00	6,919	Tung Chung Park, FMH7042744, Part of Caribbean Coast	25626	4	0.320	0.216	0.001	0.591	0.128	2.503	Not OK
FMH7042106	FMH7042105	600	1	21.0	0.020	-0.120	0.667	150.000		2,009		6,919		25626	4	0.320	0.283	0.007	1.605	0.454	0.706	Ok
FMH7042105	FMH7042104	600	1	12.0	-0.410	-0.530	1.000	100.000		2,009		6,919		25626	4	0.320	0.283	0.010	1.966	0.556	0.576	Ok
FMH7042104	FMH7042103	600	1	28.0	-0.530	-0.580	0.179	560.000		2,009		6,919		25626	4	0.320	0.283	0.002	0.829	0.234	1.369	Not OK
FMH7042103	FMH7042101	600	1	31.0	-0.600	-0.670	0.226	442.857		2,009		6,919		25626	4	0.320	0.283	0.002	0.933	0.264	1.213	Not OK
FMH7042101	FMH7042102	675	1	28.0	-0.760	-0.810	0.179	560.000		2,009	1918.00	8,837		32730	4	0.409	0.358	0.002	0.896	0.320	1.279	Not OK
FMH7042102	FMH7042088	675	1	33.0	-0.810	-0.850	0.121	825.000		2,009		8,837		32730	4	0.409	0.358	0.001	0.737	0.264	1.550	Not OK
FMH7042088	FMH7042086	675	1	48.0	-0.870	-0.920	0.104	960.000		2,009		8,837		32730	4	0.409	0.358	0.001	0.683	0.245	1.670	Not OK
FMH7042086	FMH7042087	750	1	74.0	-0.970	-1.140	0.230	435.294	14,729	16,738	4186.00	13,023	Coastal Skyline (3329 out of 3380 flat), Seaview Cresent, Ling Liang Church Sau Tak Primary School, Ling Liang Church E Wun Secondary School, Tung Chung Municipal Services Building and Tung Chung Public Library, Novotel Citygate Hong Kong Hotel	48233	4	0.603	0.442	0.002	1.088	0.481	1.253	Not OK
FMH7042087	FMH7042062	750	1	7.0	-1.140	-1.310	2.429	41.176		16,738		13,023		48233	4	0.603	0.442	0.024	3.544	1.566	0.385	Ok
FMH7042062	FMH7043282	750	1	99.0	-1.420	-1.600	0.182	550.000		16,738		13,023		48233	4	0.603	0.442	0.002	0.968	0.427	1.412	Not OK
FMH7043282	FMH7043283	750	1	38.0	-1.600	-1.730	0.342	292.308		16,738		13,023		48233	4	0.603	0.442	0.003	1.328	0.587	1.027	Not OK
FTH7001645	FMH7042090	300	1	10.0	-	3.210	-	-	6.969	6,969	1882.00	1,882	Area 55a	6970	5	0.109	0.071	-	-	-	-	Ok
FMH7042090	FMH7042091	400	1	27.0	3.120	2.940	0.667	150.000		6,969		1,882		6970	5	0.109	0.126	0.007	1.229	0.154	0.707	Ok
FMH7042091	FMH7042092	400	1	15.0	2.910	2.850	0.400	250.000		6,969		1,882		6970	5	0.109	0.126	0.004	0.952	0.120	0.908	Ok
FMH7042092	FMH7042093	400	1	28.0	2.820	2.680	0.500	200.000		6,969		1,882		6970	5	0.109	0.126	0.005	1.064	0.134	0.813	Ok
FMH7042093	FMH7042094	400	1	25.0	2.670	2.510	0.640	156.250		6,969		1,882		6970	5	0.109	0.126	0.006	1.204	0.151	0.721	Ok
FMH7042094	FMH7042095	400	1	39.0	2.510	2.280	0.590	169.565		6,969		1,882		6970	5	0.109	0.126	0.006	1.156	0.145	0.751	Ok
FMH7042095	FMH7042096	400	1	40.0	2.280	2.100	0.450	222.222		6,969		1,882		6970	5	0.109	0.126	0.004	1.010	0.127	0.858	Ok
FMH7042096	FMH7042097	400	1	39.0	2.060	1.860	0.513	195.000		6,969		1,882		6970	5	0.109	0.126	0.005	1.078	0.135	0.807	Ok
FMH7042097	FMH7042098	400	1	40.0	1.850	1.650	0.500	200.000	131	7,100	35.00	1,917	Coastal Skyline (51 out of 3380 flat)	7100	5	0.111	0.126	0.005	1.064	0.134	0.828	Ok
FMH7042098	FMH7042099	400	1	39.0	1.590	1.420	0.436	229.412		7,100		1,917		7100	5	0.111	0.126	0.004	0.994	0.125	0.888	Ok
FMH7042099	FMH7042100	400	1	39.0	1.380	1.200	0.462	216.667		7,100		1,917		7100	5	0.111	0.126	0.005	1.022	0.128	0.867	Ok
FMH7042100	FMH7042101	400	1	39.0	1.190	0.980	0.538	185.714		7,100		1,917		7100	5	0.111	0.126	0.005	1.105	0.139	0.798	Ok

Notes:

1. Contributing Population = Accu. ADWF*24*3600/0.27, the peak flow factor refer to contributing population
2. The Colebrook-White Equation is used to determine the velocity[1]:
3. The source of sewerage are made reference to AECOM report "Sewerage System and Sewage Treatment Implication Review for Population Increase and Development Intensity – CASE 2 Scenario 2B (Final)" (ref. PI20-02)
4. This table serves to derive the effect of the existing sewers to the proposed sewer between SE-G1 to FCH7000680, as indicated in Table 2. No additional sewerage will be discvharged from the Subject Site to the sewer system in this Table.
5. The sewers are interconnected to the proposed sewers at FMH7042091 and FMH7042062 to F3 and F18 respectively. The sewerage, including the over-flowed sewerage, in cell highlighted in green are included in the checking for proposed sewer in Table 2 as indicated in column (m) of Table 2.

$$V = -\sqrt{(8gDs)}\log\left(\frac{k_s}{3.7D} + \frac{2.51\nu}{D\sqrt{(2gDs)}}\right)$$

V = mean velocity (m/s) R = hydraulic radius (m) k_s = roughness (m) s = frictional slope (energy gradient due to frictional loss)

g = gravitational acceleration (m/s2) D = pipe diameter (m) ν = kinematic viscosity of fluid (m^2/s)

Table 2 Sewerage Impact Assessment

Proposed Gravity Sewer

Roughness Coefficient for Proposed Sewer, K_s = 0.60 mm (HDPE pipes)

Kinematic Viscosity, n = 0.000001 m^2/sec @ 20°C

US Manhole	DS Manhole	Pipe Size (mm)	Internal Size DN (mm)	No. of Pipe	Approx. Length (m)	US I.L. (mPD)	DS I.L. (mPD)	Gradient		Population from Gravity Sewer		ADWF (m^3/day) from Gravity Sewer		Population from Pumping Station		ADWF (m^3/day) from Pumping Station		Contributing Population from Gravity Sewer	Contributing Population from Pumping Station	Peak Flow Factor From Gravity Sewer (including stormwater allowance)	Peak Flow Factor from pumping station (excl. stormwater allowance)	PDWF of Proposed Sewers (m^3/s)	PDWF of Existing Sewers (m^3/s)*	Area of Flow (m^2)	Slope	Velocity (m/s)	Capacity of Proposed Sewers (m^3/s)	Capacity of Existing Sewers (m^3/s)	Peak Flow/ Capacity	Capacity- ADWF †
								%	1 in	Increment	Accu.	Increment	Accu.	Increment	Accu.	Increment	Accu.													
			(a)	(b)									(c1)				(c2)	(f1) = (c1) /0.27	(f1) = (c2) /0.27	(h1)	(h2)	(i) = (c1 x h1+ c2 x h2)/3600/24	(m)	(j) =((a)^2 /4) x(b) x π /100000		(k)	(l) = (j) x (k)	(n)	(i+m) / (l+n)	
DC1	SE-G1	710	600	1	14	5.700	5.636	0.457	218.750	0	0	0	0	57807.7	57,808	14710.30	14,710.30	0	54483	8	2.0	0.341	-	0.283	0.005	1.642	0.464	-	0.735	Ok
SE-G1	SE-G2	710	600	1	26	5.636	5.518	0.454	220.339	0	0	0	0	0	57,808	0.00	14,710.30	0	54483	8	2.0	0.341	-	0.283	0.005	1.636	0.463	-	0.738	Ok
SE-G2	SE-G3	710	600	1	41	5.518	5.332	0.454	220.430	0	0	0	0	0	57,808	0.00	14,710.30	0	54483	8	2.0	0.341	-	0.283	0.005	1.636	0.463	-	0.738	Ok
SE-G3	SE-G4	710	600	1	41	5.332	5.145	0.456	219.251	0	0	0	0	0	57,808	0.00	14,710.30	0	54483	8	2.0	0.341	-	0.283	0.005	1.641	0.464	-	0.736	Ok
SE-G4	SE-G5	710	600	1	45	5.145	4.961	0.453	220.588	0	0	0	0	0	57,808	0.00	14,710.30	0	54483	8	2.0	0.341	-	0.283	0.005	1.636	0.462	-	0.738	Ok
SE-G5	SE-G6	710	600	1	37.5	4.961	4.770	0.456	219.298	0	0	0	0	0	57,808	0.00	14,710.30	0	54483	8	2.0	0.341	-	0.283	0.005	1.640	0.464	-	0.736	Ok
SE-G6	SE-G7	710	600	1	18.7	4.770	4.689	0.433	230.864	0	0	0	0	0	57,808	0.00	14,710.30	0	54483	8	2.0	0.341	-	0.283	0.004	1.598	0.452	-	0.755	Ok
SE-G7	SE-G8	710	600	1	7.88	1.689	1.653	0.457	218.889	0	0	0	0	0	57,808	0.00	14,710.30	0	54483	8	2.0	0.341	-	0.283	0.005	1.642	0.464	-	0.735	Ok
F12	F13	800	756.6	1	43.0	0.563	0.310	0.588	169.960	11,420	11,420	3927.00	3,927.00	0	57,808	0.00	14,710.30	14544	54483	4	2.0	0.523	0.111	0.450	0.006	2.155	0.969	0.120	0.582	Ok
F13	F14	800	756.6	1	23.0	-0.124	-0.259	0.587	170.370	0	11,420	0.00	3,927.00	0	57,808	0.00	14,710.30	14544	54483	4	2.0	0.523	0.111	0.450	0.006	2.153	0.968	0.120	0.583	Ok
F14	F15	800	756.6	1	36.0	-0.259	-0.471	0.589	169.811	0	11,420	0.00	3,927.00	0	57,808	0.00	14,710.30	14544	54483	4	2.0	0.523	0.111	0.450	0.006	2.156	0.970	0.120	0.582	Ok
F15	F16	800	756.6	1	45.0	-0.471	-0.736	0.589	169.811	0	11,420	0.00	3,927.00	0	57,808	0.00	14,710.30	14544	54483	4	2.0	0.523	0.111	0.450	0.006	2.156	0.970	0.120	0.582	Ok
F16	F17	800	756.6	1	22.0	-0.736	-0.865	0.586	170.543	0	11,420	0.00	3,927.00	0	57,808	0.00	14,710.30	14544	54483	4	2.0	0.523	0.111	0.450	0.006	2.152	0.967	0.120	0.583	Ok
F17	F18	800	756.6	1	68.0	-0.965	-1.365	0.588	170.000	0	11,420	0.00	3,927.00	0	57,808	0.00	14,710.30	14544	54483	4	2.0	0.523	0.111	0.450	0.006	2.155	0.969	0.120	0.582	Ok
FMH7042062	F18	800	756.6	1	11.0	-1.420	-1.485	0.591	169.231	0	11,420	0.00	3,927.00	0	57,808	0.00	14,710.30	14544	54483	4	2.0	0.523	0.603	0.450	0.006	2.160	0.971	0.427	0.805	Ok
F18	F19	800	756.6	1	95.0	-1.670	-2.050	0.400	250.000	0	11,420	0.00	3,927.00	0	57,808	0.00	14,710.30	14544	54483	4	2.0	0.523	0.603	0.450	0.004	1.775	0.798	0.427	0.919	Ok
F19	F20	800	756.6	1	42.0	-2.050	-2.218	0.400	250.000	0	11,420	0.00	3,927.00	0	57,808	0.00	14,710.30	14544	54483	4	2.0	0.523	0.603	0.450	0.004	1.775	0.798	0.427	0.919	Ok
F20	F21	800	756.6	1	36.0	-2.218	-2.362	0.400	250.000	0	11,420	0.00	3,927.00	0	57,808	0.00	14,710.30	14544	54483	4	2.0	0.523	0.603	0.450	0.004	1.775	0.798	0.427	0.919	Ok
F21	FCH7000680	800	756.6	1	3.0	-2.362	-2.374	0.400	250.000	0	11,420	0.00	3,927.00	0	57,808	0.00	14,710.30	14544	54483	4	2.0	0.523	0.603	0.450	0.004	1.775	0.798	0.427	0.919	Ok

Notes:

1. Contributing Population = Accu. ADWF*24*3600/0.27, the peak flow factor refer to contributing population
2. The Colebrook-White Equation is used to determine the velocity
3. Increment in population and ADWF to manholes F12 are made reference to the design parameters of Area S4 adopted in AECOM report "Sewerage System and Sewage Treatment Implication Review for Population Increase and Development Intensity – CASE2 Scenario 2B (Final)" (ref. PI20-02).

* refers to note 5 in Table 3

$$V = -\sqrt{(8gDs)}\log\left(\frac{k_s}{3.7D} + \frac{2.51\nu}{D\sqrt{(2gDs)}}\right)$$

V = mean velocity (m/s); g = gravitational acceleration (m/s2); R = hydraulic radius (m); D = pipe diameter (m); k_s = roughness (m); ν = kinematic viscosity of fluid (m^2/s); s = frictional slope (energy gradient due to frictional loss)

† k_s = roughness (m); ν = kinematic viscosity of fluid (m^2/s)

Agreement No. CB20180310
Proposed Public Housing Development at Tung Chung Area 103 in Tung Chung

Sizing of Rising Main

Scenarios	ADWF (m3/day)	Peaking Factor	Peak Flow (m3/s)	Estimated Flow in One RM (m3/s)	Pipe Internal Diameter (mm)	Area of Flow (m2)	Flow Velocity (m/s)	Remarks
Flow from West SPS catchment + Flow from Area 56 (excluding Stormwater Allowance)	14710.30	2.04	0.35	0.17	395.6	0.12	1.41	Two Duty RMs under Normal Operation
	14710.30	2.04	0.35	0.35	395.6	0.12	2.82	One Duty and One Standby under Emergency Condition

Agreement No. CB20180310

Proposed Public Housing Development at T Proposed Public Housing Development at Tung Chung Area 103 in Tung Chung

Western Sewage Pumping Station

Wet Well

Ground Level =	5.5	mPD
Breath =	11.5	m
Width =	4	m
Inlet pipe invert level	-3.248	mPD
Inlet chamber floor level, L1	-3.398	mPD
High Level Alarm, HLA (l2)	-3.548	mPD
Overflow Level	3.5	mPD

Retention Time in wet well

Total available storage area	46	m2
Water Depth	7.048	m
Total storage capacity	324.208	m3
Retention Time in wet well	1904.215	s
	31.737	mins

Retention Tank Design:
Withstanding 6 hours of ADWF

ADWF =	0.170	m3/s
Volume of 6-hr ADWF =	3677.6	m3
Valve Chamber Invert =	-6.4	mPD
Overflow Pipe Invert =	3.5	mPD
Retention Tank Invert =	-7.3	mPD
Storage volume at Wet Well =	324.21	m3
Required storage tank volume =	3309.818	m3

	Length	Width	Depth	Volume		
Volume of Storage Tank, Portion A1 =	3.10	4.35	10.80	145.64	m3	
Volume of Storage Tank, Portion A2 =	19.25	14.90	10.80	3097.71	m3	
Volume at distribution chamber =	1.55	12.30	9.90	188.74	m3	
Volume at inlet and outlet chgamber of screen house	4.80	4.00	6.80	125.79		
Adopting 1 in 50 fall	Reduced in volume due to fall and column			139.79	m3	
Total Volume of Storage =				3742.30	m3	OK

Appendix 6

Technical Assessments – Part 4

(Water Works Impact Assessment)

Hong Kong Housing Authority

Agreement No. CB20180310
HKHA Term Engineering Consultancy Services 2018-2020
For Kowloon Central & West and Islands Region

Proposed Public Housing Development at Tung Chung Area 103

Water Works Impact Assessment (Final)

Document No. Q1021/C006/2
Issue 2

June 2022

MANNINGS
(Asia) Consultants Limited

Q1021/C006/2
Issue 2
Junel 2022

Agreement No. CB20180310

Proposed Public Housing Development at Tung Chung Area 103

Water Works Impact Assessment (Final)

Approved for Issue by:	
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Date:	June 2022

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Q1021/C006/2
Issue 2
June 2022

Agreement No. CB20180310

Proposed Public Housing Development at Tung Chung Area 103

Water Works Impact Assessment (Final)

Issue	Prepared by	Reviewed by	Date
1	MWS	ST	April 2022
2	MWS	ST	June 2022

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Executive Summary

To meet the public housing target, the Hong Kong Housing Authority (HKHA) was invited "to study the potential increase of housing provision in Tung Chung East". Tung Chung Area 103 (hereinafter refer as "the Subject Site") at Tung Chung East is being explored.

The potential population of the subject site is about 5,651 respectively. Tentatively, the subject site is targeted to complete the potential development in 2026/27.

The water demands of both the existing and potential development were estimated with reference to the Departmental Instruction (DI) No. 1309 published by Water Supplies Department (WSD) and AECOM report "Fresh and Salt Water Supply Review for Population Increase and Development Intensity – CASE 2 Scenario 2B (Final)" (Ref. PI21-02) with permission of use by HKHA.

The results showed that the revised estimated fresh water demand of the Subject Site is smaller than that in the original design (-0.02%). For flushing water demand, the revised estimation is larger than that in the original design (+0.02%). The newly estimated MDD for Fresh Water services will not exceed the current proposed capacity of Siu Ho Wan Fresh Water Service Reservoir (i.e. 64,600 $m^{3)}$ whereas the newly estimated MDD for Salt Water services will exceed the Tung Chung Salt Water Service Reservoir (i.e. 11,500 m^3), which can be catered by the factor of additional 25% of MDD as safety margin in the design assumption, and thus no insurmountable technical problem shall be induced from the capacity of the planned water services facilities.

1.0 Introduction

1.1.1 Civil Engineering and Development Department (CEDD) is carrying out reclamation and infrastructure works for the development of Tung Chung New Town Extension (TCNTE) - East. In response to the policy on site optimisation and intensification, CEDD has carried out studies to assess the potential increase of housing provision in Tung Chung East. Tung Chung Area 103 (hereinafter refer as "the Subject Site") at Tung Chung East is being explored (See Appendix A). Tentatively, the proposed public housing developments at the Subject Site is targeted to complete in 2026/27.

1.1.2 Mannings (Asia) Consultants Ltd has been commissioned by the Hong Kong Housing Authority (HKHA) under the Agreement No. CB20180310 HKHA Term Engineering Consultancy Services 2018-2020 to undertake the Water Works Impact Assessment (WWIA) (hereinafter refer as "the Subject Study") to support the s.16 planning application for the proposed public housing development at the Subject Site.

2.0 Background

2.1.1 The potential population of the Subject Site is about 5,651. Tentatively, the subject site is targeted to complete the potential development in 2026/27.

3.0 Study Objective

3.1.1 The objective of the study is:

- To assess the fresh and flushing water demands of the Subject Site

3.1.2 The major tasks to achieve these objectives include:

- Acquire background information and predict water demands in the Subject Site;
- Assess the impacts of the potential development's water demands on the original design

4.0 Data Collection

4.1.1 Data used for this assessment were based on the HKHA information, Water Supplied Department (WSD) Departmental Instruction No. 1309 and the AECOM report "Fresh and Salt Water Supply Review for Population Increase and Development Intensity – CASE 2 Scenario 2B(Final)" (Ref. PI21-02) with permission of use by CEDD.

5.0 Tung Chung Area 103

5.1.1 The Subject Site, with a site layout plan shown in **Appendix A**, will include domestic blocks, non-domestic facilities including retail and social welfare block. A summary of the development parameters of the Subject Site in the assessment were presented in Table 5.1.

Table 5.1 – Development Parameters of the Subject Site

	Tung Chung Area 103
Target Completion Year	2026/27
Public Rental Housing (PRH)	
No. of Flats	2,018
Average Household Size (Persons per flat)	2.8
Population (Without 10% design buffer)	5,651
Non-domestic Facilities	
Estate Management Office	About 150 m^2 (IFA) (remarks: subject to detailed design
Neighbourhood Elderly Centre	545 m^2 GFA
Centre for Home Care Services (HCS) for Frail Elderly Persons	156.5m^2 NOFA

6.0 Existing and Proposed Fresh and Salt Water Supply System

6.1 Existing Fresh Water Supply Condition

6.1.1 The existing fresh water connection point was located at southwest side of the Subject Site at Ying Tung Road of Tung Chung. No fresh water was supplied to the Subject Site. A record plan of existing fresh water mains is appended in **Appendix B**.

6.2 Existing Flushing Water Supply Condition

6.2.1 The flushing water system of the Subject Site was supplied by salt water.

6.2.2 The existing flushing water connection point was located at southwest side of the Subject Site at Ying Tung Road of Tung Chung. No salt water was supplied to the Subject Site. A record plan of existing flushing water mains is appended in **Appendix C**.

6.3 Proposed Fresh Water Supply

6.3.1 It is anticipated that the location of the fresh water connection point for the Subject Site would be placed outside the boundary of the Subject Site. The proposed fresh water connection point shall be aligned with the connection points at detail design stage.

6.4 Proposed Flushing Water Supply

6.4.1 It is anticipated that the location of the flushing water connection point for the Subject Site would be placed outside the boundary of the Subject Site. The proposed salt water connection point shall be aligned with the connection points at detail design stage.

7.0 Assessment Methodology

7.1 Assumptions

7.1.1 The unit demands of the residential population and the services trade are based on the Water Supplies Department (WSD) Departmental Instruction (DI) No. 1309.

7.1.2 The assumptions on flat occupancy were based on Housing in Figures 2020 published by Transport and Housing Bureau.

7.1.3 The actual demand is subject to the planning on the Assignment. The scheme adopted in the scheme is preliminary and the layout will be updated subject to the scheme evaluation and liaison with relevant departments.

7.2 Unit Demand

7.2.1 In accordance with WSD's DI No. 1309 and other reference, the following unit demand factors are adopted in this assessment and summarized in Table 7.1:-

Table 7.1 – Unit Demand Rates for the Potential development

Population or Employment Type	Unit Portable Water Demand (l/h/d)	Unit Flushing Water Demand (l/h/d)
Residential – Public Housing	140	70
Service Trades	40	--
Non-residential	40	20(1)

Note:
(1) The unit flushing water demand is referred to that of Categories – General Government/Institution/Community (GIC) and Office in Annex B2 of AECOM report "Fresh and Salt Water Supply Review for Population Increase and Development Intensity – CASE 2 Scenario 2B (Final)" (Ref. PI21-02)

7.3 Required Water Demands for Fresh and Salt Water

7.3.1 This assessment will be evaluated based on the estimated fresh and salt water demands of the Subject Site. The estimated values are then added to the required fresh and salt water demands without the Subject Site. According to Annex B2 of AECOM report "Fresh and Salt Water Supply Review for Population Increase and Development Intensity – CASE 2 Scenario 2B (Final)" (Ref. PI21-02) (See **Appendix D1**), the fresh and salt water demands of Tung Chung East and West Developments (including that of the Subject Site) are 64,498 m^3 and 45,491 m^3 respectively. Table 7.2 provides demand estimates of the development without the Subject Site.

7.3.2 Area 109, being in close proximity of Area 103 and close targeted completion year, 2025/26, with Area 103, the proposed increased intensity for Area 109 will be considered together with the Subject Site.

7.3.3 Coordination has been undertaken with CEDD. The water demand of Area 33 will be intensified. The updated estimated daily demands of fresh water and salt water from TCW are 9,759m3/d and 4,224 m3/d respectively.

7.3.4 Since the original water demands of non-residential facilities of the Subject Site are unknown, deduction of them will be assumed as negligible on estimating the water demands of Tung Chung East Development without the Subject Site.

7.3.5 The demand estimates from Table 7.2 will be used to summate the estimated fresh and salt water demands based on the development parameters summarized in Table 5.1 to assess the adequacies of the fresh and salt water service reservoirs.

Table 7.2 – Demand Estimates of Tung Chung East and West Developments without the Subject Site

	Population (Head) (From AECOM report)	Fresh Water Unit Demand (l/h/d)	Fresh Water Demand (m^3/day)	Salt Water Unit Demand (l/h/d)	Salt Water Demand (m^3/day)
Original			**64,498**		**45,491**
Deduction					
Residential					
Area 103	6,322	140	885.08	0.07	442.54
Area 109	4,113	140	575.82	0.07	287.91
Service Trades(1)	10,435	40	417.40	--	--
Total (Nearest integral)			**62,619.70**		**44,760.55**

Note:
(1) According to Table 2 of WSD Departmental Instruction No. 1309, an allowance should be added for service trades use. A 40l/h/d is used for service trades use for the Subject Site locate in Tung Chung, Islands.

8.0 Assessment

8.1 Supply Zone

8.1.1 The Subject Site are fallen within the Supply Zone of Tung Chung Fresh Water Service Reservoir and Tung Chung Salt Water Service Reservoir (See **Appendices B** and **C**). According to the report from AECOM (Ref. PI21-02), the existing Tung Chung Fresh Water Reservoir is not able to cater for the fresh water demands in Tung Chung East West Developments. A newly-proposed fresh water service reservoir at Siu Ho Wan shall be constructed to serve the demand. For the flushing water supply, the newly proposed Tung Chung Salt Water Service Reservoir shall be used to serve as the flushing water supply for this new development.

8.2 Proposed Water Demand

8.2.1 With reference to DI No. 1309, the estimate of fresh and flushing water demand for the proposed redevelopment is summarized in Table 8.1. The detailed breakdown is attached in **Appendix E**.

Table 8.1 – Summary for Fresh and Flushing Water Daily Demands for the Subject Site

	Fresh Water Demand (m^3/d)		Flushing Water Demand (m^3/d)	
	Area 103	Area 109	Area 103	Area 109
Total	1017.00	677.34	395.50	263.41

Remarks: The estimation of Fresh and Flushing Water Daily Demands of Area 109 refers to the approved report named "Proposed Public Housing Development at Tung Chung Area 109 Water Works Impact Assessment (Draft Final)" (Document no. Q1021/C006/1) under separate submission.

8.2.2 By summating the required water demands of the Tung Chung East Development within the Subject Site, the total required water demands are summarized in Table 8.2.

Table 8.2 – Summary for Total Fresh and Flushing Water Daily Demands

	Fresh Water Demand (m^3/d)	Flushing Water Demand (m^3/d)
Existing demand (Without the Subject Site)	**62,619.70**	**44,760.55**
Newly-estimated demand to be added		
Estimated Water demand (Area 103)	1017.00	395.50
Estimated Water demand (Area 109)	677.34	263.41
Sub-total	**1694.34**	**658.91**
Total	**64,314.04**	**45,419.46**

8.3 Checking of Distribution Mains and Service Reservoir

8.3.1 Given that no distribution mains are constructed around the Subject Site yet, no checking on the distribution mains would be required.

8.3.2 A summary indicating the comparison between the total water demands of the original and the newly-estimated values is shown in Table 8.3 for easy reference.

Table 8.3 – Summary for Total Fresh and Flushing Water Daily Demands between original and newly-estimated values

	Fresh Water Demand (m^3/d)	Flushing Water Demand (m^3/d)
Original	64,498	45,491
Newly-estimated	**64,315**	**45,420**
Difference (Smaller/larger than the original value)	183 (Smaller)	71 (Smaller)
Overall demand	**64,315**	**45,420**
Overall percentage change (%)(1)	**-0.02%**	**-0.15%**

Note:
(1) Positive sign denotes increase, whereas negative sign denotes reduction.

8.3.3 For the service reservoir, a new Siu Ho Wan Fresh Water Service Reservoir is proposed to serve as fresh water supply of Tung Chung West and Tung Chung East Areas. Also, an existing Tung Chung Salt Water Service Reservoir is used to serve as flushing water supply of the above two areas. The newly estimated MDD for both Fresh Water and Salt Water services will not exceed the current proposed capacity of Siu Ho Wan Fresh Water Service Reservoir (i.e. 64,600 m3) and Tung Chung Salt Water Service Reservoir (i.e. 11,500 m3) and thus no insurmountable technical problem shall be induced from water supply perspective and the capacity of the planned salt water pumping station.

8.4 Assessment Result

8.4.1 The proposed fresh water demands for the Subject Site is 1017.00 m3/d.

8.4.2 The proposed flushing water demands for the Subject Site is 395.50 m3/d.

8.5 Impact on Original Design

8.5.1 According to the results in Table 8.3, the overall demand of fresh water and salt water is changed by -0.02% and -0.15% respectively. For salt water supply, there is a factor of additional 25% of MDD as safety margin in the design assumption from Annex C2 of AECOM report "Fresh and Salt Water Supply Review for Population Increase and Development Intensity – CASE 2 Scenario 2B (Final) (Ref. PI21-02)" (See Appendix D2). The newly estimated MDD for both Fresh Water and Salt Water services will not exceed the current proposed capacity of Siu Ho Wan Fresh Water Service Reservoir (64,600 m3) and Tung Chung Salt Water Service Reservoir (i.e. 11,500 m3) and thus no insurmountable technical problem shall be induced from the capacity of the planned water services facilities.

9.0 Summary & Conclusion

9.1.1 The main objective of this WWIA study is to evaluate the impact of the estimated fresh water and flush water demands of Tung Chung 103 to the newly-proposed Siu Ho Wan Fresh Water Service Reservoir and existing Tung Chung Salt Water Service Reservoir.

9.1.2 The mean daily demand (MDD) on fresh water would be 1017.00 m^3/d (Area 103) and 677.34 m^3/d (Area 109) respectively. According to the capacity of the proposed Siu Ho Wan Fresh Water Service Reservoir (64,600 m^3), the newly-estimated total water demand including that of the Subject Site (i.e. 64,315 m^3) is decreased by -0.02% of than that of the original value. The total fresh water demand including that of the Subject Site is well within the original design and thus no insurmountable technical problem shall be induced from the capacity of the planned fresh water services facilities.

9.1.3 The MDD on flushing water would be 395.50 m^3/d (Area 103) and 263.41 m^3/d (Area 109) respectively. According to the proposed capacity of (46,000 m^3), the newly-estimated total water demand including that of the Subject Site (i.e. 45,420 m^3) is increased by -0.15% of than that of the original value. The newly estimated MDD for Salt Water services will slightly exceed the current proposed capacity of and Tung Chung Salt Water Service Reservoir (i.e. 11,500 m^3), which can be catered a factor of additional 25% of MDD as safety margin in the design assumption, and thus no insurmountable technical problem shall be induced from the capacity of the planned salt water pumping station.

9.1.4 It is proposed to serve the Subject Site by using the connection points which are subject to the final design at detail design stage. No new fresh and salt distribution mains were proposed.

9.1.5 To monitor the water usage and carry out leakage detection, Automatic Meter Reading (AMR) system could be included in the detailed design of the buildings blocks. The standard and requirements shall comply with WSD's standards.

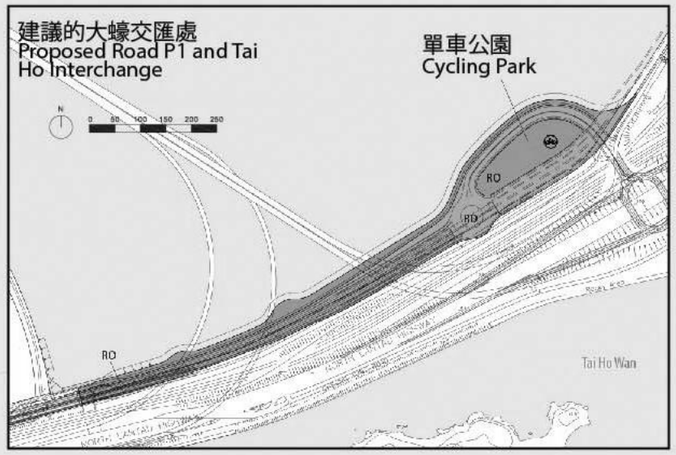
10.0 References

(1) Departmental Instruction No. 1309, Water Supplied Department, HKSAR

(2) Fresh and Salt Water Supply Review for Population Increase and Development Intensity – CASE 2 Scenario 2B (Final) (Ref. PI21-02), AECOM Asia Company Limited, HKSAR

APPENDIX A

SITE LAYOUT PLAN



海濱公園
Waterfront Park

運動中心
Sports Centre

遊艇停泊處
Marina

運動場
Sports Ground

專上學院及其他學校用途
Tertiary Institutes and Other School Uses

中央綠園
Central Green

已婚警察宿舍
Police Married Quarters

消防局
Fire Station

海水泵房
Salt Water Pumping Station

Area 103

大蠔灣
Tai Ho Wan

污水泵房
Sewage Pumping Station

警局
Police Station

運動中心
Sports Centre

污水泵房
Sewage Pumping Station

垃圾收集站
Refuse Collection Point

建議的東涌東鐵路站
Proposed Tung Chung East Railway Station

診所／健康中心
Clinic / Health Centre

North Lantau (Extension) Country Park

Tung Chung Centre District

Rev.	Description of Revision	Date	Ckd.

Client
HONG KONG HOUSING AUTHORITY

Consultants
MANNINGS (Asia) Consultants Limited

Scale in A3 N.T.S.	Date MAR 2021	
Designed MWS	Drawn MWS	Checked ST
Design Team Leader WS		Date MAR 2021
Approved KTC		Date MAR 2021

Project
HKHA TERM ENGINEERING CONSULTANCY SERVICES 2018-2020 FOR KOWLOON CENTRAL & WEST AND ISLANDS REGION

Title
SITE LAYOUT PLAN

(SHEET 1 OF 1)

Drawing No.	Stage	Rev.
Q1021/C006/001	P	

APPENDIX B

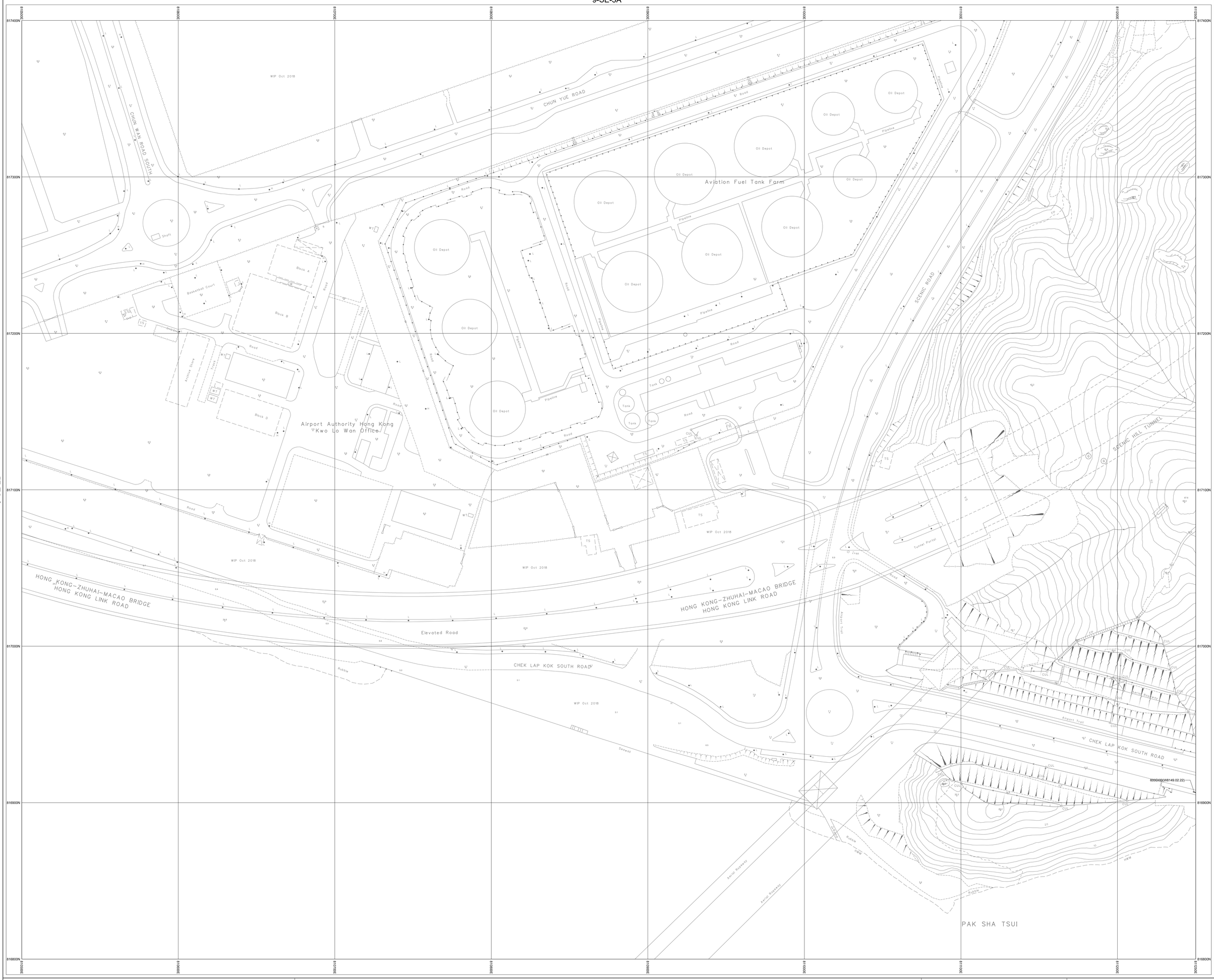
Water Mains Record (Fresh Water)

INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

9-SE-3A

9-SE-2D

9-SE-3D



9-SE-8A

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Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

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FRESH WATER MAINS RECORD PLAN

CHUN YUE ROAD, CHEK LAP KOK

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INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

9-SE-3B

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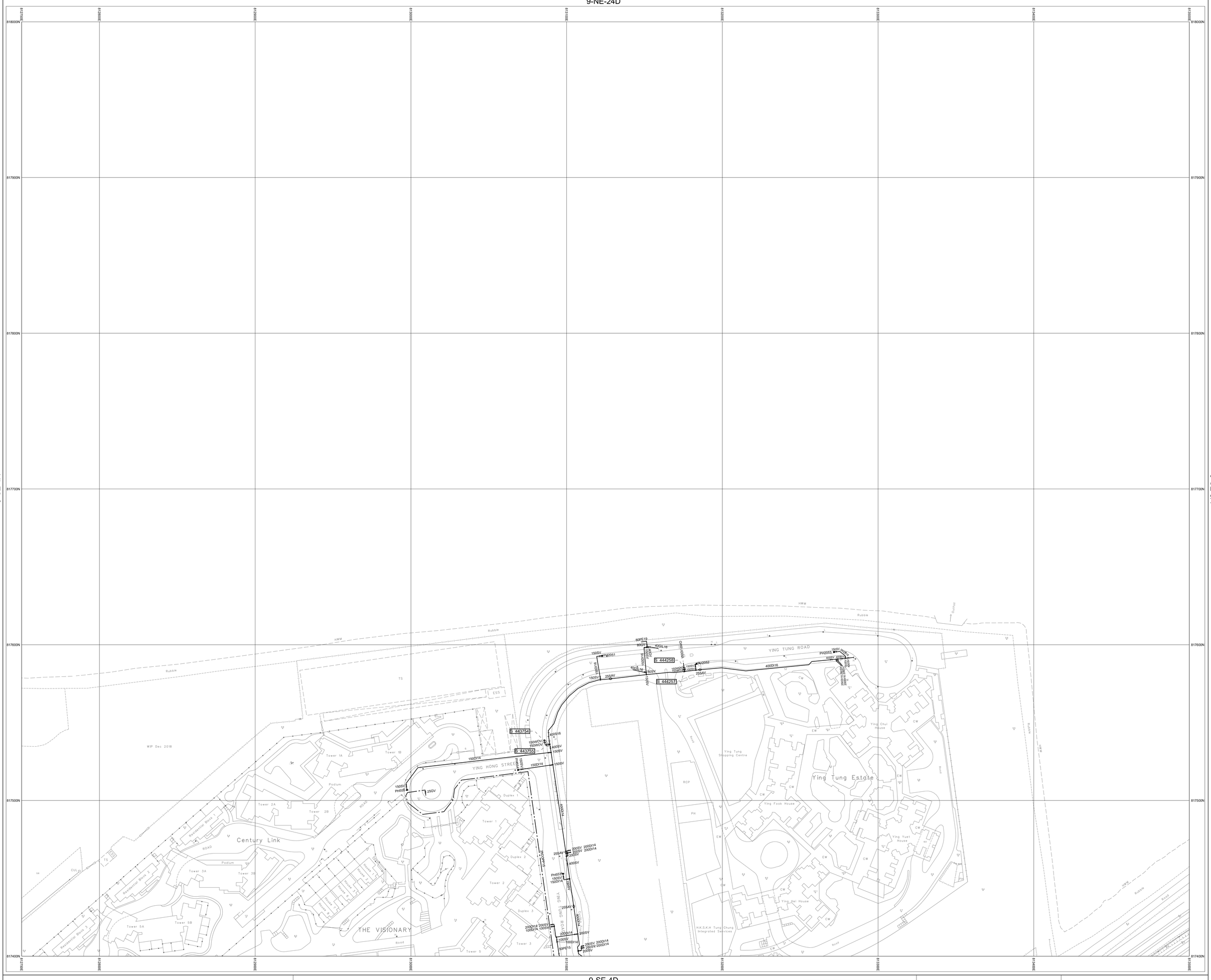
9-SE-4A

9-SE-5A

9-SE-4D



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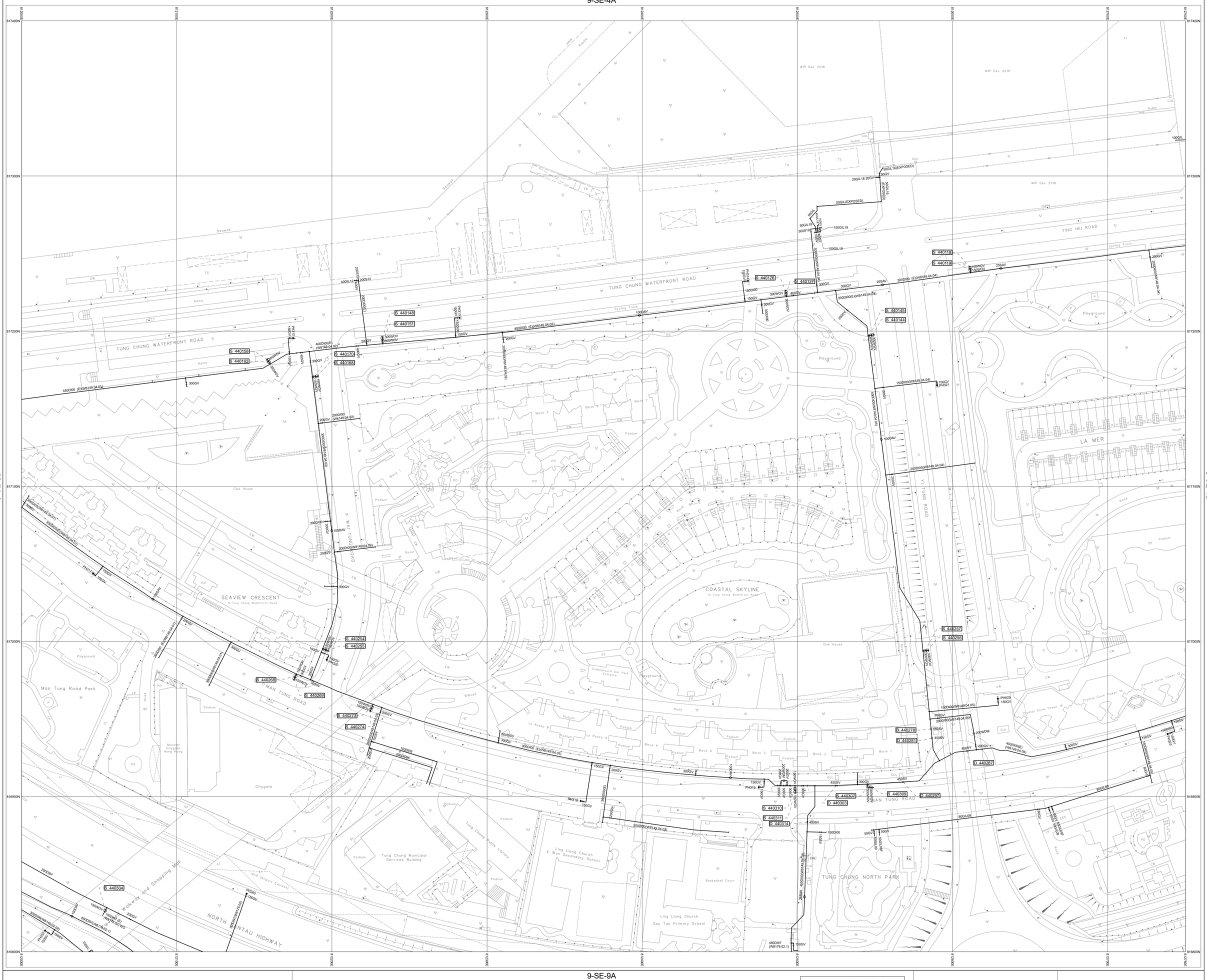
9-SE-4A



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Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

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FRESH WATER MAINS RECORD PLAN

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9-SE-4B

817400N
817300N
817200N
817100N
817000N
816900N
816800N
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816000E
817000E
818000E
819000E
820000E
821000E
822000E
823000E
824000E
825000E
9-SE-4C
9-SE-5C
YING HEI ROAD
HENG ON STREET
KIN TUNG ROAD
MAN TUNG ROAD
CHEUNG TUNG ROAD
NORTH LANTAU HIGHWAY
NORTH LANTAU EXPRESSWAY
CARIBBEAN COAST
TUNG CHUNG NORTH PARK
Tung Chung Traction Substation
Ho Yu College (Sponsored by Sik Sik Yuen)
Ho Yu College and Primary School (Sponsored by Sik Sik Yuen)
Ho Yu Primary School (Sponsored by Sik Sik Yuen)
Monterey Cove Tower 1
Monterey Cove Tower 2
Monterey Cove Tower 5
Monterey Cove Tower 6
Abbey Cove Tower 5
Abbey Cove Tower 6
Carmel Cove Tower 9
Carmel Cove Tower 10
Tower 6A
Tower 6B
Tower 7
Tower 8
Tower 9
Tower 10
Podium
WIP Dec 2018
Club House
Basketball Court
ESS
Cycling Track
Footbal Field
Skateboard Ground
Boulder Barrier
Works Regional Laboratory (North Lantau)
MTR (Airport Express)
MTR (Tung Chung Line)
S 440089
S 440088
S 440090
S 440091
S 440099
S 440101
S 440107
S 440108
S 440120
S 440219
S 440218
F 440288
PH457
PH315
PH342
PH327
PH298
PH246
PH249
300DI00(W8149.04.04)
150DI00 (W8149.04.06)
400DI00(W8149.04.06)
300DI00(W8149.04.07)
450DI00(W8149.04.07)
300DI00(W8149.04.08)
300DI00(W8149.04.09)
300DI00(W8149.04.10)
300DI00(W8149.04.11)
300DI00(W8149.04.12)
300DI00(W8149.04.13)
300DI00(W8149.04.14)
300DI00(W8149.04.15)
300DI00(W8149.04.16)
300DI00(W8149.04.17)
300DI00(W8149.04.18)
300DI00(W8149.04.19)
300DI00(W8149.04.20)
300DI00(W8149.04.21)
300DI00(W8149.04.22)
300DI00(W8149.04.23)
300DI00(W8149.04.24)
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300DI00(W8149.04.26)
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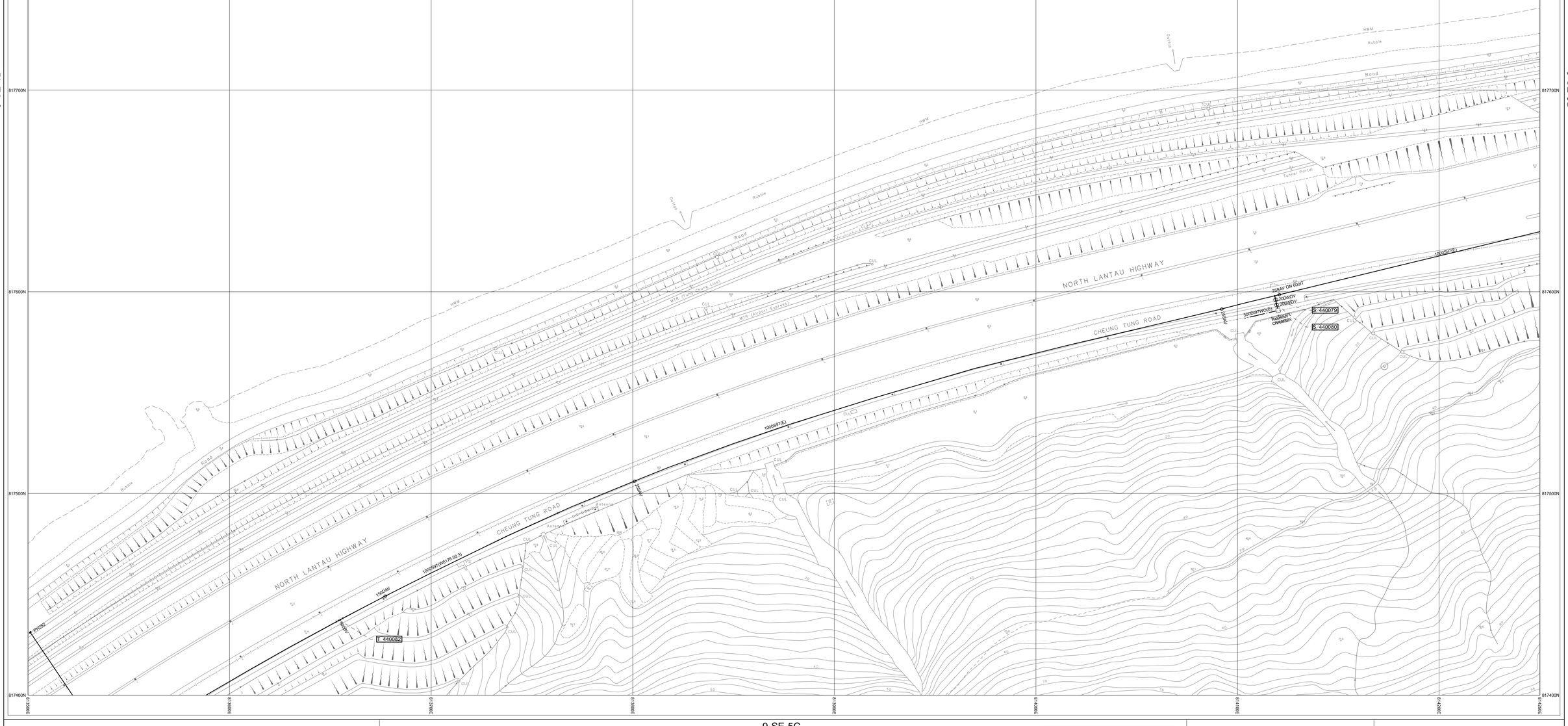
300DI00(W8149.04.43)
300DI00(W8149.04.44)
300DI00(W8149.04.45)
300DI00(W8149.04.46)
300DI00(W8149.04.47)

INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

9-NE-25C

9-SE-4B

9-SE-5B



9-SE-5C

NOTES:

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2. DIMENSIONS OF MAINS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
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Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

FRESH WATER MAINS RECORD PLAN

TUNG CHUNG, LANTAU ISLAND

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INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

9-NE-25D

9-SE-5A

10-SW-1A

9-SE-5D

NOTES:

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Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

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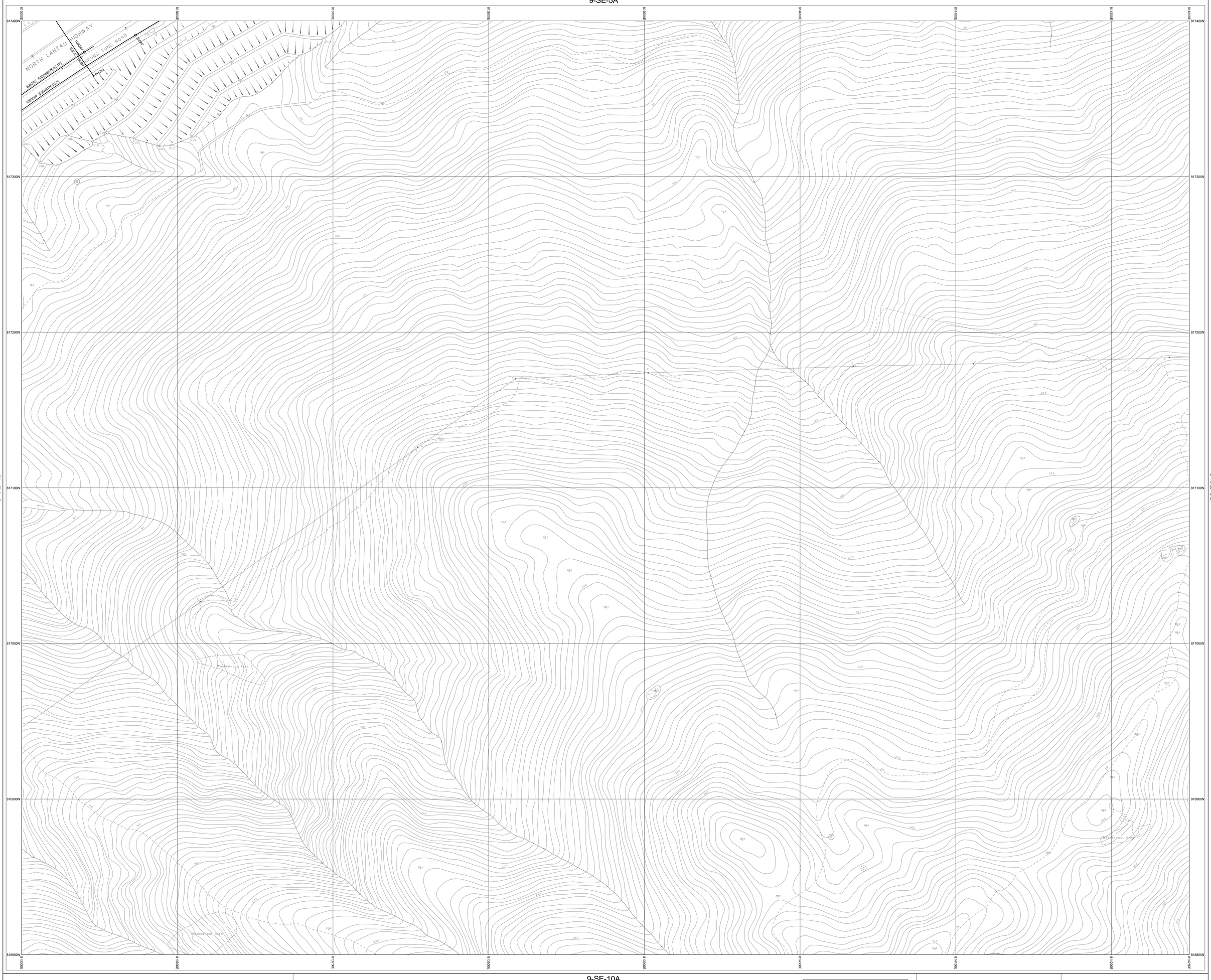
INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

9-SE-5A

9-SE-4D



9-SE-5D

9-SE-10A

NOTES:

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SCALE 1:1 000

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INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

9-SE-3D

9-SE-8D

NOTES:

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INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

9-SE-8A

9-SE-7D

9-SE-8D

9-SE-13A

TUNG CHUNG BAY

SHA TSUI TAU

Cultivation

Jetty

Football Field

Sitting-out Area

Playground

Outfall

Ramp

S_440628

S_440629

S_440665

S_440655

S_440654

S_440700

NOTES:

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SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

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INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

9-SE-8B

9-SE-8C

9-SE-9C

9-SE-13B

NOTES:

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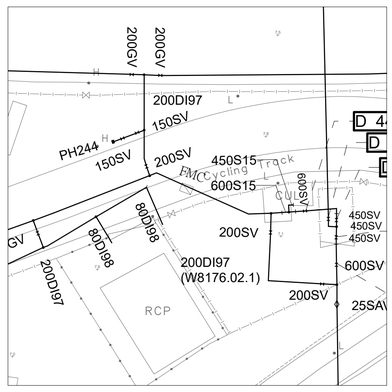
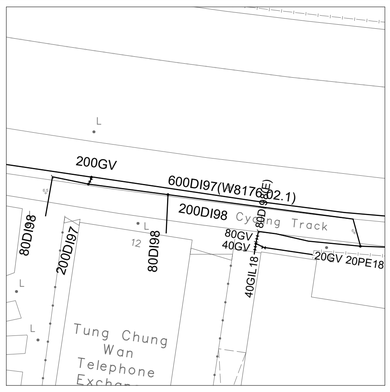
INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'
					

Scale 1:500 Scale 1:500

9-SE-4C

NOTES:

1. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO.3988.
2. DIMENSIONS OF MAINS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
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SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

9-SE-9C

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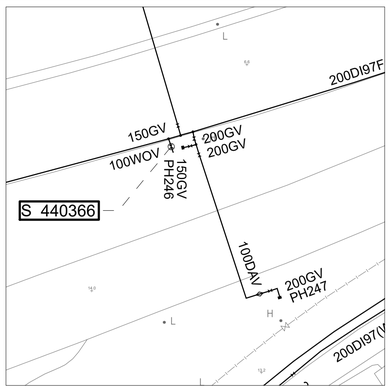
INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'
					

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9-SE-4D

9-SE-9A

9-SE-10A

9-SE-9D

NOTES:

1. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO.3988.
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Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

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INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

9-SE-9A

9-SE-8D

9-SE-9D

9-SE-14A

NOTES:

1. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO.3988.
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Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

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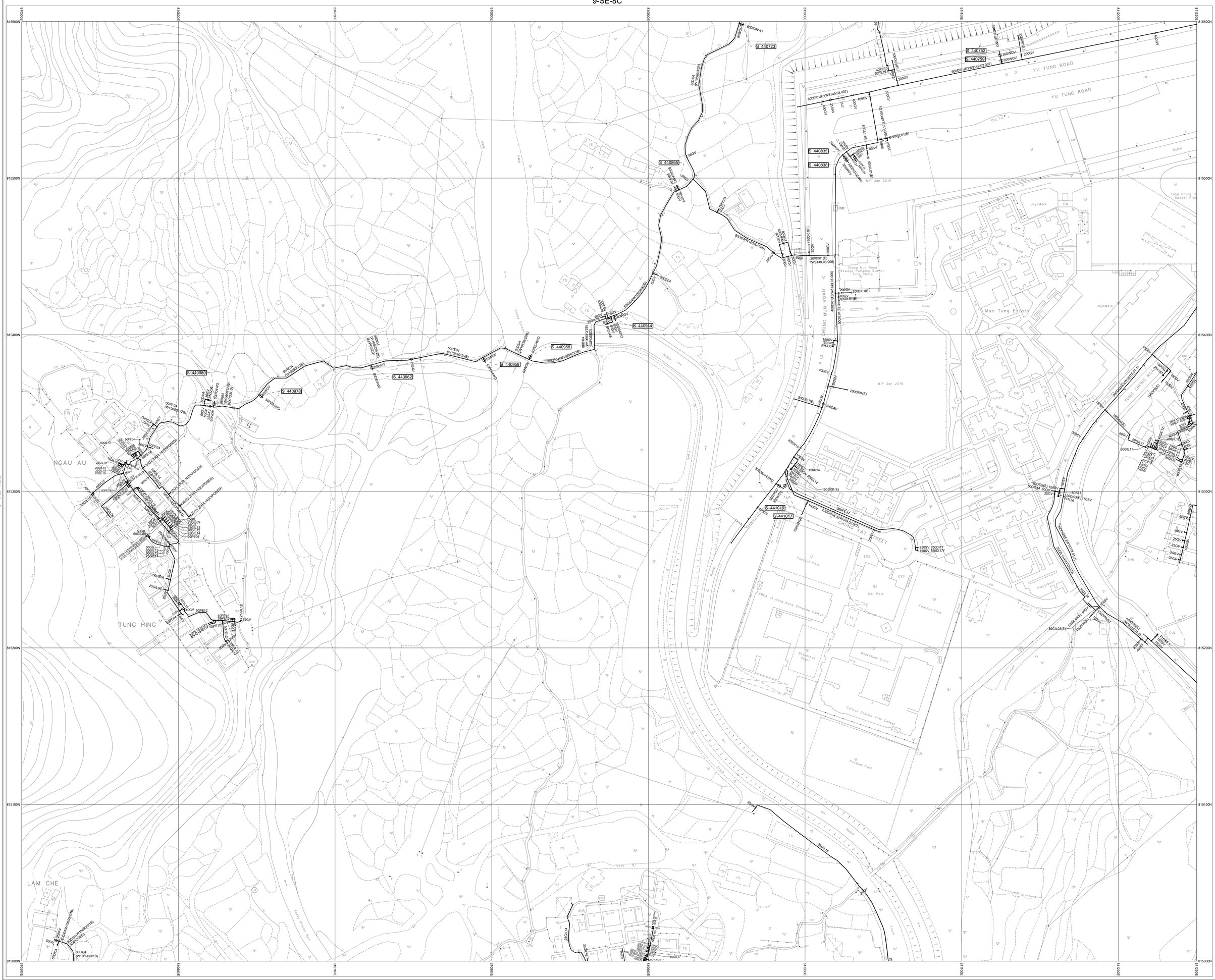
INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

9-SE-8C



9-SE-13C

NOTES:

1. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO.3988.
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Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

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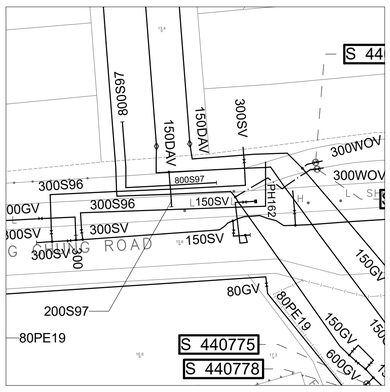
INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'
					

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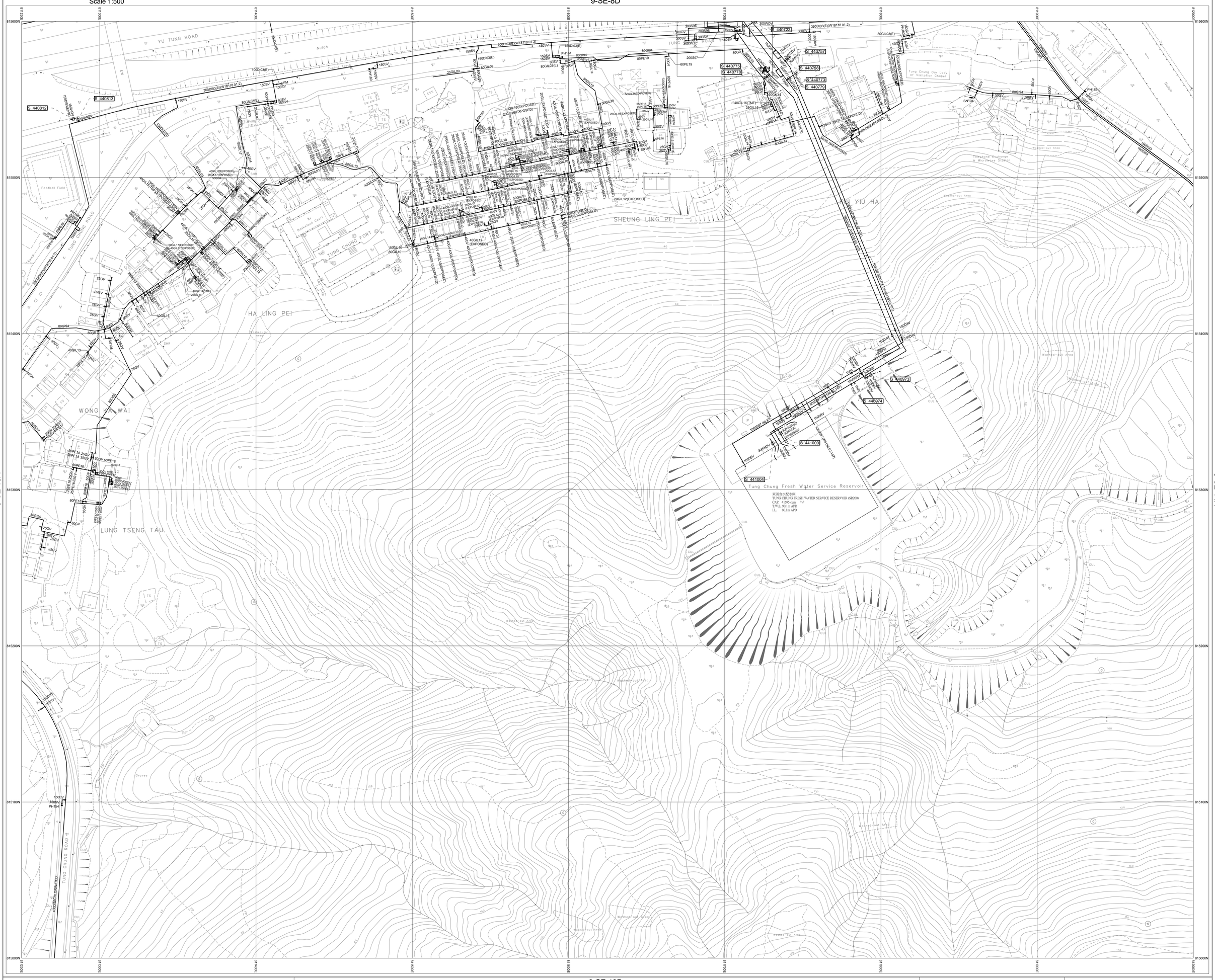

9-SE-13A

9-SE-14A

9-SE-13D

NOTES:

1. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO.3988.
2. DIMENSIONS OF MAINS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
3. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.

Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

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FRESH WATER MAINS RECORD PLAN

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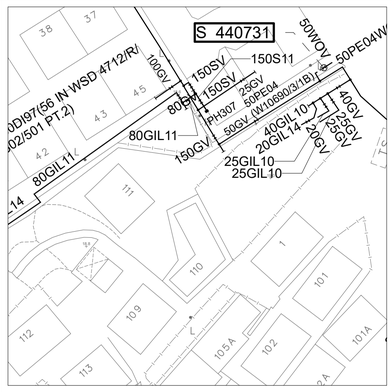
INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'
					

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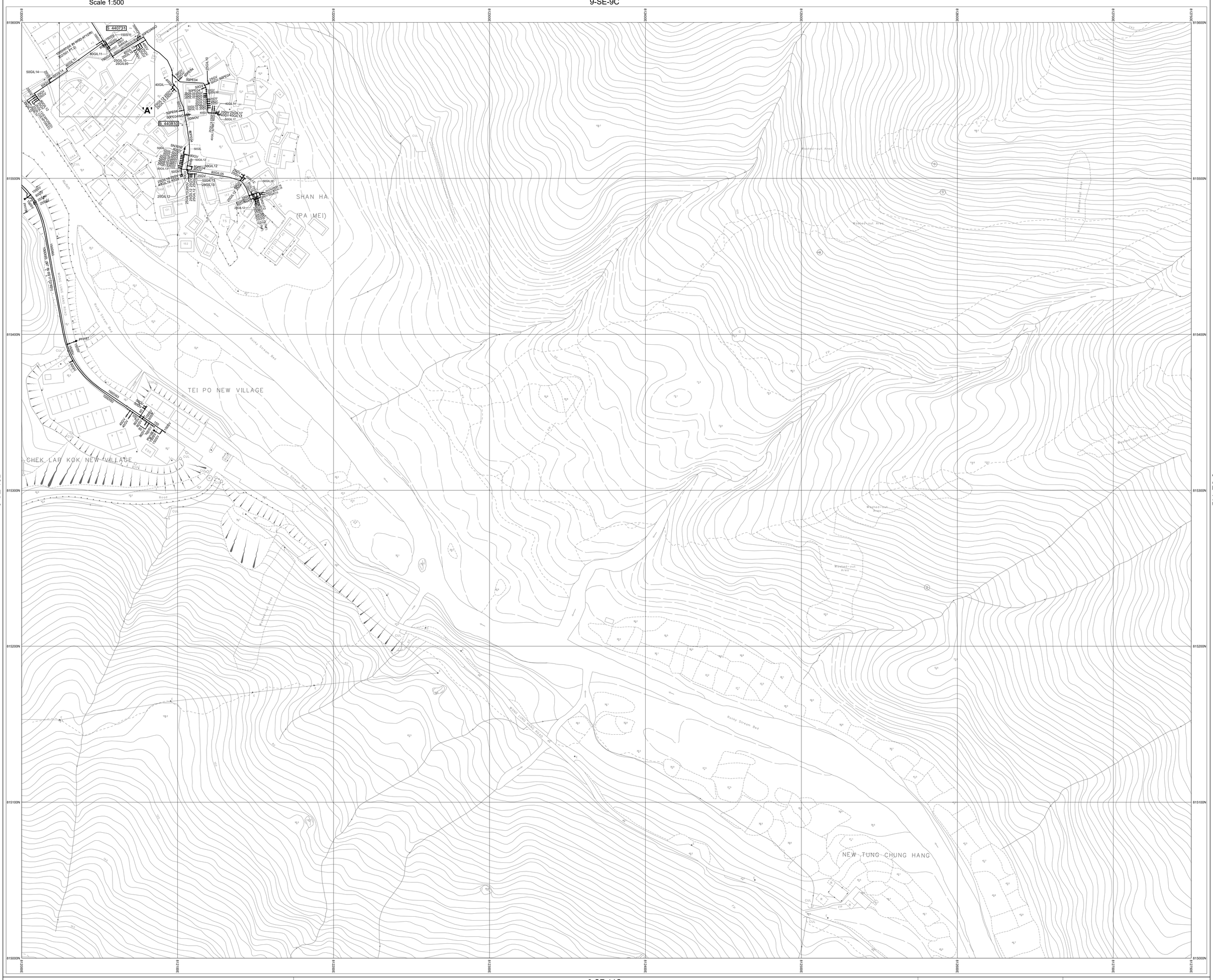
9-SE-9C



9-SE-14C

NOTES:

1. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO.3988.
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Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

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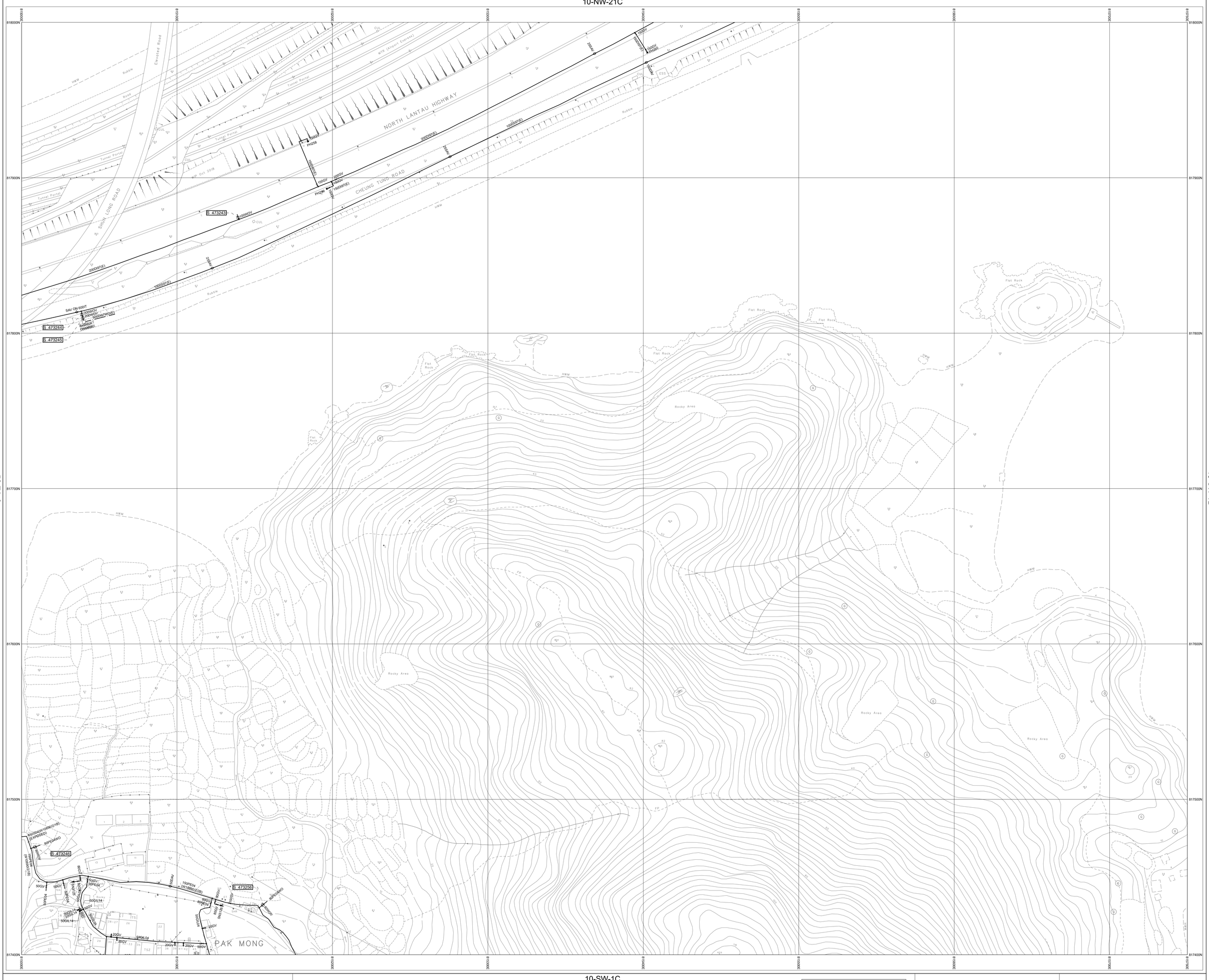
INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

10-NW-21C



10-SW-1C

NOTES:

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Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

FRESH WATER MAINS RECORD PLAN

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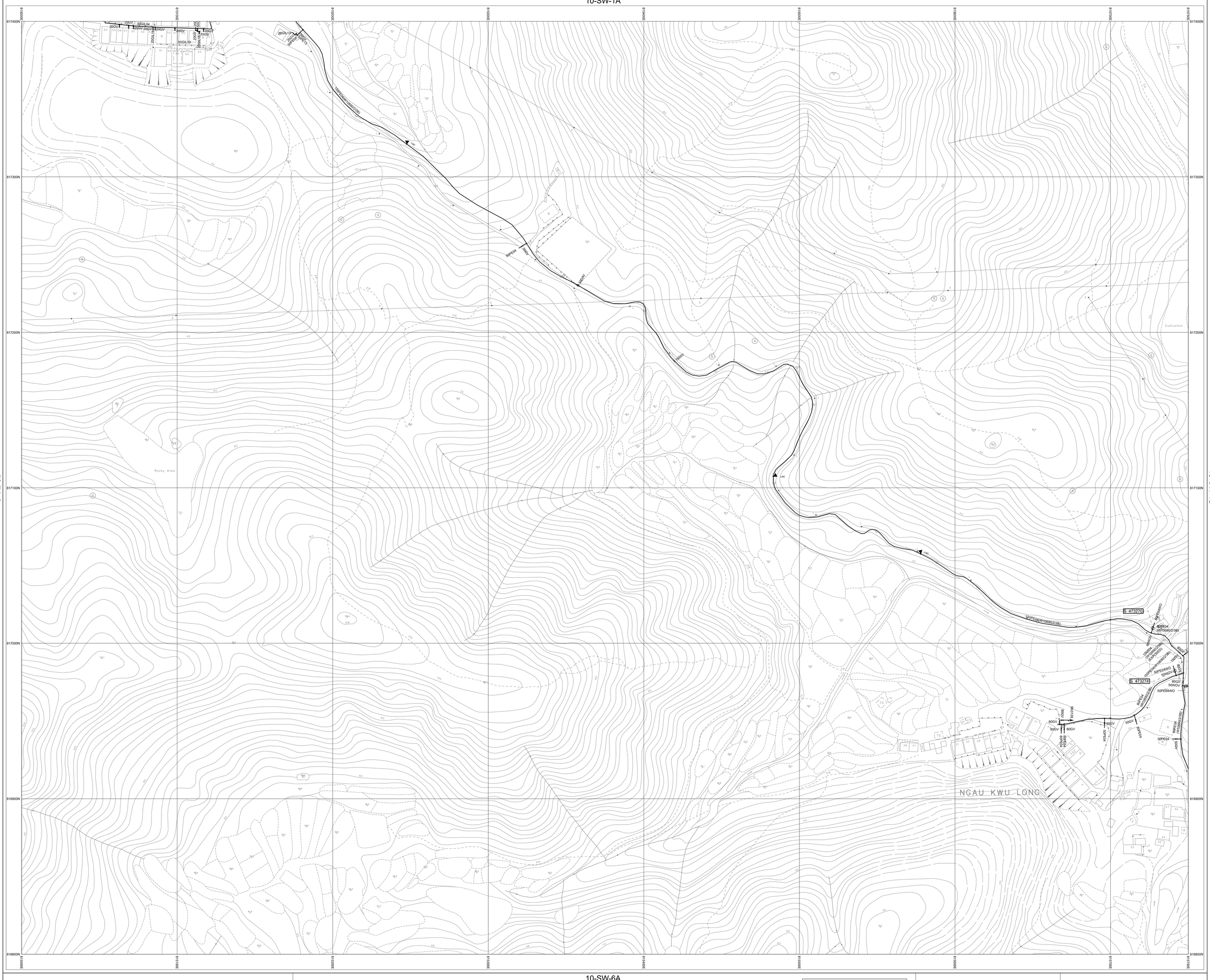
INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

10-SW-1A

9-SE-5D

10-SW-1D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817200N
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20GV
20GV
20GIL/13
20GIL/13
20GIL/13
20GIL/13
50GIL/10
20GIL/13
20GIL/13
20GIL/13
20GIL/13

APPENDIX C

Water Mains Record (Salt Water)

INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

9-SE-3B

9-SE-3C

9-SE-4C

9-SE-8B

NOTES:

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3. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.

Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

SALT WATER MAINS RECORD PLAN

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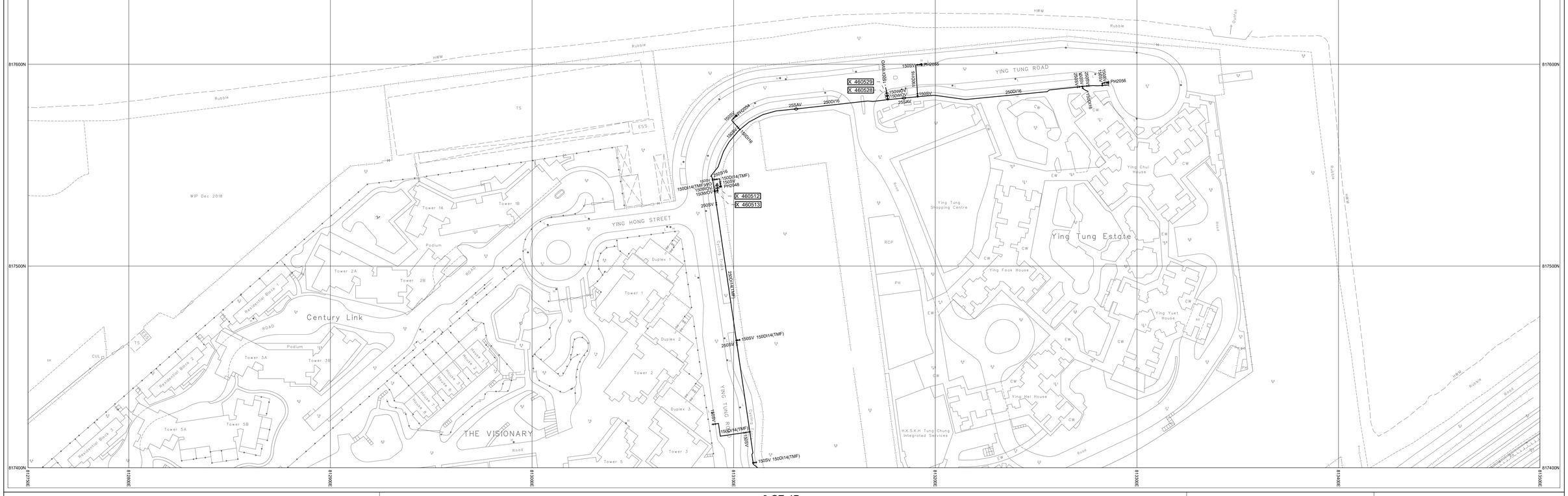
INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

9-NE-24D

9-SE-4A

9-SE-5A



9-SE-4D

NOTES:

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SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

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INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

9-SE-4A

9-SE-3D

9-SE-4D

9-SE-9A

NOTES:

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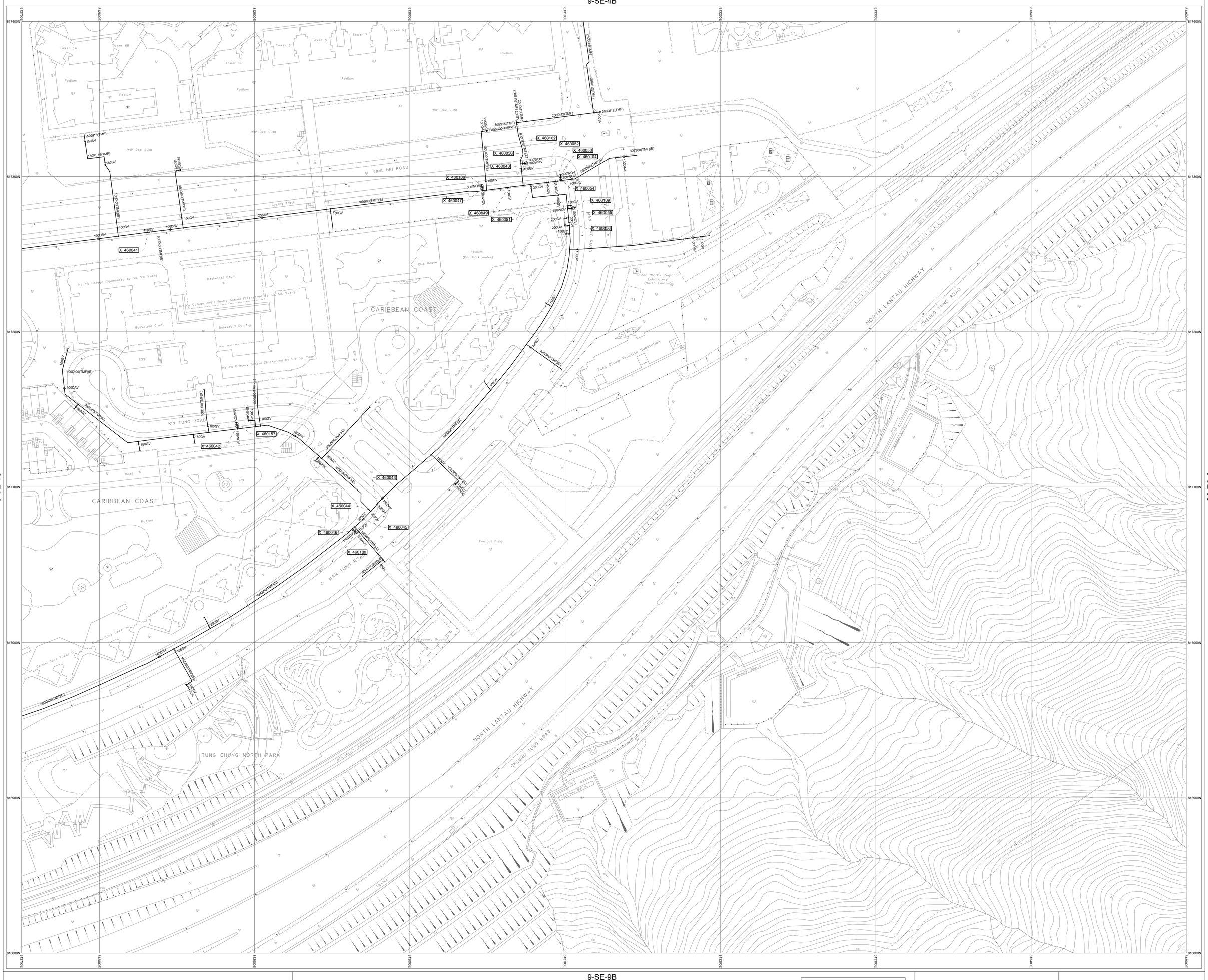

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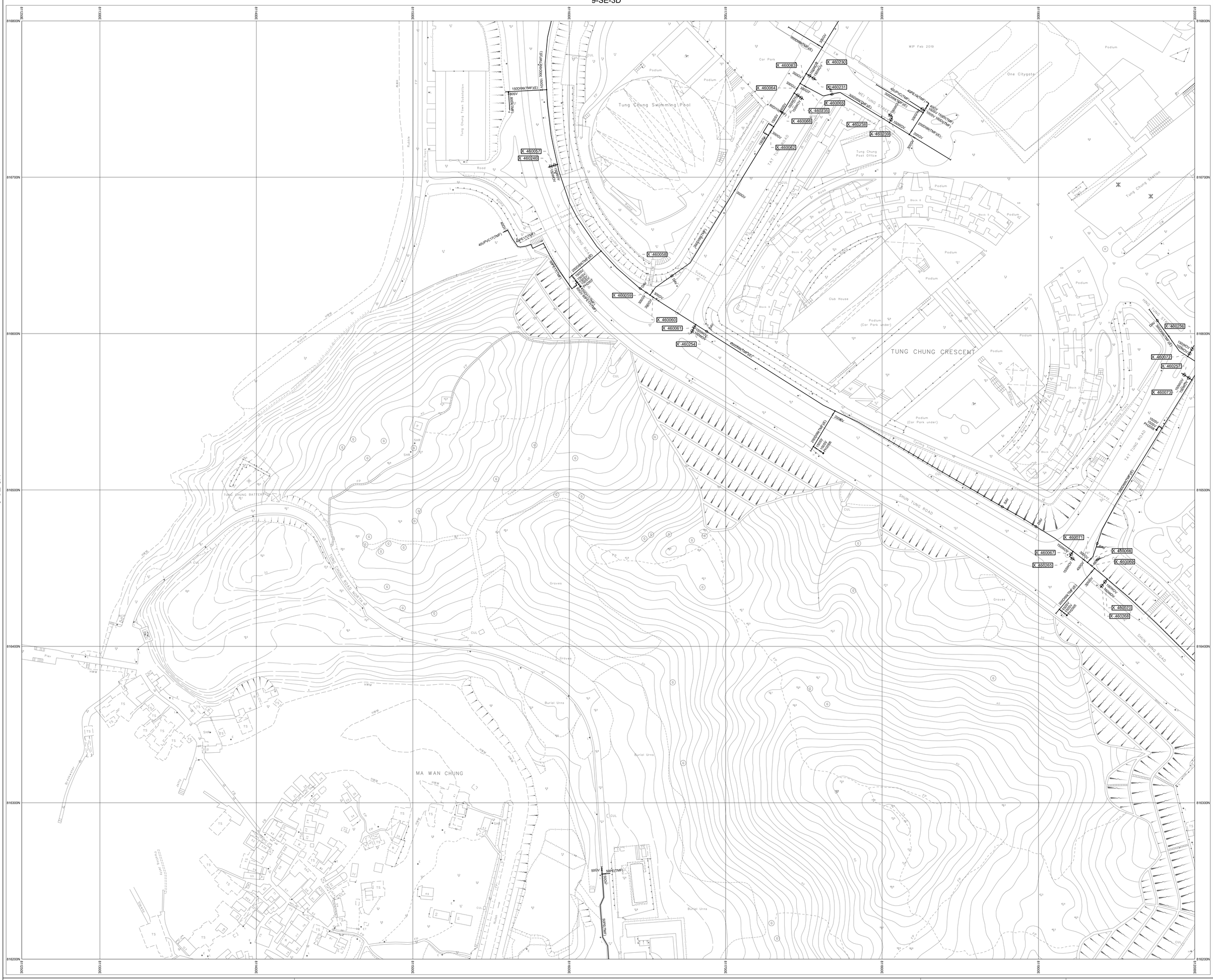

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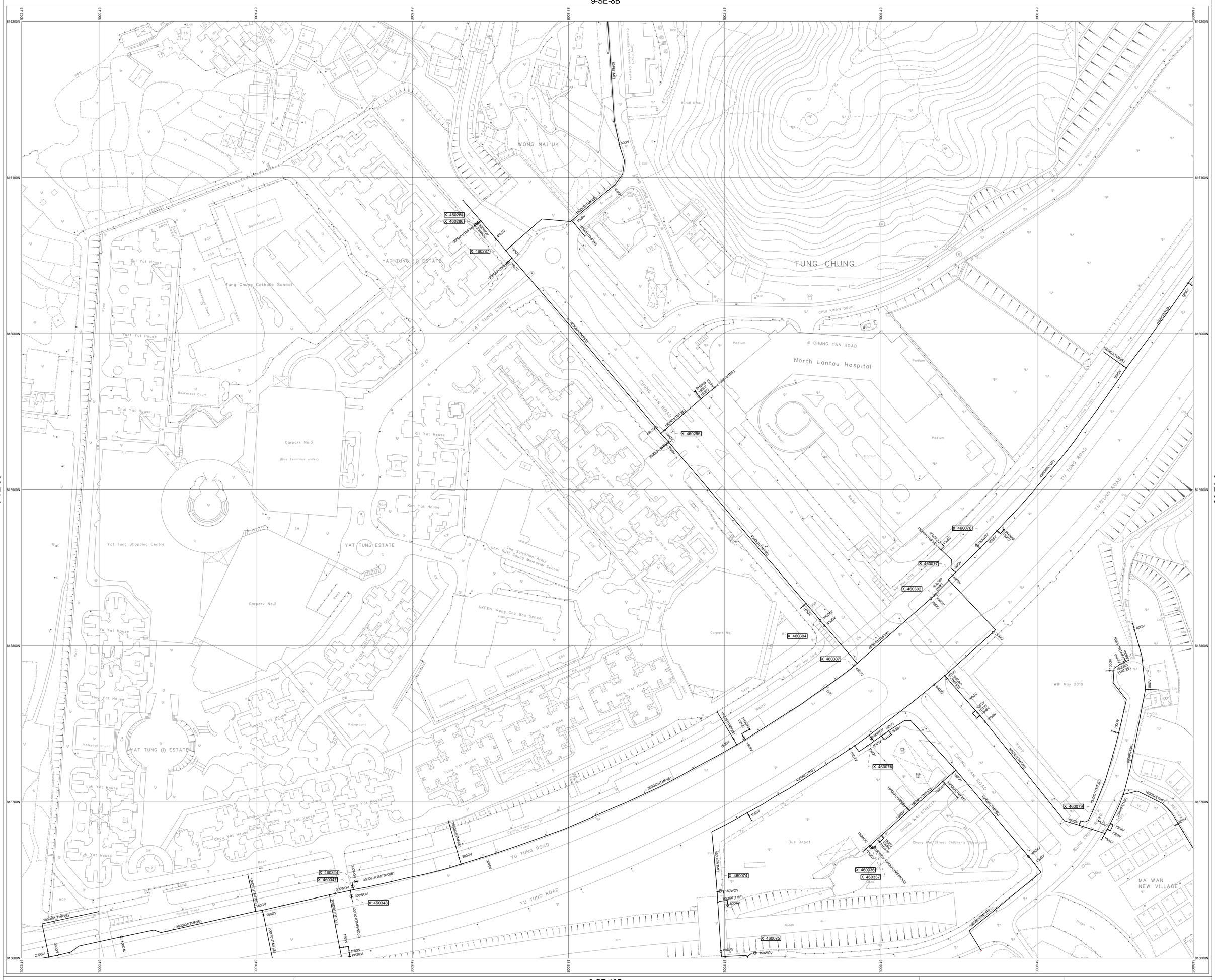

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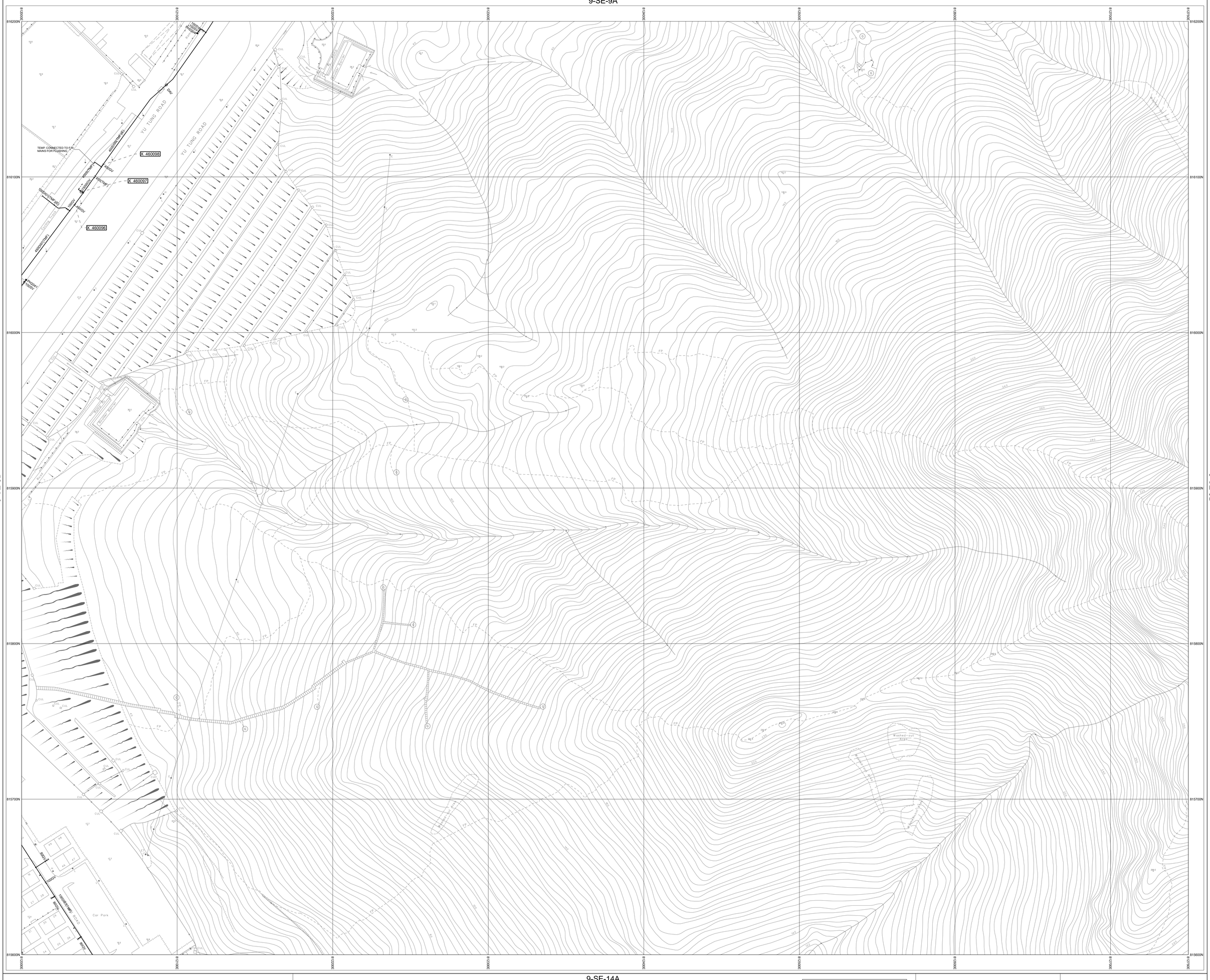

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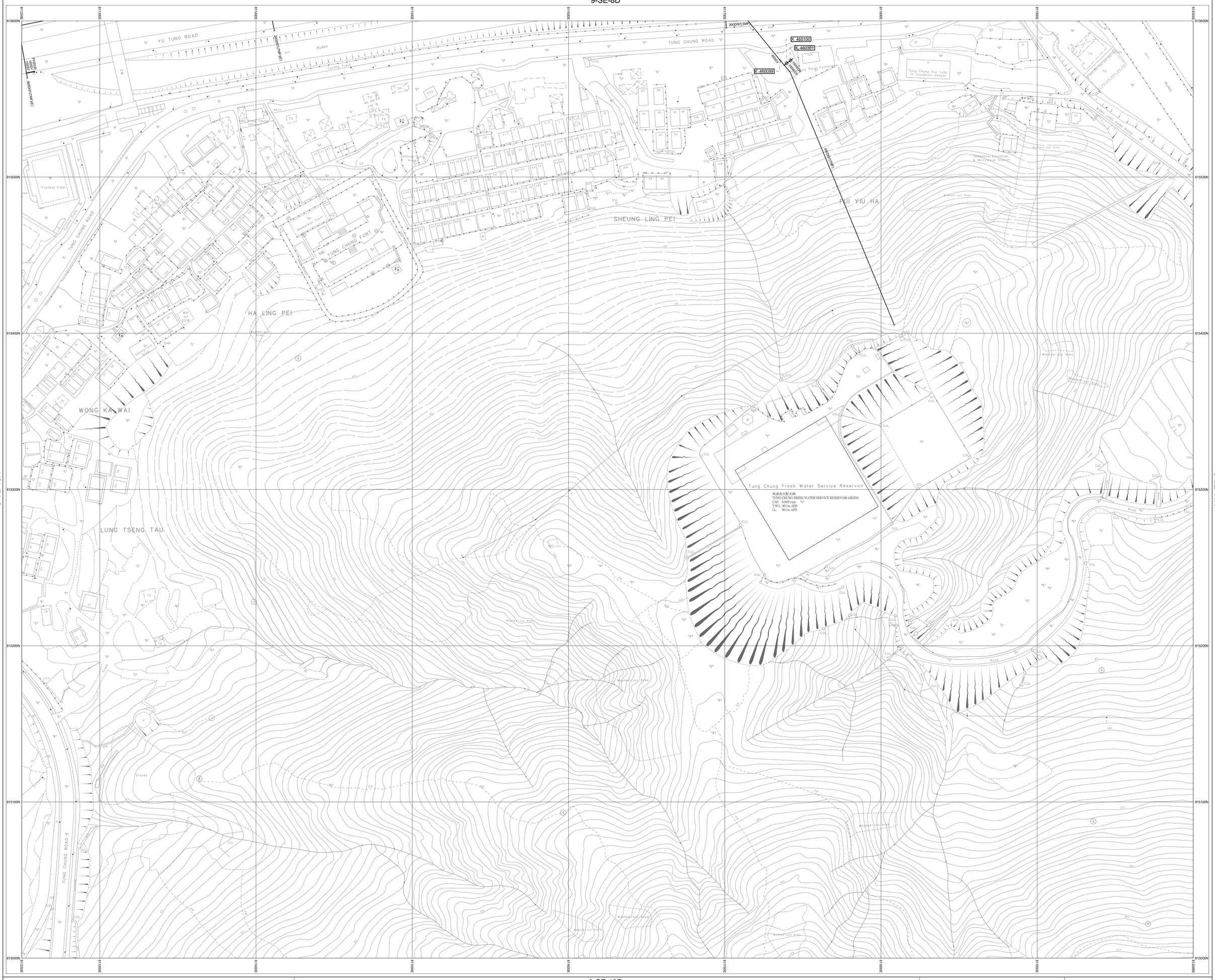

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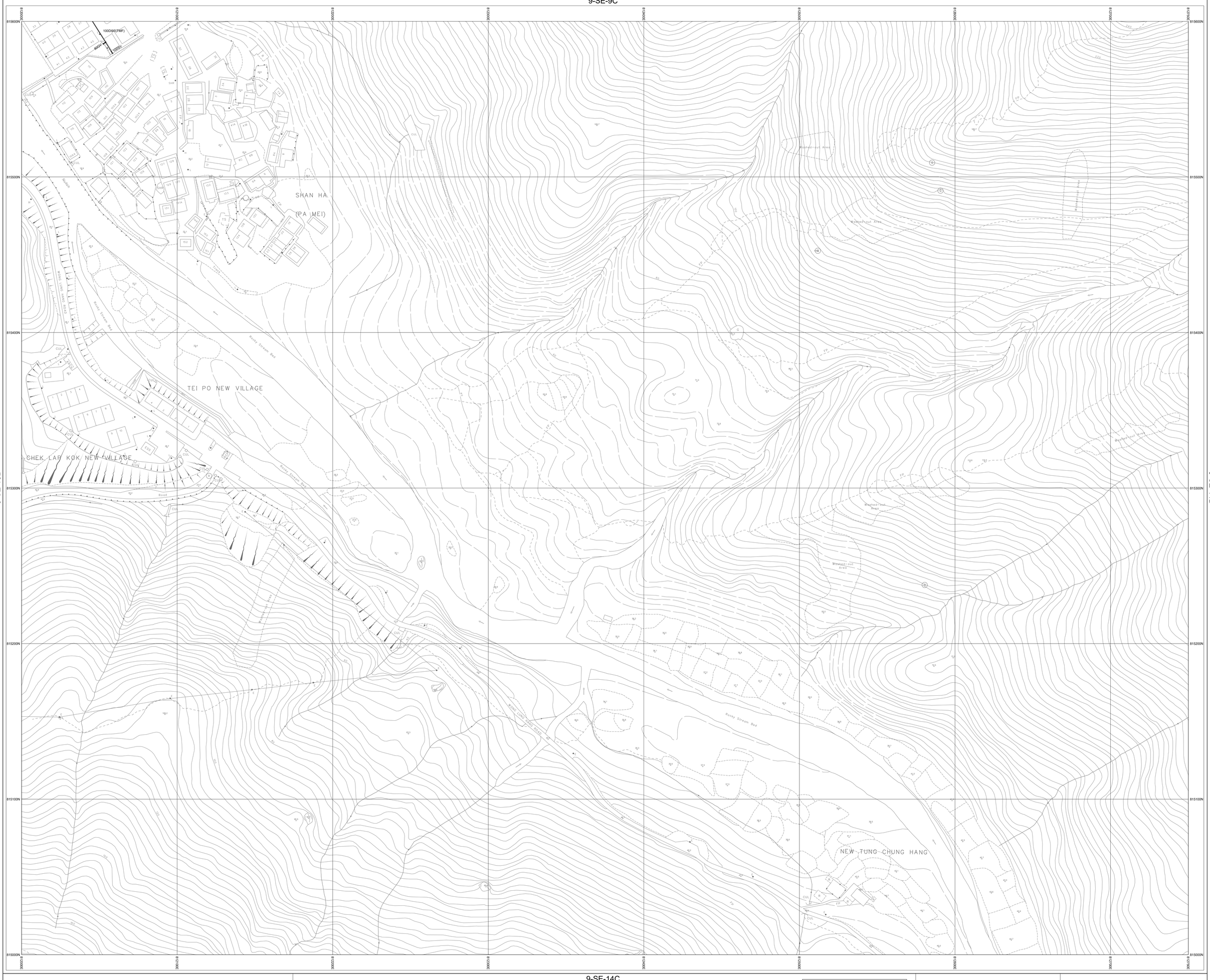

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APPENDIX D1

Annex B2 of AECOM Report "Fresh and Salt Water Supply Review for Population Increase and Development Intensity – CASE 2 Scenario 2B"

Summary of Water Demand Estimate for Year 2031

Intensification Case 2 Scenario 2B

183,799 Total Planned Population (TCE + TCW), excluding existing villages (population 5,298)

Estimated Water Demand of Tung Chung East Development - Based on CEDD's email regarding population increase Case 2 on 12 November 2019

Location	Population (Head)	Fresh Water Unit Demand	FW Demand (m3/d)	Salt Water Unit Demand	SW Demand (m3/d)	Remarks
Comprehensive Development (CDA)	18,305	0.230	4,210	0.070	1,281	FW/SW Unit Demand based on **R1 (All areas)**, WSD DI 1309, Table 1
Residential (R1)	7,050	0.230	1,622	0.070	494	FW/SW Unit Demand refer to WSD DI 1309, Table 1
Residential (R2)	2,030	0.300	609	0.070	142	FW/SW Unit Demand refer to WSD DI 1309, Table 1
Residential (R3)	12,759	0.390	4,976	0.070	893	FW/SW Unit Demand refer to WSD DI 1309, Table 1
Service Trades for Above Residential Types	*40,144*	*0.040*	1,864	-	-	Unit Demand refer to WSD DI 1309, Clause 3 and Table 2. Fresh water demand has been proportionately increased by 16.07% due to the increase in GFA for Service Trades from C2S2A to C2S2B.
Residential (RS)	**105,583**	0.140	14,782	0.070	7,391	FW/SW Unit Demand based on **Government Housing Estate (All areas)**, WSD DI 1309, Table 1
Service Trades for RS Types	*105,583*	*0.040*	4,902	-	-	Unit Demand refer to WSD DI 1309, Clause 3 and Table 2. Fresh water demand has been proportionately increased by 16.07% due to the increase in GFA for Service Trades from C2S2A to C2S2B.
Sub-total (Residential)	***145,727***		***32,964***		***10,201***	Sum of all residential types (sum of demand = domestic demand + service trades)
Location	**Unit for Demand Factor**	**Fresh Water Unit Demand**	**FW Demand (m3/d)**	**Salt Water Unit Demand**	**SW Demand (m3/d)**	**Remarks**
School (SCH)	11,810 heads		-	0.025	295	FW demand included in Service Trades, SW Unit Demand refers to WSIA report under CE 32/2011(CE)
Clinic (HSP)	801 HSP beds		-	0.295	236	FW demand included in Service Trades, SW Unit Demand refers to WSIA report under CE 32/2011(CE)
General Government/Institution/Community (GIC)	145,487 m2		-	0.0200	2,910	FW demand included in Service Trades, SW Unit Demand refers to WSIA report under CE 32/2011(CE)
Office (O)	475,447 m2	0.040	19,018	0.020	9,509	FW and SW unit demands were based on Table 1 of WSD's Planning Report No. 6/2001 (also SW Unit Demand refers to WSIA report under CE 32/2011(CE))
Hotel (HTL)	1,000 HTL rooms	1.200	1,200	0.140	140	GFA is 48,573 sqm. The room number is assumed to be 1000 (Section 7.1.4 of RODP refers). FW/SW Unit Demand refer to WSIA report under CE 32/2011(CE), with unit of m3/room/day.
Retail (RT)	11,989 heads		-	0.050	599	FW demand included in Service Trades, SW Unit Demand refers to WSIA report under CE 32/2011(CE)
Commercial (C)	41,919 m2		-	0.020	838	FW demand included in Service Trades, SW Unit Demand refers to WSIA report under CE 32/2011(CE)
Other - District Cooling System (DCS) Plant	N/A	-	9	-	-	Ref. (15) in WSD/M/SP 3066/165/5/20 Pt.1 requesting for fresh water of 9m3/day for the DCS in this project. No request has been made for salt water for DCS plant.
Tung Chung East MTR Station	N/A	-	75	-	6	Mean daily demand for fresh and salt water provided by email on 22 May 2021 by MTR.
Reserve after incorporating changes under C2S2B			30		-	Difference between fresh water demand under C2S2A and C2S2B has been saved for contingent use.
Sub-total (Non-residential)			***20,332***		***14,534***	
Total MDD			**53,296**		**24,735**	

Estimated Water Demand of Tung Chung West Development - Based on TCW latest information via CEDD's email dated 6 January 2020

Location	Population (Head)	Fresh Water Unit Demand	FW Demand (m3/d)	Salt Water Unit Demand	SW Demand (m3/d)	Remarks
Residential (R3)	3,738	0.390	1,458	0.070	262	0
Residential (R4)	2,880	0.390	1,123	0.070	202	FW/SW Unit Demand refer to WSD DI 1309, Table 1
Service Trades for Above Residential Types	*6,618*	*0.040*	265	-	-	Unit Demand refer to WSD DI 1309, Clause 3 and Table 2
Residential (RS)	31,454	0.140	4,404	0.070	2,202	FW/SW Unit Demand based on **Government Housing Estate (All areas)**, WSD DI 1309, Table 1
Service Trades for RS Types	*31,454*	*0.040*	1,258	-	-	Unit Demand refer to WSD DI 1309, Clause 3 and Table 2
Sub-total (Residential)	***38,072***		***8,507***		***2,665***	Sum of all residential types (excluding existing villages) (sum of demand = domestic demand + service trades)
Village (Traditional Type)	5,298	0.185	980	-	-	FW to supply flushing, FW Unit Demand (fresh + flushing) refer to WSD DI 1309, Table 1
Location	**Unit for Demand Factor**	**Fresh Water Unit Demand**	**FW Demand (m3/d)**	**Salt Water Unit Demand**	**SW Demand (m3/d)**	**Remarks**
School (SCH)	445 heads	-	-	0.025	11	FW demand included in Service Trades, SW Unit Demand refers to WSIA report under CE 32/2011(CE)
General Government/Institution/Community (GIC)	28,534 m2	-	-	0.020	571	FW demand included in Service Trades, SW Unit Demand refers to WSIA report under CE 32/2011(CE)
Landscape (Irrigation for Amenity Area)	10,139 m2	0.010	101	-	112	FW Unit Demand per planting area refers to WSIA report under CE 32/2011(CE). SW demand refers to estimate of TCW Project.
Retail (RT)	919 heads	-	-	0.050	46	FW demand included in Service Trades, SW Unit Demand refers to WSIA report under CE 32/2011(CE)
Commercial (C)	32,343 m2	-	-	0.020	647	FW demand included in Service Trades, SW Unit Demand refers to WSIA report under CE 32/2011(CE)
Sub-total (Non-residential)			***101***		***1,387***	
Total MDD			**9,589**		**4,052**	

APPENDIX D2

Annex C2 of AECOM Report "Fresh and Salt Water Supply Review for Population Increase and Development Intensity – CASE 2 Scenario 2B"

Capacity assessment of proposed FWSR & SWSR

Intensification Case 2 Scenario 2B

Capacity of the proposed Siu Ho Wan Fresh Water Service Reservoir (SHW FWSR)

	Estimated shown in Annex C2		**Total**
1. Estimated Fresh Water Mean Daily Demands (m3/d)	TCE	TCW	(TCE + TCW)
Housing MDD from Private Housing only	13,280	2,846	16,126
10% Contingency for Housing MDD, from Private Housing only			**1,613**
Total MDD	53,296	9,589	**62,885**

Design MDD for sizing FWSR = Total MDD + Contingency for Housing MDD = **64,498** m3/d

				Reference
2. Sizing factors for SHW FWSR:	(a) interconnected supply zone	75%	x Design MDD	WSD DI1309
	(b) primary storage for Lantau	20%	x Design MDD	WSD PR 6/2001
	(c) to supply critical consumers	5%	x Design MDD	WSD DI1309
	Total	100%	x Design MDD	

3. Required capacity of SHW FWSR = 64,500 m3 , ≈ 103% x MDD

Details of the proposed SHW FWSR: (Design TWL increased by 0.6m based on Existing Design)

A. Invert Level (IL) =	70.00	mPD	
B. Top Water Level (TWL) =	80.90	mPD	increased 0.6m
C. Water Depth inside FWSR =	10.90	m	increased 0.6m
D. Available footprint on site =	6,030	m2	
E. Approximate footprint of internal walls and columns	100	m2	
F. Approximate net volume of the proposed FWSR =	64,637	m3	

Capacity of the proposed FWSR = ***64,600 m3*** ***ok***

Capacity of the proposed Tung Chung Salt Water Service Reservoir (TC SWSR)

Assumptions:-

	Estimated shown in Annex C2		*(Input from CE 32/2011(CE) WSIA)*		
1. Estimated Salt Water Demands (m3/d)	TCE	TCW	Existing TCNT	SHW Topside	**Sum**
Total MDD	24,735	4,052	13,105	3,600	**45,491**

(Assume TC SWSR to serve all supply zones including FSP and VSP system to enhance reliability)

				Reference
2. Sizing factors for TC SWSR:	(e) balancing tank	0.25	x MDD	WSD DI1309

3. Required capacity of TC SWSR = 11,400 m3

Details of the proposed TC SWSR: (Existing Design)

1. Invert Level (IL) =	65.00	mPD
2. Top Water Level (TWL) =	75.00	mPD
3. Water Depth inside SWSR =	10.00	m
4. Available footprint on site =	1,500	m2
5. Approximate footprint of internal walls and columns	350	m2
6. Approximate net volume of the proposed SWSR =	11,500	m3

Capacity of the proposed SWSR = ***11,500 m3*** **ok**

APPENDIX E

Estimation of Water Demand of the Subject Site

0. General

Reference

1. Departmental Instruction No. 1309, WSD
2. Hong Kong Planning Standards and Guidelines, PlanD
3. AECOM Report "Fresh and Salt Water Supply Review for Population Increase and Development Intensity – CASE 2 Scenario 2B (Final)"
4. Housing in Figures 2020 - Transport and Housing Bureau

1. Data Input

Summary of Development Parameters

Area	103 Qty.	109 Qty.	Unit
1. Residential (PRH)	2,018	1,344	Flats
2. Non-domestic uses	6,920	3,600	GFA (m^2)
3. Welfare			
- Neighborhood Elderly Centre	545	0	GFA (m^2)
- Centre for Home Care Services (HCS) for Frail Elderly Persons	156.5	0	NOFA(m^2)

2. Water Demand

2.1 Tung Chung Area 103

Water Demand

1. Residential (PRH)	=	2,018	Flats		
Estimated Resident Population	=	2,018	x	2.8	(Housing in Figures 2020, THB)
	=	5,651	persons		
Service Trades for Residential Types	=	0.04	$m^3/h/d$		(Table 2, DI 1309)
Fresh water unit daily demand	=	0.14	$m^3/h/d$		(Table 1, DI 1309)
Fresh water mean daily demand	=	**1017.00**	m^3/d		
Flushing water unit daily demand	=	0.07	$m^3/h/d$		(Table 1, DI 1309)
Flushing water mean daily demand	=	**395.50**	m^3/d		

2.1 Tung Chung Area 109

Water Demand

1. Residential (PRH)	=	1,344	Flats		
Estimated Resident Population	=	1,344	x	2.8	(Housing in Figures 2020, THB)
	=	3,763	persons		
Service Trades for Residential Types	=	0.04	$m^3/h/d$		(Table 2, DI 1309)
Fresh water unit daily demand	=	0.14	$m^3/h/d$		(Table 1, DI 1309)
Fresh water mean daily demand	=	**677.34**	m^3/d		
Flushing water unit daily demand	=	0.07	$m^3/h/d$		(Table 1, DI 1309)
Flushing water mean daily demand	=	**263.41**	m^3/d		

Summary of Fresh Water & Flushing Water Mean Daily Demand (MDD)

Type of Development	Area 103		Area 109	
	Fresh Water MDD (m^3/d)	Flushing Water MDD (m^3/d)	Fresh Water MDD (m^3/d)	Flushing Water MDD (m^3/d)
1. Data Input	1017.00	395.50	677.34	263.41

Appendix 7

Technical Assessments – Part 5

(Traffic Impact Assessment)

Agreement No. CB20180686 Term Traffic and Environmental Consultancy Services 2019 – 2021 for Kowloon Central and West and Islands Region

Instruction No. K10 Proposed Housing Developments at Tung Chung Areas 103 and 109 Traffic Impact Assessment (TIA)

Traffic Impact Assessment Report
– Tung Chung Area 103

Hong Kong Housing Authority

June 2022

ATKINS
Member of the SNC-Lavalin Group

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Diagram 4.1 Major Adjacent Planned/ Committed Developments

Appendices

Appendix B Trip Generation of Attraction of Tung Chung East
Appendix C Proposed Junction Improvement Measures under TCNTE (East) Contract

1. Introduction

1.1. Background

1.1.1. Civil Engineering and Development Department (CEDD) is carrying out reclamation and site formation works for the development of Tung Chung New Town Extension (TCNTE) – East (hereafter the CEDD's Project). Hong Kong Housing Authority (HKHA) has identified potential site for developing public housing developments at Tung Chung Area 103 (hereafter the Proposed Development) in the Tung Chung East (TCE) extension area.

1.1.2. In response to the latest policy on site optimisation and intensification, CEDD has carried out a Traffic Impact Assessment (hereafter the CEDD's TIA) study to review the proposed increase in population and residential flats of TCE under Agreement No. CE69/2015 (CE) – "Tung Chung New Town Extension (East) Design and Construction". The CEDD's TIA study (Ref. PI24-02) covered the Case 2 Scenario 2B[1], which is refined as Scenario L under this HKHA's project.

1.1.3. Atkins China Limited (Atkins) was commissioned by HKHA to conduct a Traffic Impact Assessment (TIA) Study to support the Section 16 application for the proposed minor relaxation of maximum overall Plot Ratio (PR) from PR 5.4 to 5.9 and maximum building height (BH) from +110mPD to +125mPD for the Proposed Development with consideration of the traffic impact of the potential increase of housing provision (i.e. from total of 1,607 flats to 2,018 flats) to the surrounding road network. The detailed schedules will be described in **Chapter 2**.

1.1.4. The purpose of this TIA Report is to summarize the findings of Scenario L based on the CEDD's TIA results under TCNTE (East) for the purpose of supporting the Section 16 Application for the Proposed Development.

1.2. Scope

1.2.1. The scope of this TIA is outlined as follow:

- estimate vehicular traffic demand generated by the Proposed Development;
- analyse the vehicular traffic impact of the Proposed Development to the surrounding road network; and
- recommend improvement measures to the problematic roads and junctions, if considered necessary, due to the Proposed Development wherever applicable.

[1] Case 2 Scenario 2B under CEDD's TIA Study – Test scenario for allocating 30% of the overall GFA of Area 57 as retail use and the remaining 70% of GFA as office use. Allow additional GFA for welfare purposes in Areas 114, 117, 119, 122, 133A, 133B and 133C in accordance with Policy Address 2020. Development parameters of all other development areas remains the same as Case 2 Scenario 2A.
Case 2 Scenario 2A under CEDD's TIA Study – Test scenario for increasing development intensity for Areas 99, 103, 109, 133A, 133B and 133C by both Housing Department (HD)'s Site Optimisation and Executive Council Intensification Policy and for all other public housing sites at TCE by HD's Site Optimisation.

1.3. Report Structure

1.3.1. Following this introductory chapter, there are 5 further chapters.

- **Chapter 2** – The Proposed Development, presents the proposed development schedule;
- **Chapter 3** – Traffic Context, describes the road network and transport facilities in the vicinity;
- **Chapter 4** – Traffic Forecasts, describes the methodology of traffic forecasting;
- **Chapter 5** – Traffic Impact Assessment, presents the results of the TIA at the adopted design years, and recommends any improvement measures to alleviate the foreseeable traffic problem, if considered necessary; and
- **Chapter 6** – Summary and Conclusion, summarizes the findings of the study and presents the conclusion accordingly.

2. The Proposed Development

2.1. Site Location

2.1.1. The subject site is located in the north-eastern part of Tung Chung which is at a newly reclaimed area (currently under construction by CEDD) of the CEDD's Project. The Proposed Development is surrounded by planned residential developments (Tung Chung Areas 99, 100, 109 and 110, etc.). It is bounded by planned Roads L3 and L4 at the north-western and north-eastern sides respectively. The location of the subject site is indicated in **Figure 2.1**.

2.2. Development Schedule

2.2.1. The Proposed Development comprises four housing blocks which accommodates management offices, a kindergarten and facilities ancillary to the domestic use (including the electrical and mechanical facilities, fire services, sprinkler facilities, transformer room, etc.). Social welfare facilities including neighbourhood elderly centre and Home Care Services for Frail Elderly Persons will also be provided.

2.2.2. The proposed development schedules of the Proposed Development as given in the Baseline Scheme (OZP compliance scheme), Case 2 Scenario 2B under TCNTE(East) project for site optimisation and intensification and the latest development proposal (i.e. "Scenario L") are summarized in **Table 2.1**.

Table 2.1 – Development Schedules under Different Scenarios

Development Components	Baseline Scheme	Case 2 Scenario 2B	Proposed Scheme (Scenario L)
Public Housing - Subsidised Sale Flats (SSF)	1,607 flats	2,066 flats	About 2,018 flats
Non-Domestic	6,427 m^2 GFA	6,930 m^2 GFA	6,920 m^2 GFA

Notes: The development parameters of Tung Chung Area 103 have been updated slightly under HKHA's Scenario L to suit actual housing development.

2.2.3. It is anticipated that the project completion years will be 2026/27.

2.3. Proposed Parking and Loading / Unloading Facilities

2.3.1. The provision of parking and servicing facilities of the Proposed Development will be made reference to the Hong Kong Planning Standard and Guideline (HKPSG) published by Planning Department (PlanD) as well as requests from relevant government departments as shown in **Table 2.2**.

Table 2.2 – Proposed Parking and Loading / Unloading Facilities Provision - Area 103

Parking and Loading / Unloading Facilities	Component	Requirement	Proposed Provision (nos.) (1)
Car Parking Space	Domestic	• 1 per 11.2 flats	181 (incl. 4nos. accessible parking spaces)
	Visitors	• 5 per domestic block	20
	Retail and Commercial (2)	• 1 per 200 sqm GFA	5 (incl. 1 no. accessible parking space)
Motorcycle Parking Space	Domestic	• 1 per 110 flats	19
Light Goods Vehicle Parking	Domestic	• 1 per 260 flats	8
Loading / Unloading Bay	Domestic	• 2 per domestic block	8
	Retail and Commercial (2)	• 1 per 800 sqm GFA	1
Bicycle Parking	Domestic	• 1 per 15 flats	135
Private Light Bus Parking Space (3)	Welfare Facilities	• As per requested by Social Welfare Department	1

Remarks: *(1) The parking and loading / unloading facilities provisions are subject to finalized flat mix.*
(2) Total IFA for retail and commercial is about 800 sqm (subject to detailed design).
(3) 1 designated parking space for 1 private light bus with tail-lift measuring 8m x 3m with minimum headroom of 3.3m and shared use loading/unloading bay or lay-by is required.

2.4. Vehicular Access Arrangement

2.4.1. The proposed vehicular access of the Proposed Development will be located at the planned Road L3 as shown in **Figure 2.2**.

2.5. Pedestrian Access Arrangement

2.5.1. The pedestrian accesses of the Proposed Development will be located at Road L3, Road L4 and the footpaths between the Proposed Development and Tung Chung Area 99 as shown in **Figure 2.2**. The future planned pedestrian facilities are well-designed in the vicinity of the Proposed Development. Pedestrians can access the Proposed Development via the surrounding footpaths and at-grade crossings to / from the future bus laybys, public transport interchanges (PTI) and Tung Chung East Station. The anticipated major pedestrian routings from the Proposed Development to the adjacent public transport facilities is illustrated in **Figure 2.3.**

3. Traffic Context

3.1. Road Network

3.1.1. The Proposed Development located at the reclaimed area under TCE will be served by the planned local roads connecting with existing Ying Tung Road, Yi Tung Road and Ying Hei Road, and the planned primary distributor Road P1.

3.1.2. Yi Tung Road provides connection between planned Road L3 and Tung Chung Eastern Interchange. It will serve as the major linkage between Tung Chung Town Centre and TCE.

3.1.3. Ying Hei Road is a dual 2-lane carriageway running in west-east direction and will be one of the major connection road between Tung Chung and future TCE via the planned Road P1.

3.1.4. Road P1 is a dual 2-lane primary distributor which provide direct connection to Ying Hei Road at the west and planned Tai Ho Interchange at the east. It will be the major cross-district corridor to serve TCE area.

3.1.5. It is anticipated that the Proposed Development will be well served by the existing and planned road networks in the vicinity as shown in **Figure 2.1**.

3.2. Public Transport Services

3.2.1. The Proposed Development will be served by the planned public transport facilities provided in the vicinity.

3.2.2. To tie in with the phased development of TCE and the tentative completion of Tung Chung East station in 2029, the CEDD's Project has developed a public transport services and implementation strategy under the CEDD's TIA report (Ref. PI24-02). Three PTIs have been planned which will be located in Areas 99, 113 and 133 respectively. The nearest PTI to the Proposed Development will be located in Area 99.

3.2.3. For details of public transport services assessment in TCE, CEDD's TIA (Ref. PI24-02) for Case 2 Scenario 2B under TCNTE(TCE) could be referred.

4. Traffic Forecasts

4.1. Methodology

4.1.1. Years 2026 and 2031 (five years after population intake) have been adopted as design years for this TIA Study.

4.1.2. The comprehensive traffic models developed for the CEDD's Project was adopted for this study to present a holistic result. The traffic forecast methodology and assumptions were covered in a separate submission (namely Technical Note on Preliminary Findings of Traffic Impact Assessment for Population Increase and Development Intensity - CASE 2 Scenario 1 [2] (Ref. PI11)) conducted by CEDD.

4.2. Traffic Survey

4.2.1. According to the CEDD's TIA, manual classified traffic count surveys were conducted during the peak hour periods from 07:00 to 09:00 and from 17:00 to 19:00 between March 2019 and January 2020 to identify the existing traffic condition. The locations of the surveyed junctions in the vicinity are listed in **Table 4.1**. The observed traffic flows are presented in **Figure 4.1**.

Table 4.1 – Location of Surveyed Key Junctions

Index (1)	Junctions	Junction Type
J1	Tung Chung Waterfront Road / Ying Hei Road/ Yi Tung Road	Signal
J2	Ying Hei Road / Ying Tung Road	Signal
J3	Tung Chung Eastern Interchange	Roundabout

*Remarks: (1) Refer to **Figure 2.1**.*

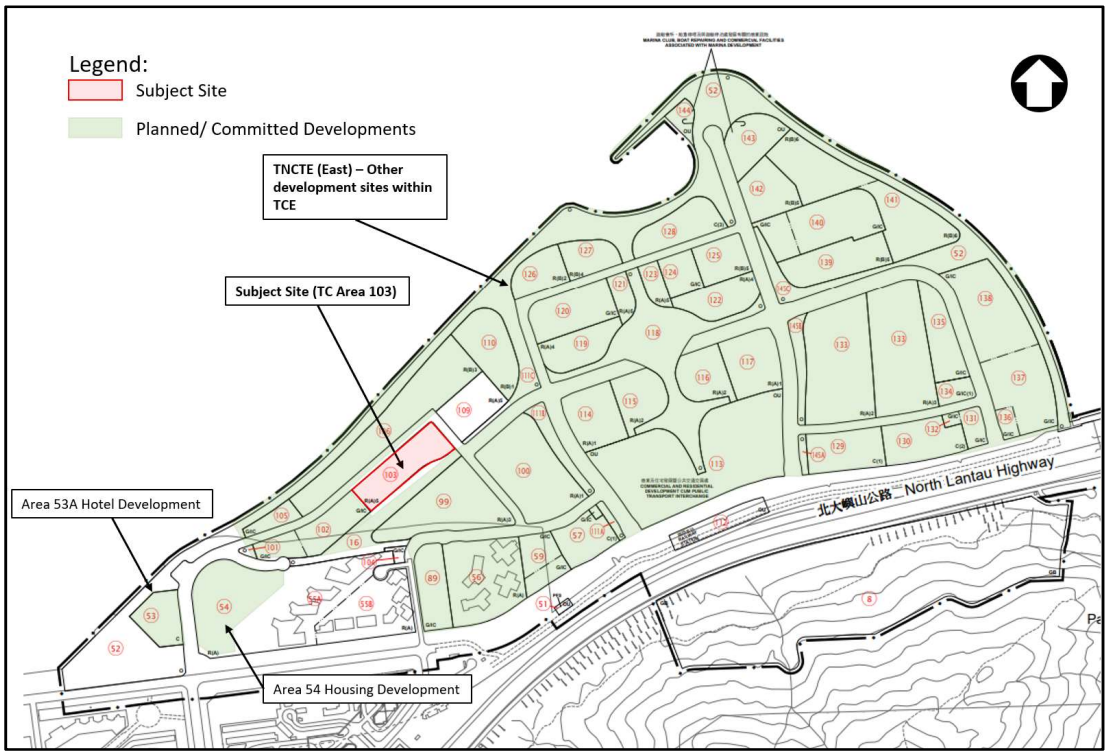
4.3. Other Planned Development

4.3.1. There are several planned / committed developments in the vicinity of the Proposed Development. Development trips generated by the planned / committed developments were assigned onto the surrounding road network as part of the traffic model. The major planned / committed developments are summarized below:

- TCNTE (East) – Other development sites within TCE;
- Area 54 Housing Development;
- Area 53A Hotel Development; and
- Area 89 School Development.

[2] *Case 2 Scenario 1 under CEDD's TIA study – Test scenario for increase development intensity for Area 99 by both Housing Department (HD)'s Site Optimisation and Executive Council Intensification Policy and for all other public housing sites at TCE by HD's Site Optimisation*

Diagram 4.1 Major Adjacent Planned/ Committed Developments



4.3.2. The details of trip generation and attraction of the housing development of Tung Chung East extracted from CEDD's report (Ref. PI24-02) are shown in **Appendix B**.

4.4. Development Traffic Generation

4.4.1. To estimate the traffic generation of the Proposed Development, appropriate trip rates should be adopted. Reference has been made to the Transport Planning and Design Manuel (TPDM) published by Transport Department (TD). Based on the development schedule in **Table 2.1** and the adopted trip rates in **Table 4.2**, the traffic generation of the Proposed Development due to the domestic flats and associated facilities were estimated during the morning and evening peak as summarized in **Table 4.2**.

Table 4.2 – Traffic Generation of the Proposed Development

	Parameters	Traffic Generation (pcu/hr)			
		AM Peak		PM Peak	
		GEN	ATT	GEN	ATT
Adopted Trip Rates	SSF (pcu/hr/flat)	0.0483	0.0279	0.0244	0.0351
	Non-domestic	0.1285	0.1525	0.2360	0.2622
Case 2 Scenario 2B- under CEDD's Project	2,066 flats	100	57	51	73
	6,930 m^2 GFA (Non-domestic)	9	11	16	18
	Total	**109**	**68**	**67**	**91**
HKHA's Proposed Scheme (Scenario L)	About 2,018 flats	97	56	49	71
	6,920 m^2 GFA (Non-domestic)	9	11	16	18
	Total	**106**	**67**	**66**	**89**

4.4.2. As shown in **Table 4.2**, the Proposed Development would generate about 173 pcu/hr and 155 pcu/hr during the morning and evening peak hour periods respectively, which will be slightly less than the trip generation estimated under Case 2 Scenario 2B under CEDD's Project. Therefore, the trip generation estimated under Case 2 Scenario 2B is considered valid for this TIA study.

4.5. Design Traffic Flows

4.5.1. With consideration of similar magnitude in trip generation of Case 2 Scenario 2B under TCNTE(TCE) Study and Proposed Scheme (Scenario L) of this study, it is considered that the years 2026 and 2031 design traffic flows developed by CEDD's Project are still valid and hence it will be adopted in this TIA study to tally with other Tung Chung traffic studies including Tung Chung West and Tung Chung East for consistency.

4.5.2. Years 2026 and 2031 traffic flows extracted from CEDD's TIA are summarized in **Figures 4.2** and **4.3** respectively.

5. Traffic and Transport Impact Assessment

5.1. Junction Operational Assessments

5.1.1. Based on the traffic flows from the future year traffic models in CEDD's TIA study, junction operational assessment was extracted from CEDD's TIA (Ref. PI24-02) for the existing and future junctions. The key junctions assessed are listed in **Table 5.1**.

Table 5.1 – Location of Key Junctions

Index (1)	Junctions	Junction Type
J1	Tung Chung Waterfront Road / Ying Hei Road/ Yi Tung Road	Signal
J2	Ying Hei Road / Ying Tung Road / Road P1	Signal
J3	Tung Chung Eastern Interchange	Roundabout
J4 (2)	Road L4 / Road L5	Signal
J5 (2)	Road D4 / Road L4	Signal
J6 (2)	Road L3 / Road L4	Priority
J7 (2)	Road P1 / Road D5	Signal
J8 (2)	Road D5 / Road L5	Signal
J9 (2)	Road D1 / Road D4 / Road D5	Signal

Remarks: *(1) Refer to **Figure 2.1**.*
(2) New junctions in TCE area

5.1.2. The planned / committed junction improvement schemes proposed under CEDD's Project have been taken into account for the junction operational assessment under years 2026 and 2031 Design Scenarios. The planned improvement schemes are given in **Appendix C**.

5.1.3. The results of the junction capacity analysis under the Observed Scenario, years 2026 and 2031 Design Scenarios extracted from CEDD's TIA (Ref. PI24-02) are summarized in **Table 5.2**.

5.1.4. Signal junction capacity is measured by Reserved Capacity (RC) of the junction. Priority junction and roundabout are measured by the ratio of Design Flow over Capacity (DFC).

5.1.5. According to the guideline from TD (Departmental Circular No. 3/2020 – Supplementary notes to Guidelines and Requirements of Traffic Impact Assessment), the existing junction with RC of 15% or above or DFC of 0.85 or below is considered acceptable. Under serious site constraints, the requirements for the existing junctions may be relaxed to RC of 0% or above or DFC of 1.0 or below. On the other hand, new junctions should be designed to attain the target performance of RC of 25% or above or DFC of 0.75 or below, wherever possible, to allow adequate spare capacities catering for fluctuations during peak hours, natural growth of traffic demand and further developments in future years.

Table 5.2 – Junction Performance

Index (1)	Reserve Capacity (RC) or Design Flow / Capacity Ratio (DFC) (2)					
	2019 Observed		2026 Design		2031 Design	
	AM	PM	AM	PM	AM	PM
J1 (3)	>50%	>50%	38%	>50%	44%	45%
J2 (3)	>50%	>50%	32%	>50%	30%	26%
J3	0.39	0.30	0.48	0.44	0.70	0.72
J4	-	-	39%	47%	26%	24%
J5	-	-	>50%	>50%	>50%	>50%
J6	-	-	>50%	>50%	38%	>50%
J7	-	-	>50%	>50%	39%	40%
J8	-	-	>50%	>50%	26%	47%
J9	-	-	>50%	>50%	26%	35%

Remark: *(1) Refer to **Figure 2.1**.*
(2) Junction performances are expressed in RC for signal junctions and DFC for priority junctions.
(3) Short-term improvement schemes are adopted in Year 2026 Design Scenario and Ultimate improvement schemes are adopted in Year 2031 Design Scenario.

5.1.6. As shown in **Table 5.2**, all the junctions would operate within acceptable RC or DFC.

5.2. Road Link Operational Assessment

5.2.1. The link flows and operational performance of the identified key road links are extracted from CEDD's TIA (Ref. PI24-02) and summarized in **Tables 5.3** and **5.4** respectively**.**

5.2.2. The road link operational performance is measured the ratio of volume over capacity (V/C). According to the guideline from TD (Departmental Circular No. 3/2020 – Supplementary notes to Guidelines and Requirements of Traffic Impact Assessments), roads should be designed to attain the target performance of V/C less than 0.85, wherever possible, to allow adequate spare capacities catering for fluctuations during peak hours, natural growth of traffic demand and further developments in future years. Under serious site constraints, the requirements for the existing roads may be relaxed to V/C ratio of 1.0 or below.

Table 5.3 – Summary of Road Link Flows

Ref. (1)	Road Section	Dir.	Link Capacity (pcu/hr)	Traffic Flows (pcu/hr)					
				2019 Observed		Year 2026 Design		Year 2031 Design	
				AM	PM	AM	PM	AM	PM
L1	North Lantau Highway (between Chun Wan Road Interchange and Tung Chung Waterfront Road)	NB	6,100	2,325	1,945	3,275	2,460	3,745	2,545
		SB	6,100	1,475	2,505	1,245	2,310	1,465	2,350
L2	North Lantau Highway (between Tung Chung Waterfront Road and Tung Chung Eastern Interchange)	EB	6,100	1,690	3,005	1,570	2,615	1,990	3,080
		WB	6,100	2,795	2,085	3,385	2,695	3,920	2,800
L3	North Lantau Highway (between Tung Chung Eastern Interchange and Shun Long Road)	EB	6,100	2,515	4,145	2,795	3,850	3,560	4,560
		WB	6,100	3,610	2,715	4,640	3,810	5,725	4,645
L4	Tung Chung Waterfront Road (between Yi Tung Road and Wai Tung Road	EB	2,800	210	210	355	565	550	635
		WB	2,800	270	240	485	290	410	395
L5	Yi Tung Road	NB	2,800	460	320	690	515	1,135	1,045
		SB	2,800	380	400	565	715	735	795
L6	Ying Hei Road	EB	2,800	335	340	510	325	815	640
		WB	2,800	405	345	675	525	805	805
L7	Ying Tung Road	NB	920	260	225	555	495	575	500
		SB	920	310	250	655	500	740	590
L8	Road L4 (between Road D4 and Road L5)	NB	920	-	-	115	110	215	230
		SB	920	-	-	230	165	345	275
L9	Road L3	NB	920	-	-	195	215	655	680
		SB	920	-	-	105	110	150	205

*Remark: (1) Refer to **Figure 2.1**.*

Table 5.4 – Summary of Road Link Performance

Ref. (1)	Road Section	Dir.	Link Capacity (pcu/hr)	V/C Ratio					
				2019 Observed		Year 2026 Design		Year 2031 Design	
				AM	PM	AM	PM	AM	PM
L1	North Lantau Highway (between Chun Wan Road Interchange and Tung Chung Waterfront Road)	NB	6,100	0.38	0.32	0.54	0.40	0.61	0.42
		SB	6,100	0.24	0.41	0.20	0.38	0.24	0.39
L2	North Lantau Highway (between Tung Chung Waterfront Road and Tung Chung Eastern Interchange)	EB	6,100	0.28	0.49	0.26	0.43	0.33	0.50
		WB	6,100	0.46	0.34	0.55	0.44	0.64	0.46
L3	North Lantau Highway (between Tung Chung Eastern Interchange and Shun Long Road)	EB	6,100	0.41	0.68	0.46	0.63	0.58	0.75
		WB	6,100	0.59	0.45	0.76	0.62	**0.94**	0.76
L4	Tung Chung Waterfront Road (between Yi Tung Road and Wai Tung Road	EB	2,800	0.08	0.08	0.13	0.20	0.20	0.23
		WB	2,800	0.10	0.09	0.17	0.10	0.15	0.14
L5	Yi Tung Road	NB	2,800	0.16	0.11	0.25	0.18	0.41	0.37
		SB	2,800	0.14	0.14	0.20	0.26	0.26	0.28
L6	Ying Hei Road	EB	2,800	0.12	0.12	0.18	0.12	0.29	0.23
		WB	2,800	0.14	0.12	0.24	0.19	0.29	0.29
L7	Ying Tung Road	NB	920	0.28	0.24	0.60	0.54	0.63	0.54
		SB	920	0.34	0.27	0.71	0.54	0.80	0.64
L8	Road L4 (between Road D4 and Road L5)	NB	920	-	-	0.13	0.12	0.23	0.25
		SB	920	-	-	0.25	0.18	0.38	0.30
L9	Road L3	NB	920	-	-	0.21	0.23	0.71	0.74
		SB	920	-	-	0.11	0.12	0.16	0.22

*Remark: (1) Refer to **Figure 2.1**.*

5.2.3. The above assessment results show that all identified key road links, except Road L3, will operate within acceptable V/C ratio to accommodate the future traffic flows in the design year with the presence of the Proposed Development.

5.2.4. From **Table 5.4**, Ref. L3 - North Lantau Highway (between Tung Chung Eastern Interchange and Shun Long Road) will be operated with V/C ratio of 0.94 in year 2031. It is still operated within capacity with V/C ratio less than 1.0. It is suggested that relevant authorities should consider to conduct feasibility study on possible mitigation measures for the North Lantau Highway (between Tung Chung East Interchange and Shun Long Road), as well as investigation appropriate improvement measures for the Lantau Link.

6. Summary and Conclusion

6.1. Summary

6.1.1. Atkins China Limited was commissioned by Hong Kong Housing Authority to conduct a Traffic Impact Assessment (TIA) Study to support the Section 16 application for the intensification of proposed housing developments at Tung Chung Area 103 (hereafter the Proposed Development) in Tung Chung East (TCE) with consideration of the traffic impact of the potential increase of housing provision (i.e. from total of 1,607 flats to 2,018 flats) to the surrounding road network.

6.1.2. In response to the latest policy on site optimisation and intensification, Civil Engineering and Development Department (CEDD) has carried out a TIA study to review the potential increase of housing provision in TCE under Agreement No. CE69/2015 (CE) – "Tung Chung New Town Extension (East) Design and Construction". The CEDD's TIA study (Ref. PI124-02) covered the Case 2 Scenario 2B, which is also known as Scenario L under HKHA's project.

6.1.3. Years 2026 and 2031 (five years after population intake) have been adopted as design year for this TIA Study.

6.1.4. The comprehensive traffic models developed for the Tung Chung New Town Extension (TCNTE) Project was adopted for this study to present a holistic result. The traffic forecast methodology and assumptions were covered in a separate submission (namely Technical Note on Preliminary Findings of Traffic Impact Assessment for Population Increase and Development Intensity – CASE 2 Scenario 1 (Ref. PI11)) conducted by CEDD.

6.1.5. Based on the results summarised from CEDD's Project, the junction and road link analysis show that the additional traffic impact due to the proposed public housing development is minor and acceptable in the design years.

6.2. Conclusion

6.2.1. Based on the above discussion, it is concluded that the proposed intensification of housing developments at Tung Chun Area 103 would not induce adverse impact on the surrounding road network upon completion. Therefore, the Proposed Development is considered acceptable from traffic point of view.

Figures

TUNG CHUNG AREA 103

TUNG CHUNG AREA 100

TUNG CHUNG AREA 99

J1

J2

J3

J4

J5

J6

J7

J8

J9

L1

L2

L3

L4

L5

L6

L7

L8

L9

ROAD L3

ROAD L4

ROAD L5

ROAD L8

ROAD D4

ROAD D5

ROAD P1

YING TUNG ROAD

YING HEI ROAD

TUNG CHUNG WATERFRONT ROAD

N TUNG ROAD

MAN TUNG ROAD

NORTH LANTAU HIGHWAY

TCE STATION

PLANNED TUNG CHUNG EAST (TCE) RAILWAY STATION

PLANNED PUBLIC TRANSPORT INTERCHANGE

LEGEND:

- SUBJECT SITE
- (J1) KEY JUNCTION
- KEY ROAD LINK
- PROPOSED VEHICULAR ACCESS

香港房屋委員會
Hong Kong Housing Authority

SNC·LAVALIN

ATKINS
Member of the SNC-Lavalin Group

AGREEMENT NO. : CB20180686 - TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2019-2021 FOR KOWLOON CENTRAL AND WEST AND ISLANDS REGION INSTRUCTION NO. K10 PROPOSED HOUSING DEVELOPMENT AT TUNG CHUNG AREAS 103 AND 109 TRAFFIC IMPACT ASSESSMENT (TIA)

Title: LOCATION PLAN

Scale at A3: N.T.S

Date: MAR 2022

Figure No.: 2.1

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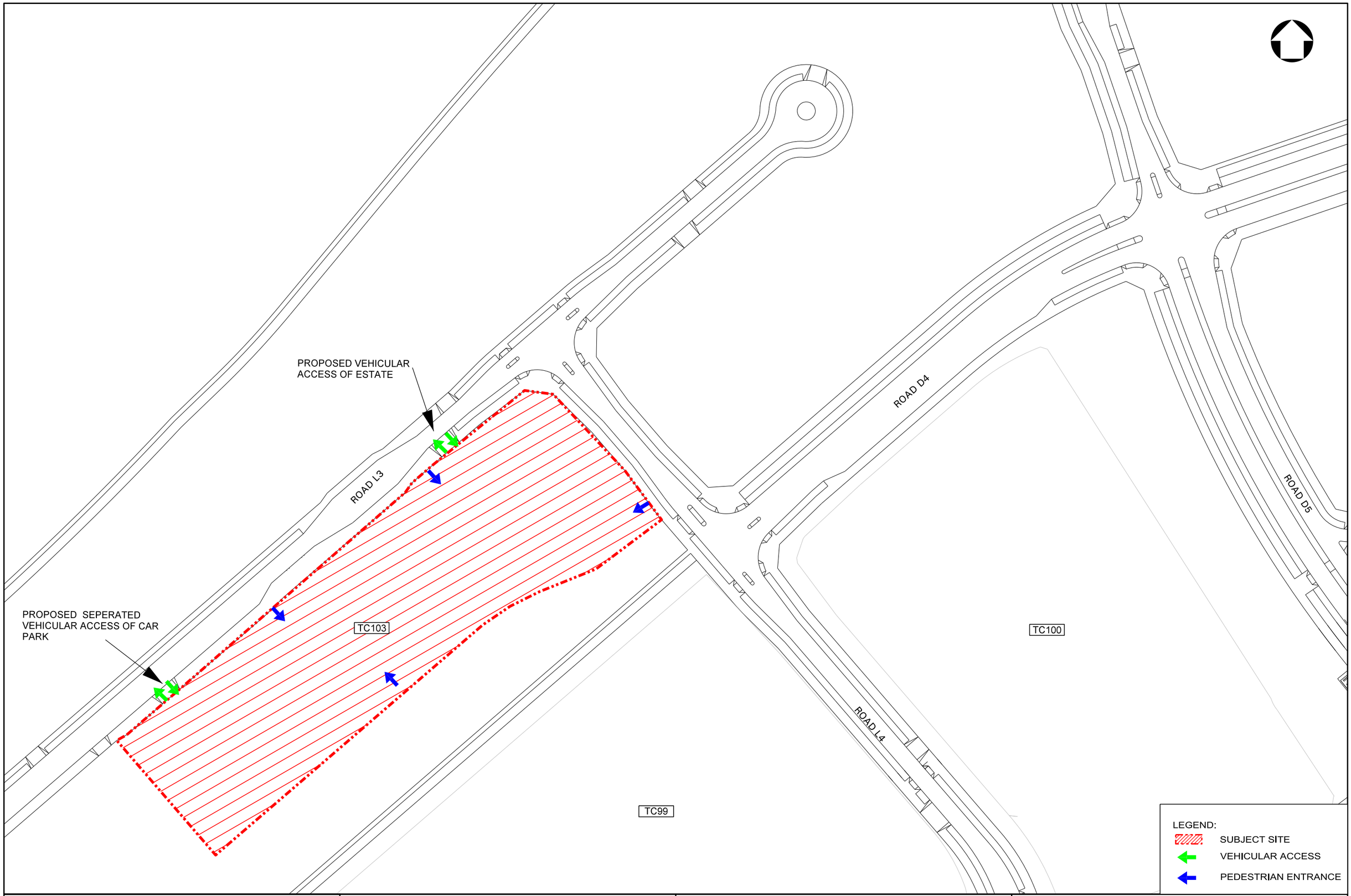

香港房屋委員會
Hong Kong Housing Authority

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ATKINS
Member of the SNC-Lavalin Group

AGREEMENT NO. : CB20180686 - TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2019-2021 FOR KOWLOON CENTRAL AND WEST AND ISLANDS REGION INSTRUCTION NO. K10 PROPOSED HOUSING DEVELOPMENT AT TUNG CHUNG AREAS 103 AND 109 TRAFFIC IMPACT ASSESSMENT (TIA)

Title

PROPOSED ACCESS ARRANGEMENT

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MODEL NAME: Frame 2

Proposed Bus Laybys

PROPOSED VEHICULAR ACCESS OF ESTATE

PROPOSED SEPERATED VEHICULAR ACCESS OF CAR PARK

ROAD L3

ROAD D4

ROAD D5

ROAD L8

ROAD L4

ROAD L5

ROAD P1

TC103

TC100

TC99

TC113

TCE STATION

YING TUNG ROAD

YING HEI ROAD

Proposed Public Transport Interchange at TC 99

Proposed Public Transport Interchange at TC 113

Planned Footbridge Connecting to TCE Station

LEGEND:

- SUBJECT SITE
- PLANNED SIGNALISED CROSSING
- PLANNED FOOTBRIDGE
- PEDESTRIAN ROUTINGS
- PEDESTRIAN ENTRANCE

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AGREEMENT NO. : CB20180686 - TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2019-2021 FOR KOWLOON CENTRAL AND WEST AND ISLANDS REGION
INSTRUCTION NO. K10 PROPOSED HOUSING DEVELOPMENT AT TUNG CHUNG AREAS 103 AND 109
TRAFFIC IMPACT ASSESSMENT (TIA)

Title

PROPOSED PEDESTRIAN ROUTINGS TO/FROM ADJACENT PUBLIC TRANSPORT FACILITIES

Scale at A3	Date	Figure No.
N.T.S	MAR 2022	2.3

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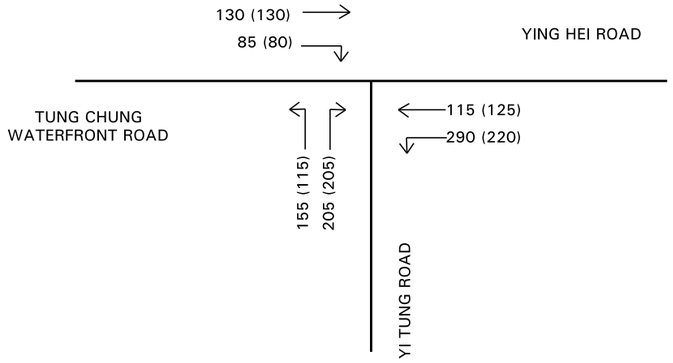

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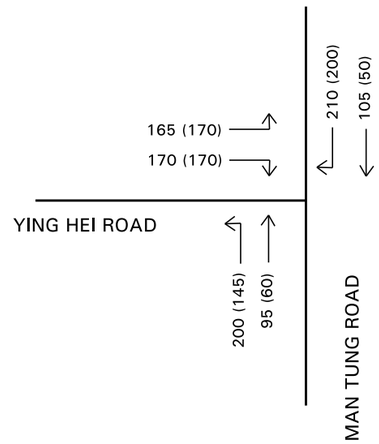

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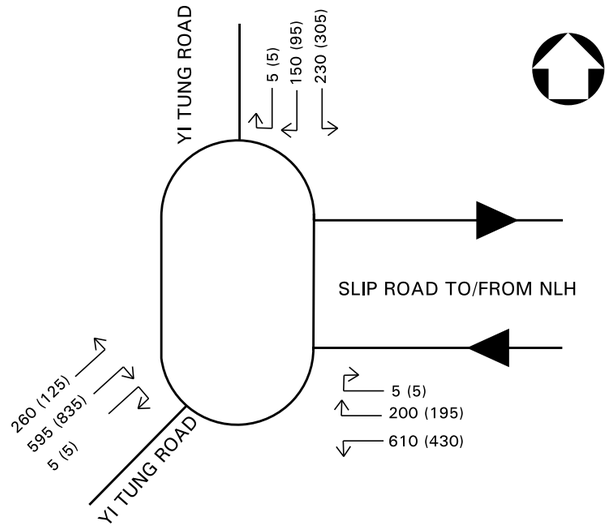

LEGEND:

100 (100)	AM (PM) PEAK HOUR TRAFFIC FLOW (PCU/HR)
→	VEHICULAR TRAFFIC MOVEMENT

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AGREEMENT NO. : CB20180686 - TERM TRAFFIC AND ENVIRONMENTAL CONSULTANCY SERVICES 2019-2021 FOR KOWLOON CENTRAL AND WEST AND ISLANDS REGION INSTRUCTION NO. K10 PROPOSED HOUSING DEVELOPMENT AT TUNG CHUNG AREAS 103 AND 109 TRAFFIC IMPACT ASSESSMENT (TIA)

Title

YEAR 2019 OBSERVED VEHICULAR TRAFFIC FLOW

Scale at A3	Date	Figure No.
N.T.S.	MAR 2022	4.1

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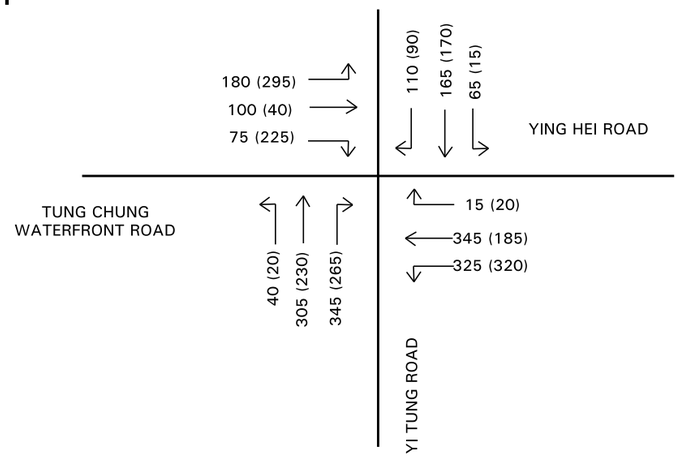

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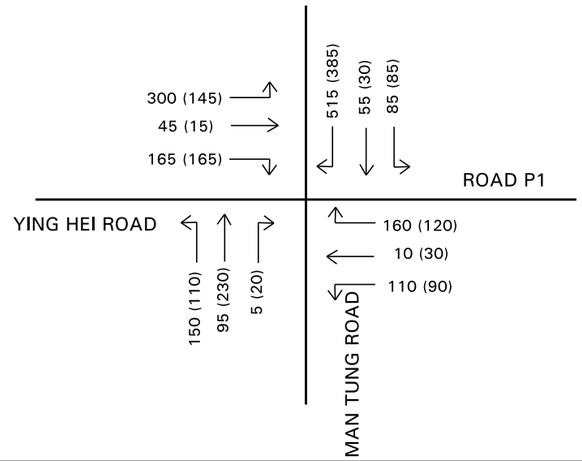

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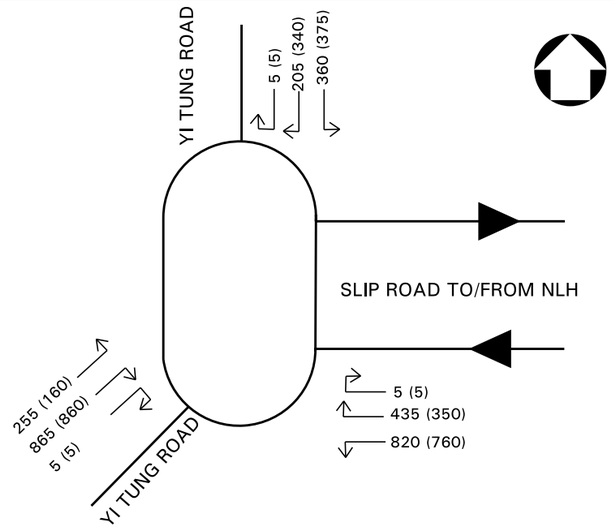

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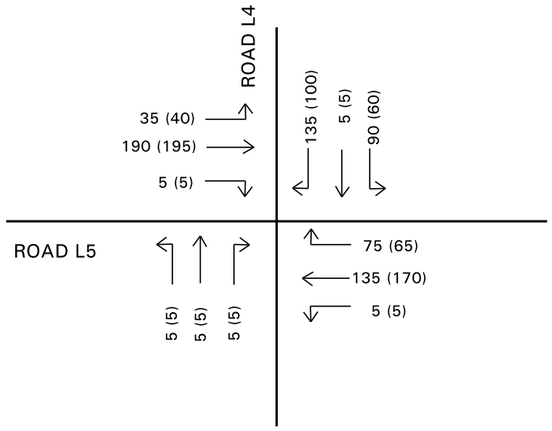

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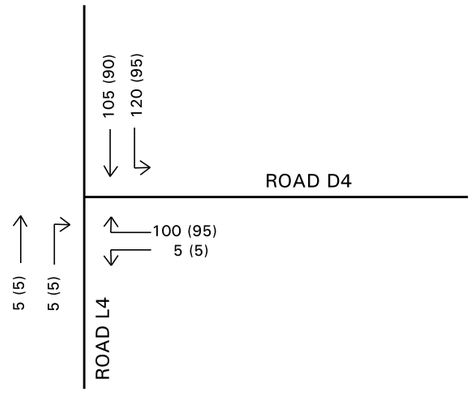

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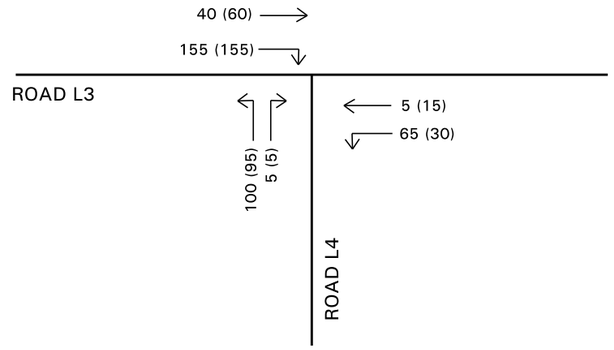

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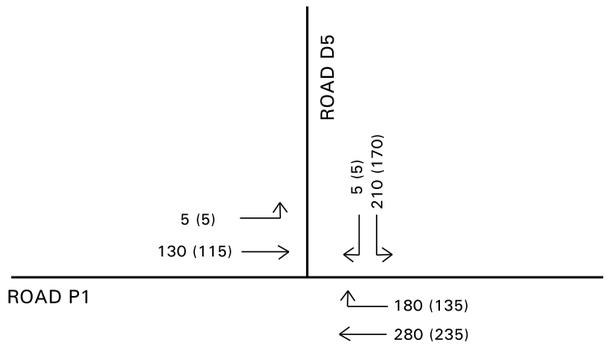

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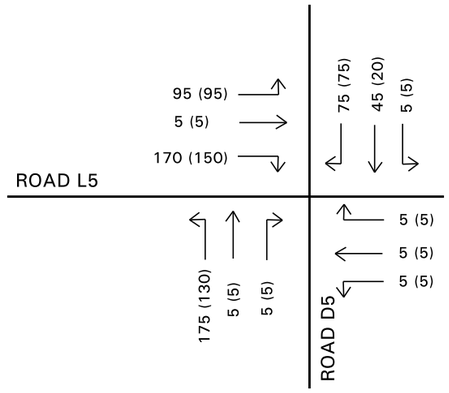

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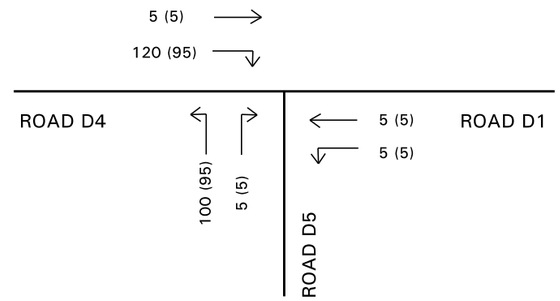

LEGEND:

100 (100) AM (PM) PEAK HOUR TRAFFIC FLOW (PCU/HR)

→ VEHICULAR TRAFFIC MOVEMENT

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Title: YEAR 2026 DESIGN VEHICULAR TRAFFIC FLOW

Scale at A3	Date	Figure No.
N.T.S.	MAR 2022	4.2

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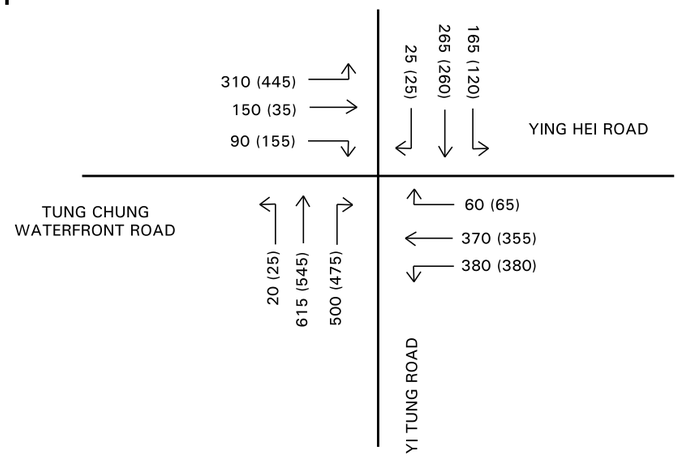

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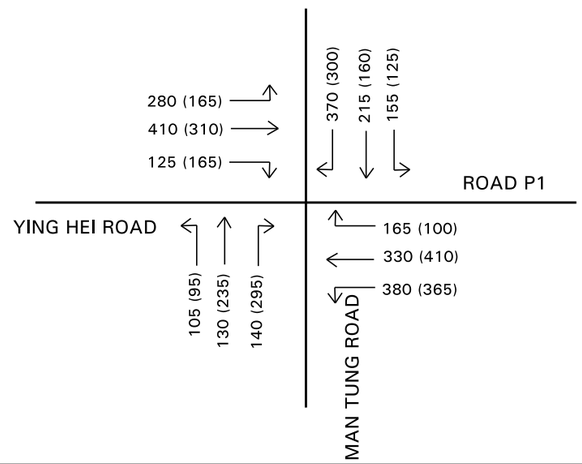

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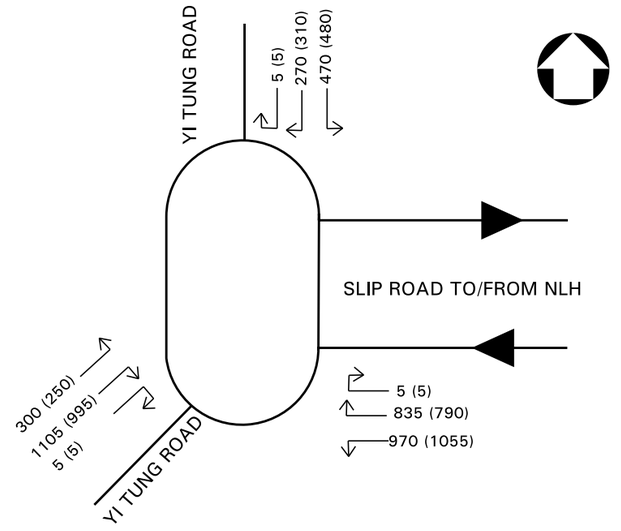

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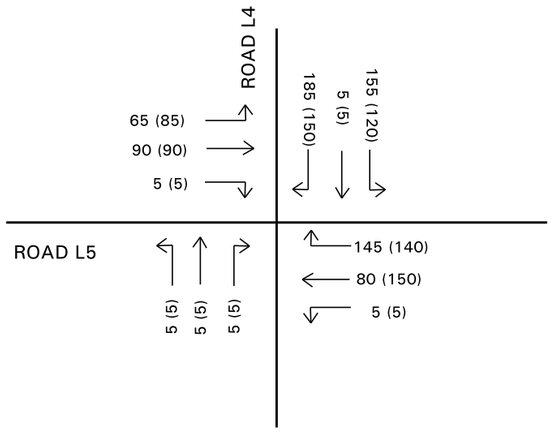

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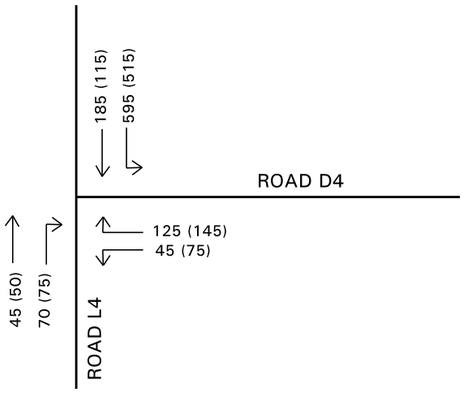

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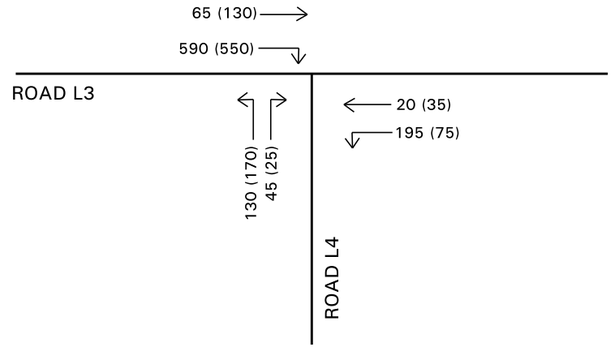

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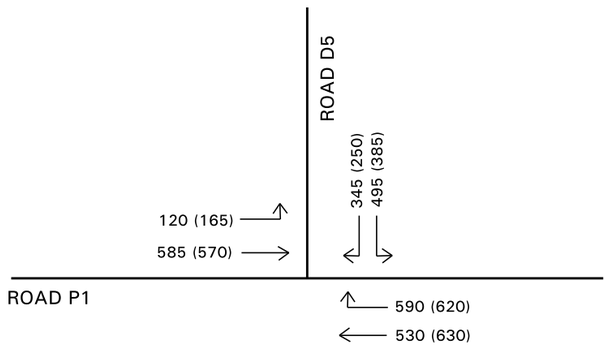

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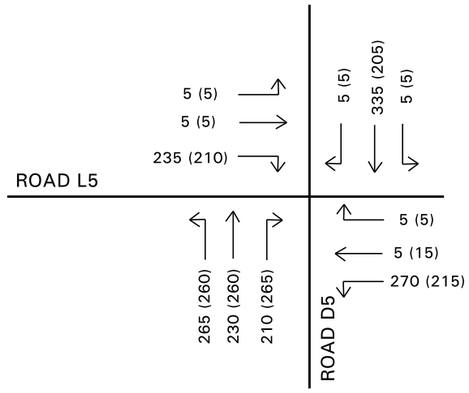

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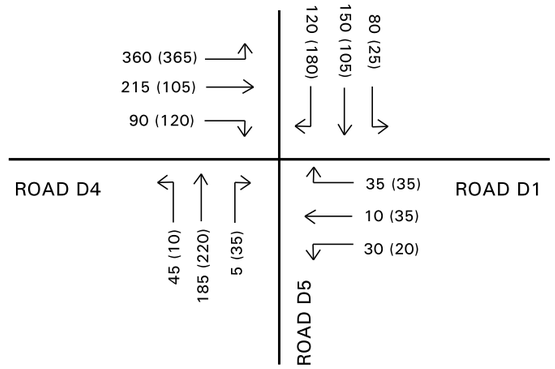

LEGEND:

100 (100) AM (PM) PEAK HOUR TRAFFIC FLOW (PCU/HR)

→ VEHICULAR TRAFFIC MOVEMENT

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Title

YEAR 2031 DESIGN VEHICULAR TRAFFIC FLOW

Scale at A3	Date	Figure No.
N.T.S.	MAR 2022	4.3

PRINTED BY: CHAN1088 02/03/2022 17:13:13
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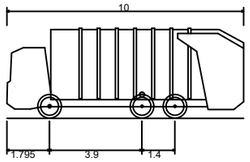
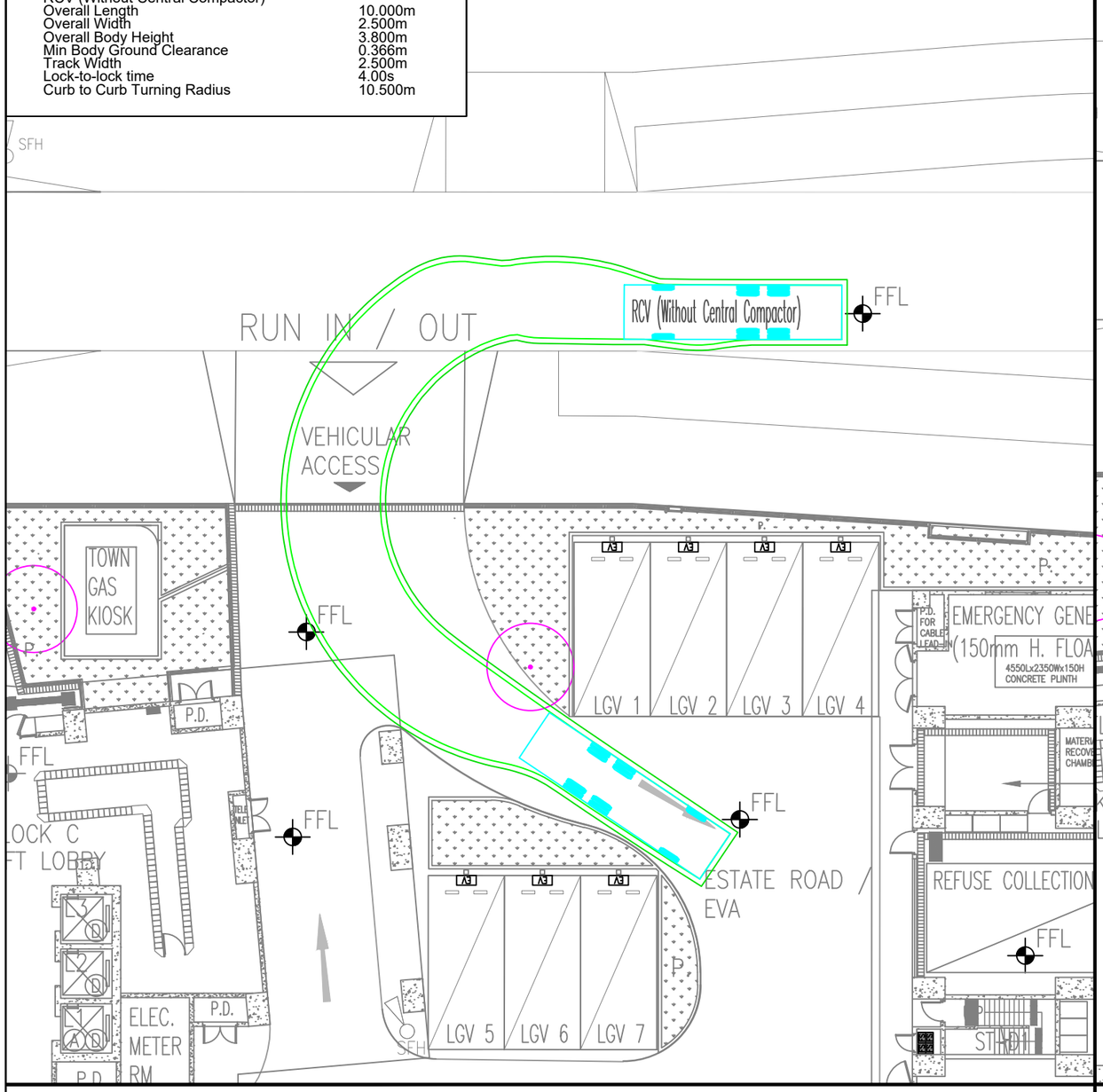
Appendix A

Swept Path Analysis Results for Vehicular Access



RCV (Without Central Compactor)	
Overall Length	10.000m
Overall Width	2.500m
Overall Body Height	3.800m
Min Body Ground Clearance	0.366m
Track Width	2.500m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	10.500m



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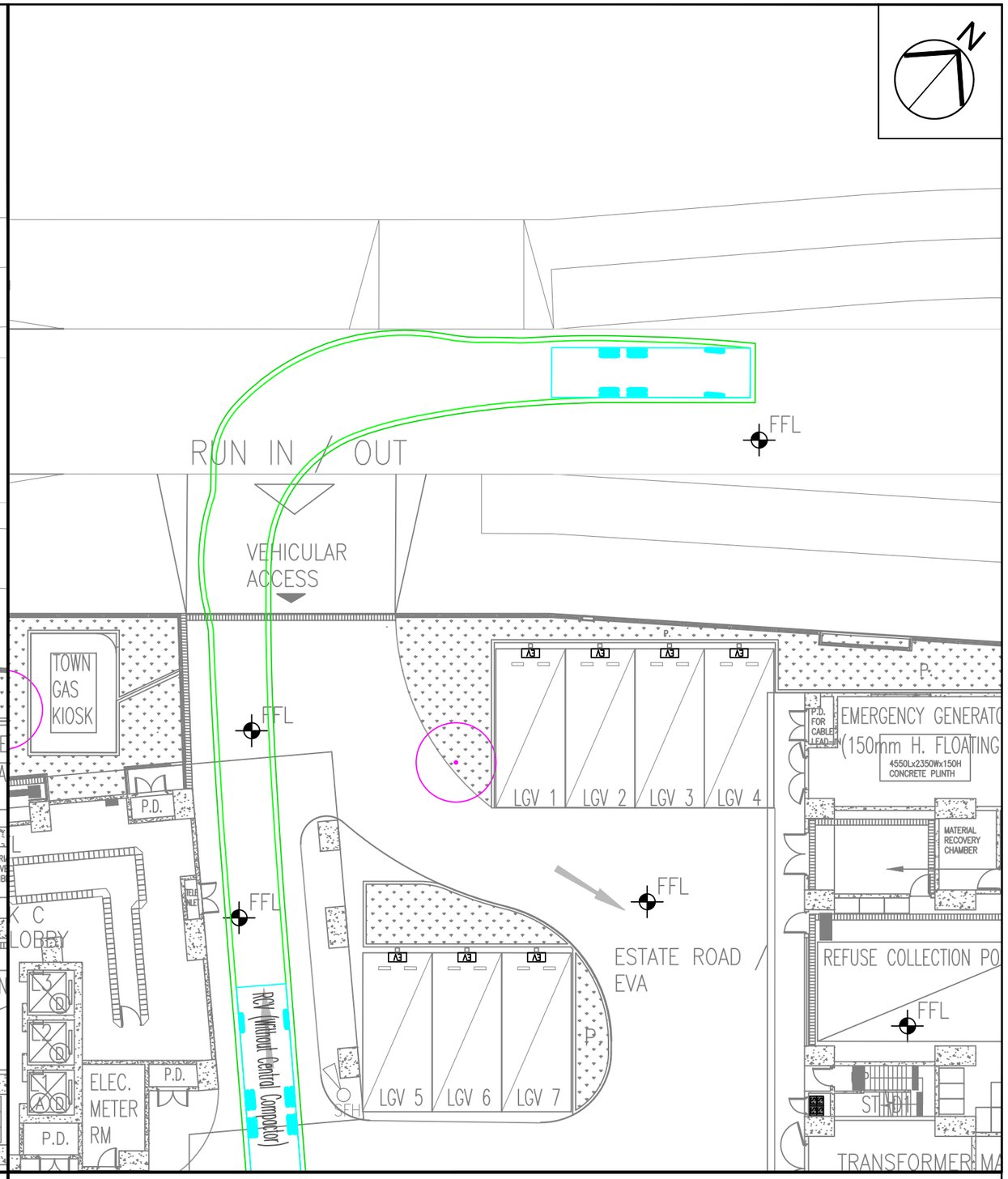


OUT

PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103

SITE LAYOUT PLAN - GROUND FLOOR - RCV - IN & OUT

Drawing No. : XRF-SITE-GF_carpark study.dwg

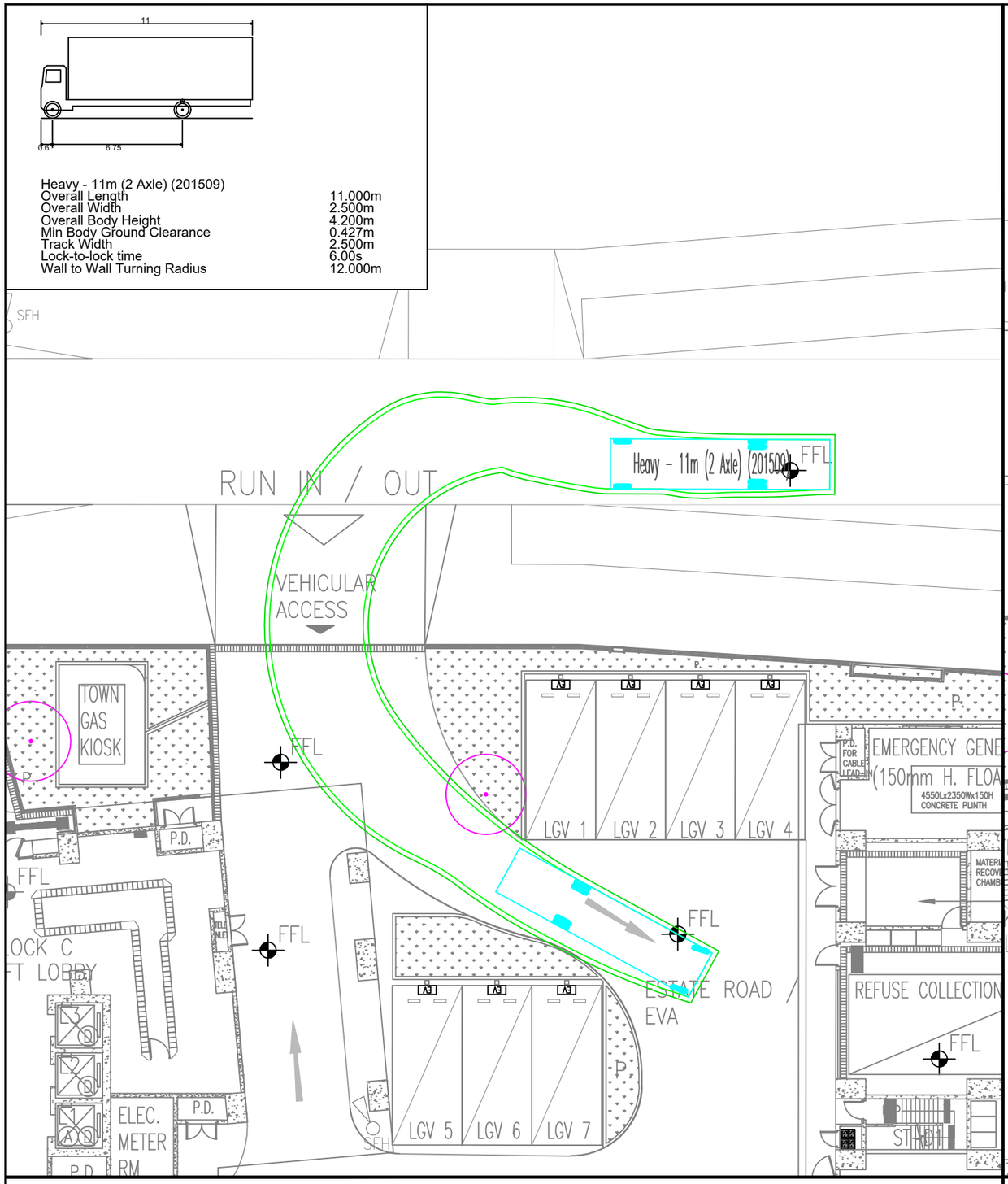
SCALE : 1 : 250 (A3)

	NAME AND DESIGNATION	INITIAL	DATE
CHECKED	C.K. CHEUNG STO(C)/1		15-06-2022
DRAWN	C.K. TAM CTAC/226		15-06-2022

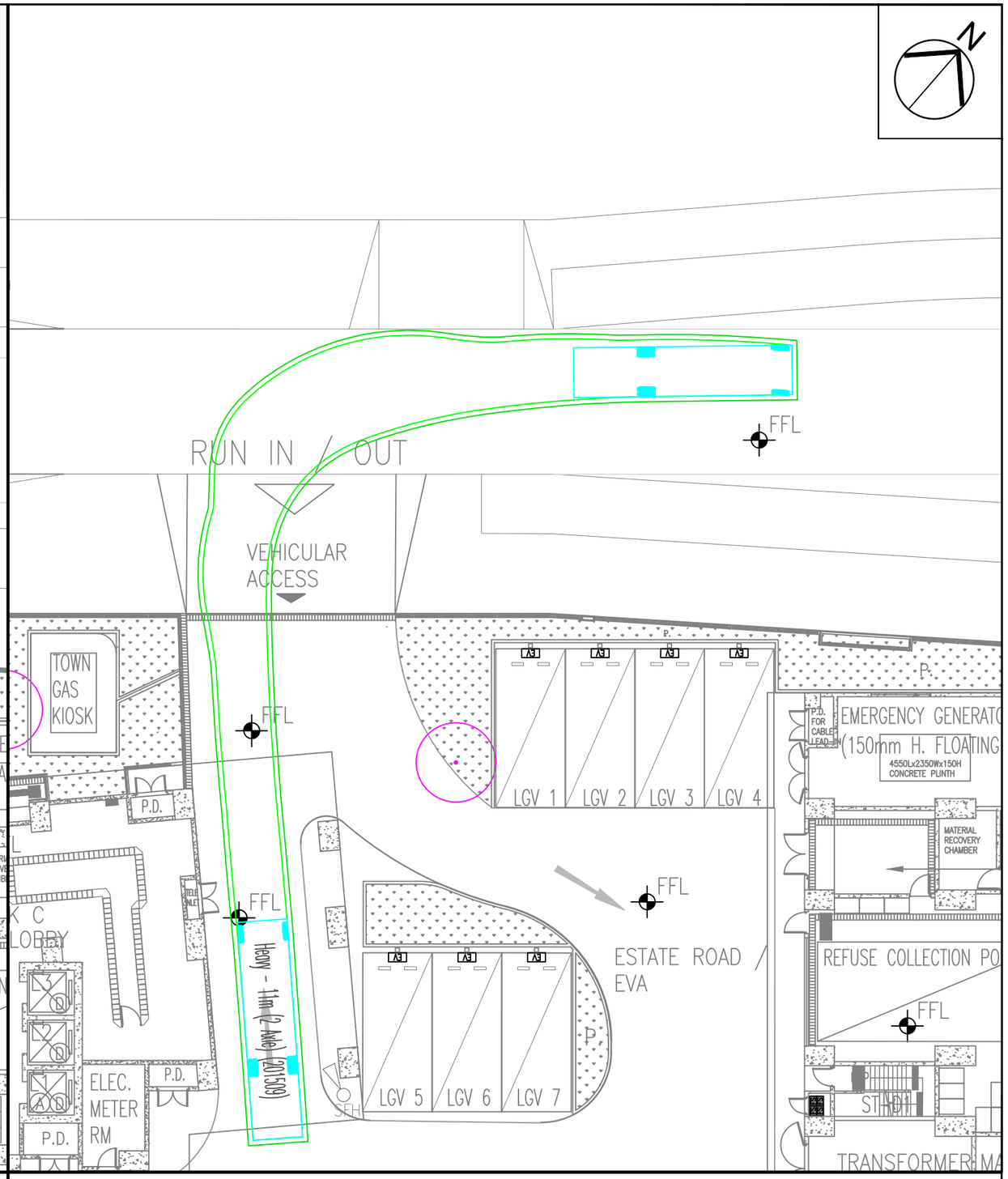
DRAFT

Heavy - 11m (2 Axle) (201509)

Overall Length	11.000m
Overall Width	2.500m
Overall Body Height	4.200m
Min Body Ground Clearance	0.427m
Track Width	2.500m
Lock-to-lock time	6.00s
Wall to Wall Turning Radius	12.000m



IN



OUT

PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103

SITE LAYOUT PLAN - GROUND FLOOR - HGV - IN & OUT

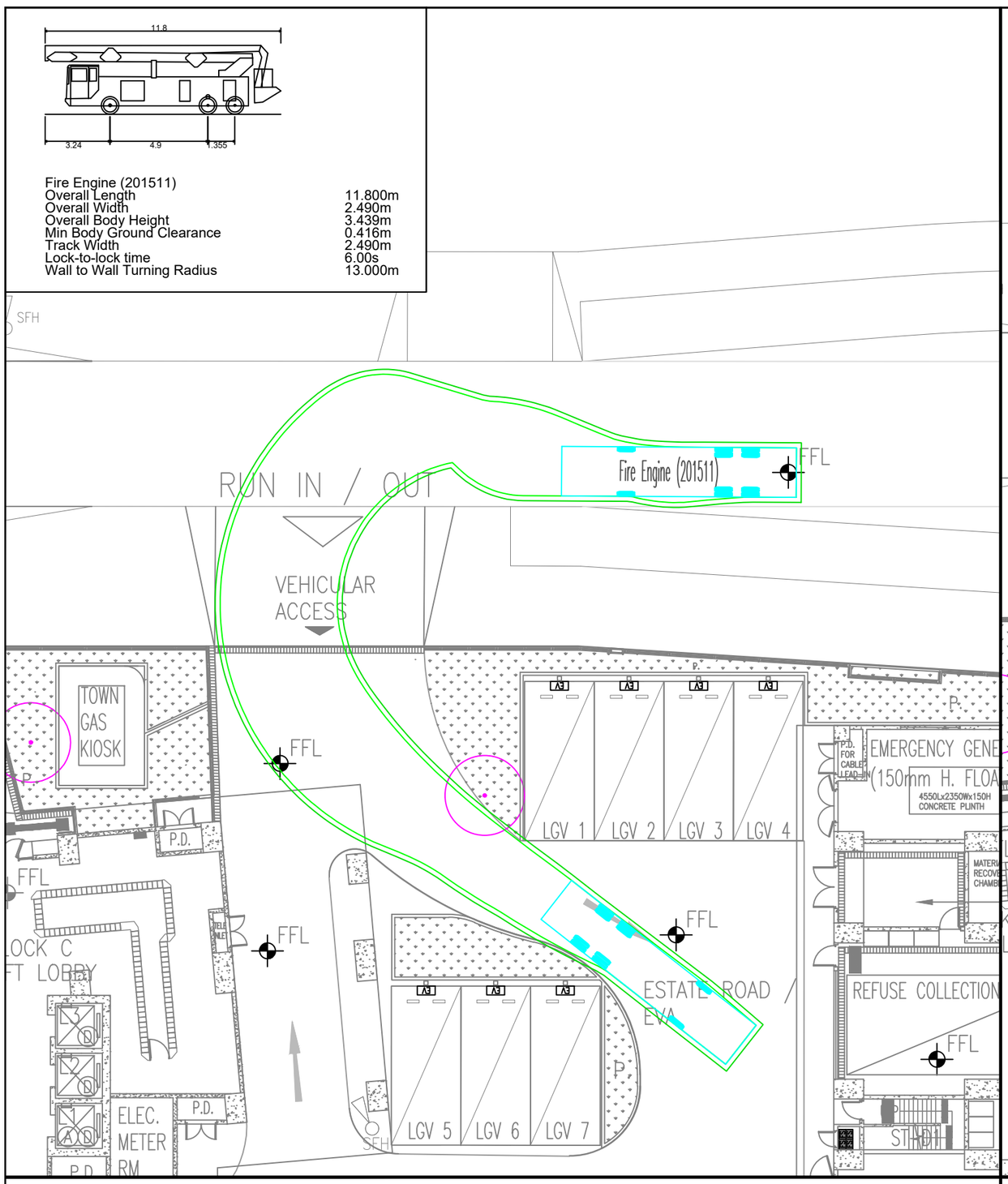
Drawing No. : XRF-SITE-GF_carpark study.dwg

SCALE : 1 : 250 (A3)

	NAME AND DESIGNATION	INITIAL	DATE
CHECKED	C.K. CHEUNG STO(C)/1		15-06-2022
DRAWN	C.K. TAM CTAC/226		15-06-2022

DRAFT

Fire Engine (201511)	
Overall Length	11.800m
Overall Width	2.490m
Overall Body Height	3.439m
Min Body Ground Clearance	0.416m
Track Width	2.490m
Lock-to-lock time	6.00s
Wall to Wall Turning Radius	13.000m



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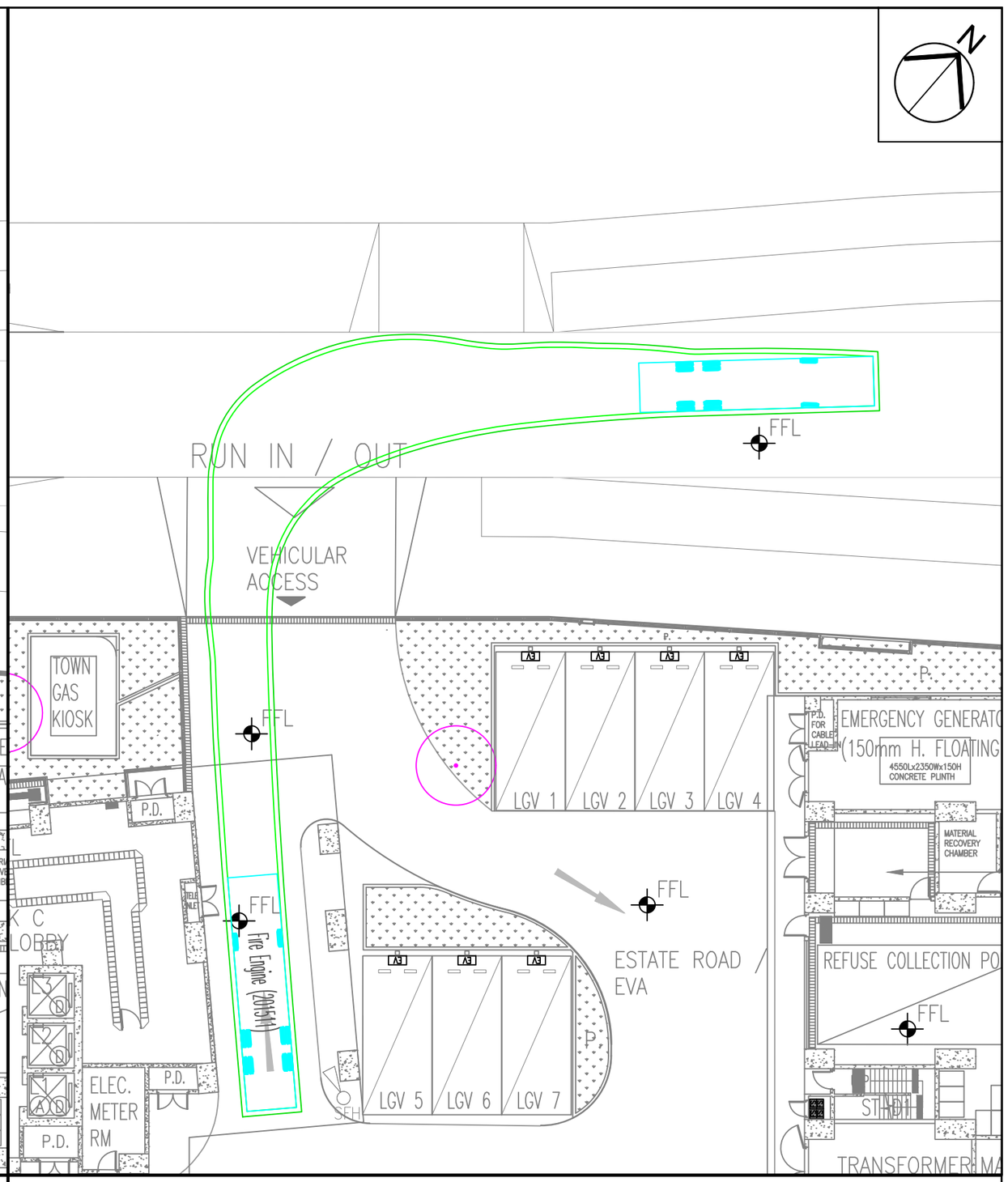

OUT

PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103

SITE LAYOUT PLAN - GROUND FLOOR - FIRE ENGINE - IN & OUT

Drawing No. : XRF-SITE-GF_carpark study.dwg

SCALE : 1 : 250 (A3)

	NAME AND DESIGNATION	INITIAL	DATE
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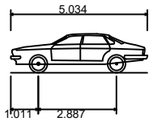
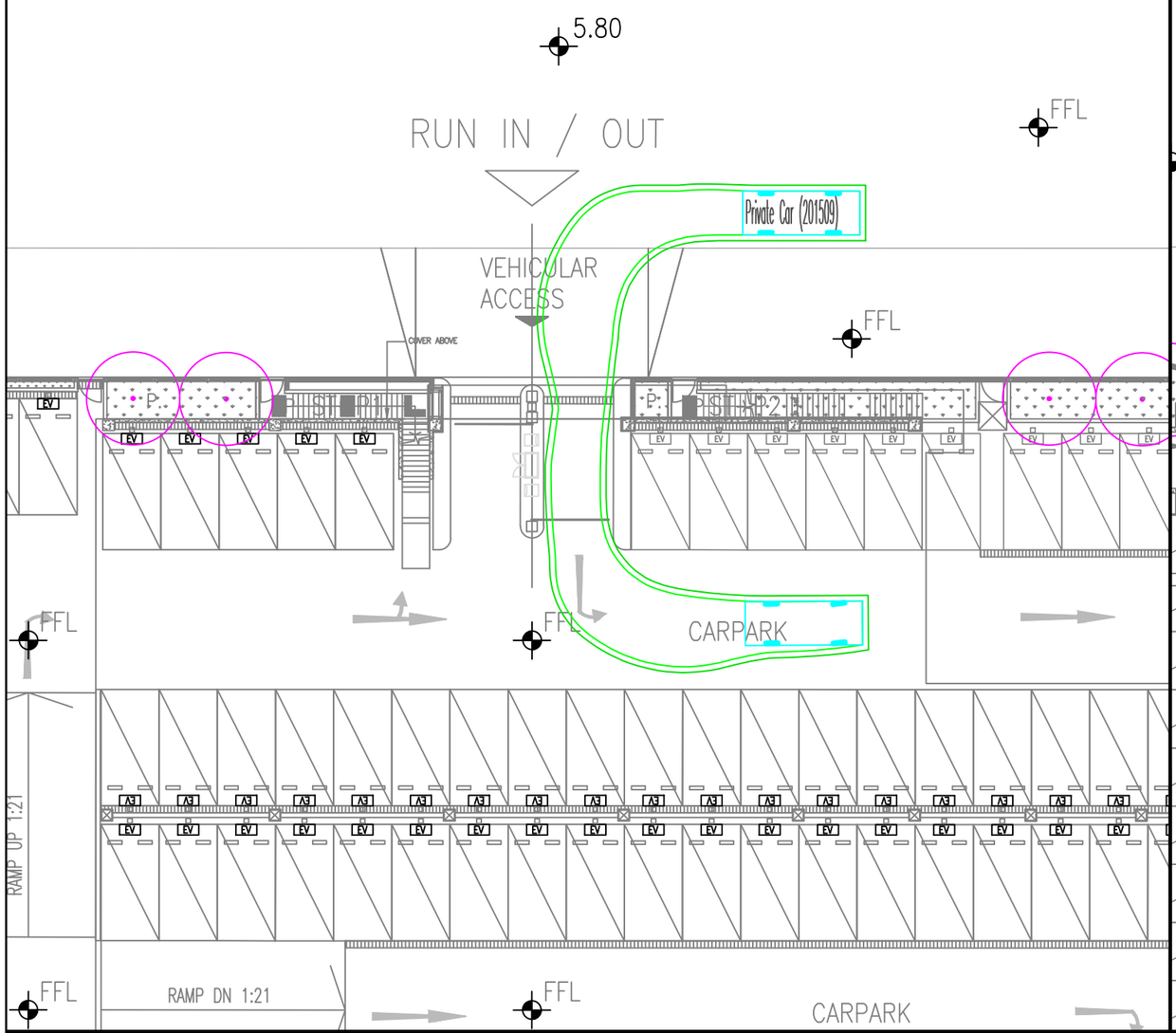
DRAWN	C.K. TAM CTAC/226		15-06-2022

DRAFT



Private Car (201509)	
Overall Length	5.034m
Overall Width	1.880m
Overall Body Height	1.438m
Min Body Ground Clearance	0.319m
Track Width	1.880m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.150m



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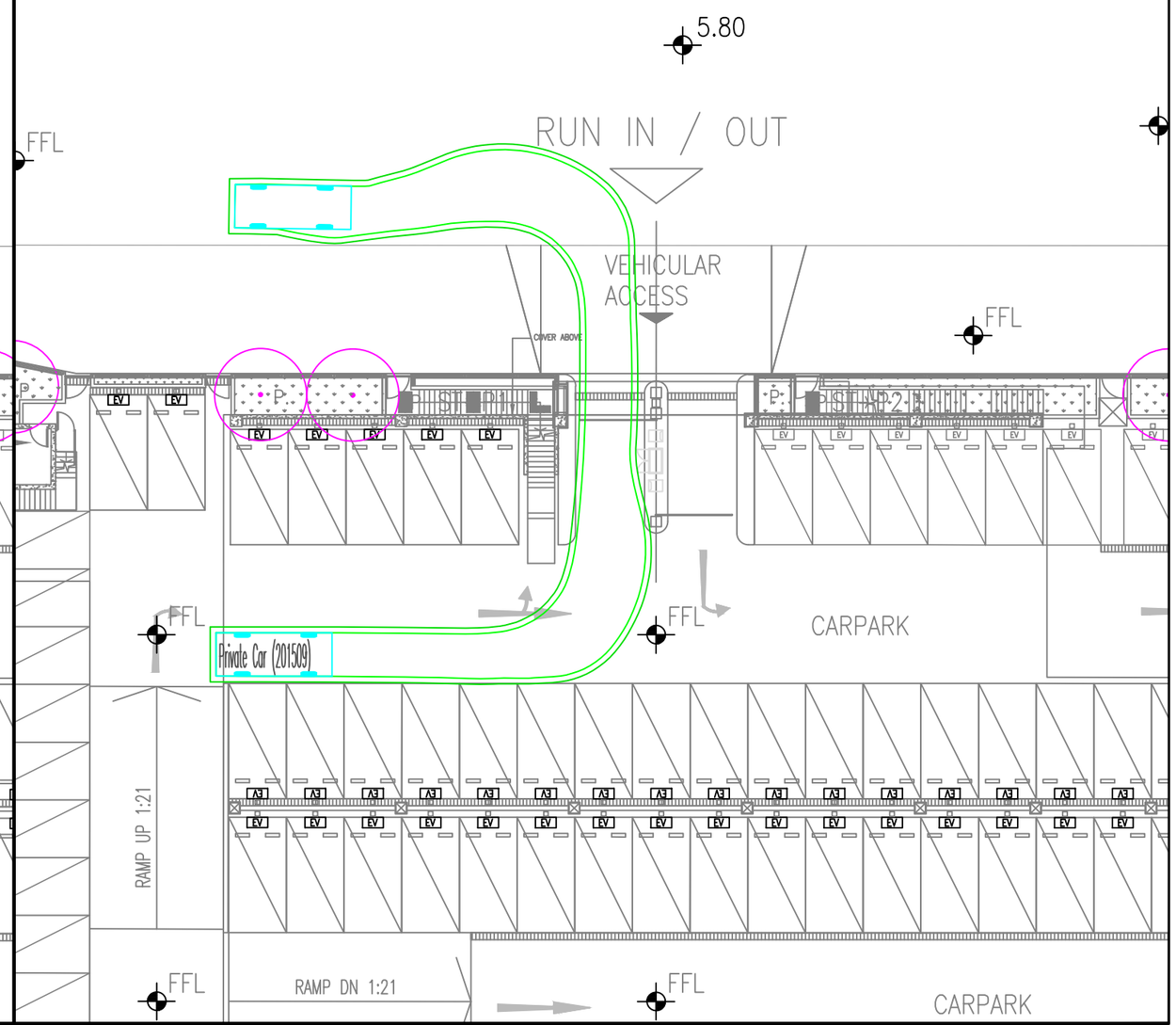

OUT

PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103

SITE LAYOUT PLAN - GROUND FLOOR - PC - IN & OUT

Drawing No. : XRF-SITE-GF_carpark study.dwg

SCALE : 1 : 250 (A3)

	NAME AND DESIGNATION	INITIAL	DATE
CHECKED	C.K. CHEUNG STO(C)/1		15-06-2022
DRAWN	C.K. TAM CTAC/226		15-06-2022

DRAFT

Appendix B

Trip Generation of Attraction of Tung Chung East

Table 2.2 – Housing Development Parameters with Increased Intensity

Development	Preliminary Intake Year	Included in Design Year(s)	Development Type	Domestic GFA (m^2)	Non-domestic GFA (m^2)				Total GFA (m^2)
					Retail	Office	Welfare / GIC	Kindergarten	
Area 57	2025	2026, 2031, 2036	Commercial	-	35,334	82,447	-	-	117,781
Area 114	2029	2031, 2036	Public Housing – PRH	103,064	5,700	-	5,470	642	114,876
Area 117	2029	2031, 2036	Public Housing – PRH	108,381	6,028	-	5,753	642	120,804
Area 119	2029	2031, 2036	Public Housing – HOS	79,019	5,747	-	4,238	-	89,004
Area 122	2029	2031, 2036	Public Housing – HOS	78,293	5,052	-	4,199	642	88,186
Area 133A	2029	2031, 2036	Public Housing – PRH	272,681	20,334	-	14,683	642	308,340
Area 133B	2029	2031, 2036	Public Housing – HOS	120,848	7,437	-	6,414	-	134,699
Area 133C	2029	2031, 2036	Public Housing – PRH	117,630	7,239	-	6,243	-	131,112
Total	-	-	-	**879,916**	**92,871**	**82,447**	**47,000**	**2,568**	**1,104,802**

Note: *The actual intake year may be adjusted subject to the construction progress.

2.4 Trip Rates

2.4.1 The traffic generation and attraction rates for domestic and non-domestic developments as stipulated in the Transport Planning & Design Manual (TPDM) and Data Record No. 439 (DR 439) published by Transport Department, which are also shown in **Table 2.3** will be adopted in the estimation of trip generation and attraction.

Table 2.3 – Trip Rates

Development Type		Data Source	AM		PM	
			Generation	Attraction	Generation	Attraction
Domestic (PCU/Hr/Flat)	Public Rental Housing (PRH) (Average Flat Size 30m^2)	TPDM	0.0242	0.0226	0.0177	0.0201
	Public Rental Housing (PRH) (Average Flat Size 40m^2)	TPDM	0.0325	0.0213	0.0196	0.0263
	Home Ownership Scheme (HOS) Housing (Average Flat Size 50m^2)	TPDM	0.0483	0.0279	0.0244	0.0351
Non-domestic	Retail / Shopping Complex (PCU/Hr/100m^2 GFA)	TPDM	0.1285	0.1525	0.2360	0.2622
	Office (PCU/Hr/100m^2 GFA)	TPDM	0.1045	0.1646	0.1217	0.0840
	GIC (PCU/Hr/100m^2 GFA)	DR 439	0.0300	0.0070	0.0410	0.0510
	Kindergarten (PCU/Hr/School)	DR 439	14	14	1	1

2.5 Trip Generation / Attraction

2.5.1 Based on the development parameters and trip rates shown in **Table 2.2** and **Table 2.3** respectively, the estimated trip generation and attraction are shown in **Table 2.4**.

Table 2.4 – Trip Generation and Attraction (PCU/Hr)

Development	AM		PM	
	Generation	Attraction	Generation	Attraction
Area 57	132	190	184	162
Area 114	107	78	67	87
Area 117	112	81	71	91
Area 119	90	56	56	76
Area 122	102	68	55	75
Area 133A	266	191	189	241
Area 133B	136	84	83	113
Area 133C	107	74	77	100
Total	**1,052**	**822**	**782**	**945**

2.6 Construction Traffic Demand for TCE Development

2.6.1 Delivery of construction material for the TCE development will be mainly by marine access, according to the latest estimation from the construction site, the peak construction traffic demand will be 40 truck/day/direction, or 17 PCU/hr/direction. Since full population intake of TCE has been assumed in year 2030, the above construction traffic demand will only apply to the design year of 2026.

Table 2.2 – Housing Development Parameters with Increased Intensity

Development	Preliminary Intake Year*	CASE 1 Increase development intensity for Area 99 by both HD's Site Optimisation and ExCo Intensification Policy and for Area 100 by HD's Site Optimisation				CASE 2 Scenario 1 Increase development intensity for Area 99 by both HD's Site Optimisation and ExCo Intensification Policy and for all other public housing sites at TCE by HD's Site Optimisation				CASE 2 Scenario 2A Increase development intensity for Areas 99, 103, 109, 133A, 133B and 133C by both HD's Site Optimisation and ExCo Intensification Policy and for all other public housing sites at TCE by HD's Site Optimisation			
		Housing Type	Domestic Flat No.	Non-domestic GFA (m^2)	Average Flat Size (m^2)	Housing Type	Domestic Flat No.	Non-domestic GFA (m^2)	Average Flat Size (m^2)	Housing Type	Domestic Flat No.	Non-domestic GFA (m^2)	Average Flat Size (m^2)
Area 99	2024	PRH	3,564	6,400	30	PRH	3,564	6,400	30	PRH	3,564	6,400	30
			1,236		40		1,236		40		1,236		40
Area 100	2024	PRH	4,000	14,160	30	PRH	4,000	14,160	30	PRH	4,000	14,160	30
			1,200		40		1,200		40		1,200		40
Area 103	2026	HOS	1,607	6,427	50	HOS	1,843	6,930	50	HOS	2,066	6,930	50
Area 109	2026	HOS	1,102	4,406	50	HOS	1,277	4,810	50	HOS	1,344	3,602	50
[redacted]													

Note: *The actual intake year may be adjusted subject to the construction progress.

2.4 Trip Rates

2.4.1 The traffic generation and attraction rates for domestic and non-domestic developments as stipulated in the Transport Planning & Design Manual (TPDM), which are also shown in **Table 2.3** will be adopted in the estimation of trip generation and attraction.

Table 2.3 – Trip Rates

Development Type		AM		PM	
		Generation	Attraction	Generation	Attraction
Domestic (PCU/Hr/Flat)	Public Rental Housing (PRH) (Average Flat Size $30m^2$)	0.0242	0.0226	0.0177	0.0201
	Public Rental Housing (PRH) (Average Flat Size $40m^2$)	0.0325	0.0213	0.0196	0.0263
	Home Ownership Scheme (HOS) Housing (Average Flat Size $50m^2$)	0.0483	0.0279	0.0244	0.0351
	Private Housing (Average Flat Size $60m^2$)	0.0415	0.0141	0.0157	0.0276

Development Type		AM		PM	
		Generation	Attraction	Generation	Attraction
	Private Housing (Average Flat Size 90m^2)	0.1155*	0.0485*	0.0449*	0.0678*
Non-domestic	Retail / Shopping Complex (PCU/Hr/100m^2 GFA)	0.1285	0.1525	0.2360	0.2622
	Office (PCU/Hr/100m^2 GFA)	0.1045	0.1646	0.1217	0.0840
	Hotel (PCU/Hr/Guest Room)	0.0843	0.0832	0.0883	0.0908

Note: *Interpolated trip rates are derived for private housing of average flat size 90m^2 by the trip rates for private housing of average flat size 80m^2 and 100m^2.

2.5 Trip Generation / Attraction of Subsidized Housing Development of Tung Chung East

2.5.1 Based on the housing development parameters and trip rates shown in **Table 2.2** and **Table 2.3** respectively, the estimated trip generation and attraction are shown in **Table 2.4**.

Table 2.4 – Trip Generation and Attraction (PCU/Hr)

Development	CASE 1 Increase development intensity for Area 99 by both HD's Site Optimisation and ExCo Intensification Policy and for Area 100 by HD's Site Optimisation					CASE 2 Scenario 1 Increase development intensity for Area 99 by both HD's Site Optimisation and ExCo Intensification Policy and for all other public housing sites at TCE by HD's Site Optimisation					CASE 2 Scenario 2A Increase development intensity for Areas 99, 103, 109, 133A, 133B and 133C by both HD's Site Optimisation and ExCo Intensification Policy and for all other public housing sites at TCE by HD's Site Optimisation				
	Housing Type	AM		PM		Housing Type	AM		PM		Housing Type	AM		PM	
		Generation	Attraction	Generation	Attraction		Generation	Attraction	Generation	Attraction		Generation	Attraction	Generation	Attraction
Area 99	PRH	147	130	102	120	PRH	147	130	102	120	PRH	147	130	102	120
Area 100	PRH	167	151	127	148	PRH	167	151	127	148	PRH	167	151	127	148
Area 103	HOS	86	55	54	73	HOS	98	62	61	83	HOS	109	68	67	91
Area 109	HOS	59	37	37	50	HOS	68	43	43	57	HOS	70	43	41	57
[redacted]															

Appendix C

Proposed Junction Improvement Measures under TCNTE (East) Contract

ISO A1: 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

J1

817400 N

817300 N

817200 N

812500 E

812600 E

812700 E

N

WIP Mar 2020

WIP Mar 2020

RS

TS

TS

TS

5.4

Tung Chung Town Centre 東涌市中心

Tsing Yi 青衣

NTW/I/TunChuW-09

70m

2m

7.5m

A

A

A

A

A

A

單車徑

Cycling Track

5.4

5.7

迎禧路

YING HEI ROAD

YING_HEI_ROAD

6.1

10.5m

50m

5.6

Cyt Dtsm Ped Xing

Cy/w & F/w

5.8

5.7

6.2

Cycling Track

單車徑

6.4

TUNG CHUNG WATERFRONT ROAD

CHUNG_WATERFRONT_ROAD

東涌海濱路

6.3

6.8

Cycling Track

6.9

PH

FP

6.0

5.8+

CUL

Tung Chung Town Centre 東涌市中心

Tsing Yi 青衣

NTW/I/YiHei-X02

NTW/I/YiHei-X01

遊樂場

Playground

5.8+

6.2

6.1

5.5

8.0

50m

10.5m

YI TUNG ROAD

6.1

F

6.2

6.5

FP

第七座

Block 7

+8.4

平台

Tung Chung Town Centre 東涌市中心

D2

6.0

5.0

6.6

6.0

6.4

6.8

FP

PROPOSED METHOD OF CONTROL

1.	2.	3.	4.	5.

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STATUS
階段

SCALE
比例

A1 1:500

DIMENSION UNIT
尺寸單位

METERS

KEY PLAN
索引圖

A1 1 : 50000

PROJECT NO.
項目編號

60507694

CONTRACT NO.
合同編號

CE 69/2015 (CE)

SHEET TITLE
圖紙名稱

PROPOSED SHORT-TERM IMPROVEMENT SCHEME FOR (J/O TUNG CHUNG WATERFRONT ROAD / YING HEI ROAD / YI TUNG ROAD)

SHEET NUMBER
圖紙編號

60507694/PI11/FIGURE 3.1

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

J1

812500 E

812600 E

817400 N

817300 N

817200 N

WIP Mar 2020

LEGEND:

PROPOSED IMPROVEMENT

N

70m

7.6m

10.5m

57m

58m

10.5m

PRELIMINARY LOCATION OF PROPOSED FOOTBRIDGE (FOR INDICATION OF THE APPROXIMATE LOCATION ONLY. EXACT LOCATION AND DESIGN TO BE PROVIDED SEPARATELY)

TUNG CHUNG WATERFRONT ROAD

CHUNG WATERFRONT ROAD

YING HEI ROAD

YI TUNG ROAD

Cycling Track

單車徑

遊樂場 Playground

Tung Chung Town Centre 東涌市中心

NTW/I/TunChuW-09

NTW/I/YiTungRd-X01

NTW/I/YiTungRd-X02

PROPOSED METHOD OF CONTROL

1.	2.	3.	4.

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狀況

SCALE
比例

A1 1:500

DIMENSION UNIT
尺寸單位

METERS

KEY PLAN
索引圖

PROJECT NO.
項目編號

60507694

CONTRACT NO.
合約編號

CE 69/2015 (CE)

SHEET TITLE
圖紙名稱

PROPOSED IMPROVEMENT SCHEME FOR (J/O TUNG CHUNG WATERFRONT ROAD / YING HEI ROAD / YI TUNG ROAD)

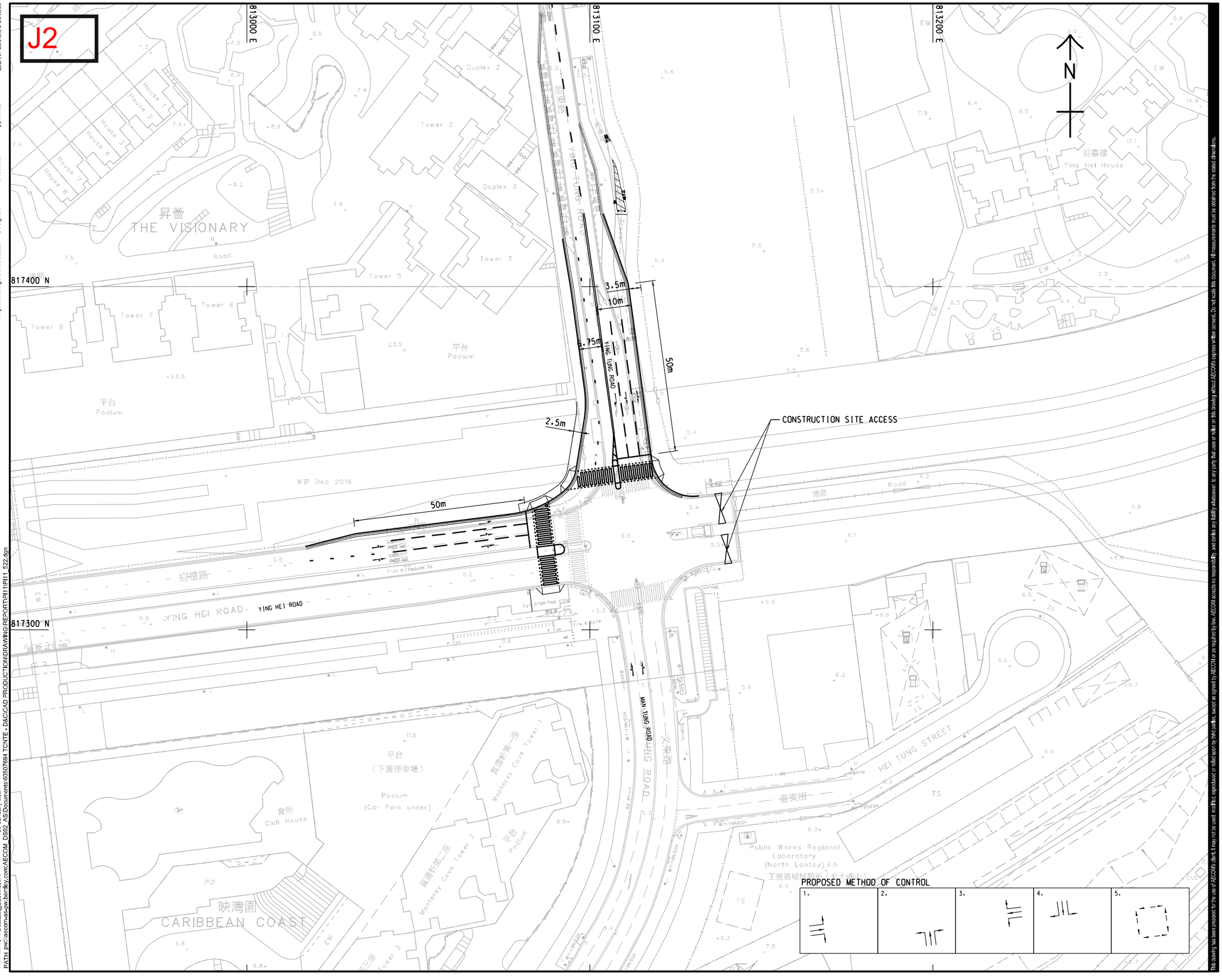
SHEET NUMBER
圖紙編號

60507694/PI11/FIGURE 3.2

ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:

J2

813000 E
813100 E
813200 E
817400 N
817300 N



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SCALE 比例: A1 1:500

DIMENSION UNIT 尺寸單位: METERS

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60507694

CONTRACT NO. 合約編號: CE 69/2015 (CE)

SHEET TITLE
圖紙名稱

PROPOSED SHORT-TERM IMPROVEMENT SCHEME FOR (J/O YING HEI ROAD / YING TUNG ROAD / MAN TUNG ROAD)

SHEET NUMBER
圖紙編號

60507694/PI11/FIGURE 3.3

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ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

J2

LEGEND:

PROPOSED IMPROVEMENT

CONFORMING ROAD NETWORK

N

813000 E

813100 E

813200 E

817400 N

817300 N

YING TUNG ROAD

YING HEI ROAD

MAN TUNG ROAD

ROAD P1

HEI TUNG STREET

迎東路

迎喜街

文東路

THE VISIONARY 昇薈

Ying Hei House

Tower 2

Tower 3

Tower 5

Tower 6

Tower 7

Tower 8

Duplex 2

Duplex 3

House 1

House 2

House 3

House 6

House 7

House 8

Podium 平台

(Car Park under) (下層停車場)

Club House 會所

CARIBBEAN COAST 映灣園

Monterey Cove Tower 1 藍灣軒第一座

Monterey Cove Tower 2 藍灣軒第二座

Public Works Regional Laboratory (North Lantau) 6.5 工務區域試驗所(北大嶼山)

6.75m

3.5m

10m

57m

2.5m

57m

PRELIMINARY LOCATION OF PROPOSED FOOTBRIDGE (FOR INDICATION OF THE APPROXIMATE LOCATION ONLY. EXACT LOCATION AND DESIGN TO BE PROVIDED SEPARATELY)

WIP Dec 2018

PROPOSED METHOD OF CONTROL

1.	2.	3.	4.

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TUNG CHUNG NEW TOWN EXTENSION (EAST) - DESIGN AND CONSTRUCTION

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STATUS

SCALE: A1 1:500

DIMENSION UNIT: METERS

KEY PLAN

PROJECT NO.: 60507694

CONTRACT NO.: CE 69/2015 (CE)

SHEET TITLE

PROPOSED IMPROVEMENT SCHEME FOR J3 (J/O YING HEI ROAD / YING TUNG ROAD / MAN TUNG ROAD / ROAD P1)

SHEET NUMBER

60507694/PI11/FIGURE 3.4

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

813150 E

813200 E

813250 E

817850 N

817800 N

817750 N

J5

LEGEND:

PROPOSED IMPROVEMENT

CONFORMING ROAD NETWORK

N

ROAD D4

ROAD L4

7.63m

5.5m

8.88m

4.3m

6m

SLOPE

PROPOSED METHOD OF CONTROL

1.	2.	3.	4.

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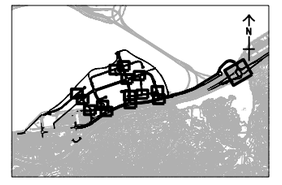
STATUS
狀況

SCALE 比例
A1 1:250

DIMENSION UNIT 尺寸單位
METERS

KEY PLAN A1 1 : 20000
索引圖



PROJECT NO. 項目編號
60507694

CONTRACT NO. 合約編號
CE 69/2015 (CE)

SHEET TITLE
圖紙名稱

PROPOSED IMPROVEMENT SCHEME FOR . . (J/O ROAD D4 / ROAD L4)

SHEET NUMBER
圖紙編號

60507694/PI11/FIGURE 3.5

ISO A1 594mm x 841mm
Approved:
Checked:
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817950 N
817900 N
817850 N
813050 E
813100 E
813150 E

J6

PROPOSED METHOD OF CONTROL

1. 2. 3. 4.

LEGEND:

PROPOSED IMPROVEMENT

CONFORMING ROAD NETWORK

N

ROAD L3

ROAD L4

48m

3m

9m

BUS STOP

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STATUS

SCALE
A1 1:250

DIMENSION UNIT
METERS

KEY PLAN A1 1 : 20000

PROJECT NO.
60507694

CONTRACT NO.
CE 69/2015 (CE)

SHEET TITLE
PROPOSED IMPROVEMENT SCHEME FOR : (J/O ROAD L3 / ROAD L4)

SHEET NUMBER
60507694/PI11/FIGURE 3.6

J7

813550 E

813600 E

813650 E

818650 N

818600 N

818550 N

N

LEGEND:

PROPOSED IMPROVEMENT

CONFORMING ROAD NETWORK

ROAD_D5

ROAD P1

PROPOSED METHOD OF CONTROL

1.	2.	3.	4.

IMPROVED METHOD OF CONTROL

1.	2.	3.	4.

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

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STATUS
狀況

SCALE
比例

A1 1:250

DIMENSION UNIT
尺寸單位

METERS

KEY PLAN
索引圖 A1 1 : 20000

PROJECT NO.
項目編號

60507694

CONTRACT NO.
合約編號

CE 69/2015 (CE)

SHEET TITLE
圖紙名稱

PROPOSED IMPROVEMENT SCHEME FOR . (J/O ROAD P1 / ROAD D5)

SHEET NUMBER
圖紙編號

60507694/PI11/FIGURE 3.7

J8

813500 E

813550 E

813600 E

817750 N

817700 N

817650 N

N

LEGEND:

PROPOSED IMPROVEMENT

CONFORMING ROAD NETWORK

WORKS TO BE CARRIED OUT BY OTHERS

PROPOSED METHOD OF CONTROL

1.	2.	3.	4.	5.

WORKS TO BE CARRIED OUT BY OTHERS

40m

ROAD L5

7.3m

ROAD D5

10.3m

36m

AECOM

PROJECT

TUNG CHUNG NEW TOWN EXTENSION (EAST) - DESIGN AND CONSTRUCTION

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SCALE A1 1:250

DIMENSION UNIT METERS

KEY PLAN A1 1 : 20000

PROJECT NO. 60507694

CONTRACT NO. CE 69/2015 (CE)

SHEET TITLE

PROPOSED IMPROVEMENT SCHEME FOR : (J/O ROAD D5 / ROAD L5)

SHEET NUMBER

60507694/PI11/FIGURE 3.8

ISO A1: 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

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J9

813300 E

813400 E

813500 E

LEGEND:

PROPOSED IMPROVEMENT

CONFORMING ROAD NETWORK

N

818000 N

817900 N

7.3m

3.65m

53m

ROAD D1

ROAD D4

ROAD D5

PROPOSED METHOD OF CONTROL

1.	2.	3.	4.	5.

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

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ISSUE/REVISION
修訂

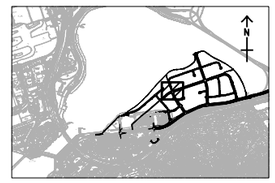
I/R 修訂	DATE 日期	DESCRIPTION 有關事項	CHK. 核對

STATUS
狀況

SCALE 比例
A1 1:500

DIMENSION UNIT 尺寸單位
METERS

KEY PLAN
索引圖



PROJECT NO. 項目編號
60507694

CONTRACT NO. 合約編號
CE 69/2015 (CE)

SHEET TITLE
圖紙名稱

PROPOSED IMPROVEMENT SCHEME FOR . · (J/O ROAD D1 / ROAD D4 / ROAD D5)

SHEET NUMBER
圖紙編號

60507694/PI11/FIGURE 3.9

Appendix D

Junction Capacity Calculation

J1

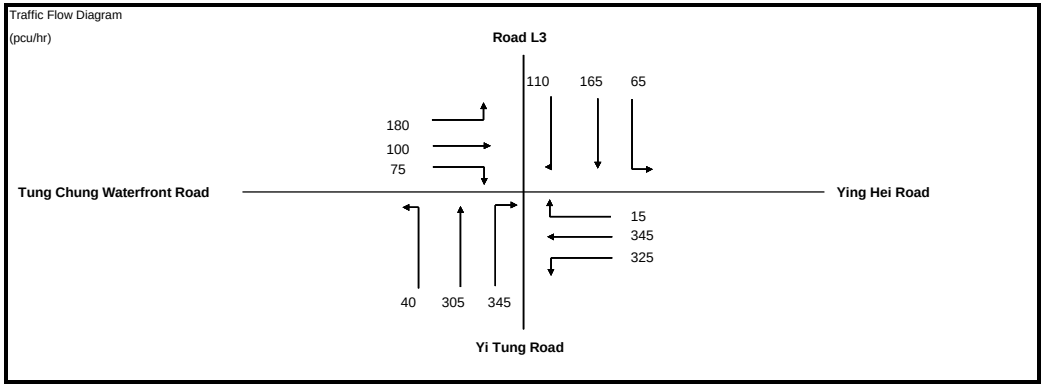
JUNCTION CAPACITY CALCULATION

AECOM

Junction	2026 AM Case 2 Scenario 2B (Ultimate Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: Mar 21
- TC Waterfront Rd/ Ying Hei Road/ Yi Tung Road/ Road L3					

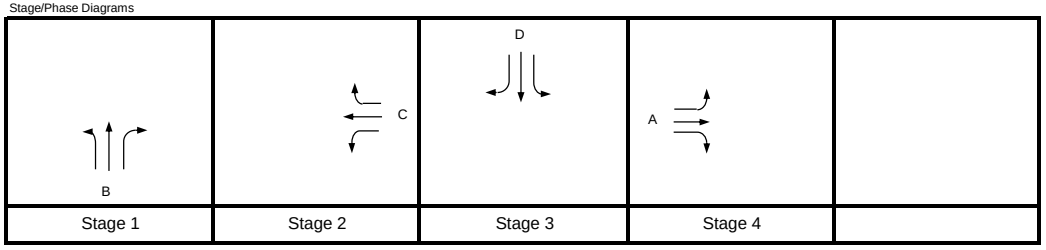
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.376	
Lost time		L =	18	sec
Total Flow		=	22,715	pcu
Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	51	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	29	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.765	
R.C.$_{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	103.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	31	sec
Y_{max}	$= 1-L/C$	=	0.850	

Stage/Phase Diagrams



Critical Case : B,C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 104%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	4	3.500	1	15			1		0		1965	109			109	100%		1786	0.061	0.061	17	16	0.442	0
	A	4	3.500	1	18					0		2105	71	51		122	58%		2008	0.061		17	16	0.442	0
	A	4	3.500	1		25	0	0		0		2105		49	75	124		61%	2031	0.061		17	16	0.442	0
	B	1	3.650	1	15			1		0		1980	40	183		223	18%		1945	0.115		31	30	0.442	6
	B	1	3.650	1		30	0			0		2120		122	116	237		49%	2070	0.115	0.115	31	30	0.442	6
	B	1	3.650	1		25	0	0		0		2120			229	229		100%	2000	0.115		31	30	0.442	6
	C	2	3.650	1	20			1		0		1980	210			210	100%		1842	0.114		31	30	0.442	5
	C	2	3.650	1	25					0		2120	115	120		235	49%		2059	0.114	0.114	31	30	0.442	6
	C	2	3.650	1		20	0	0		0		2120		225	15	240		6%	2110	0.114		31	30	0.442	6
	D	3	3.650	1	20			1		0		1980	65	101		166	39%		1923	0.086	0.086	23	22	0.442	4
	D	3	3.650	1		20	0	0		0		2120		64	110	174		63%	2024	0.086		23	22	0.442	5

J1

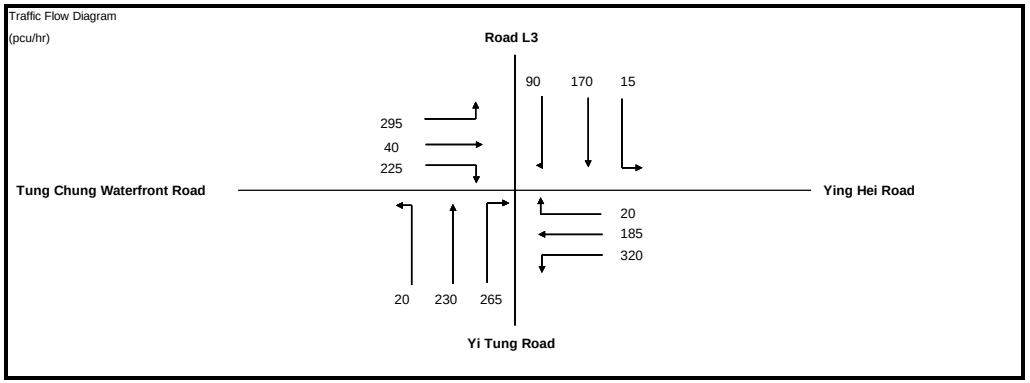
JUNCTION CAPACITY CALCULATION

AECOM

Junction : TC Waterfront Rd/ Ying Hei Road/ Yi Tung Road/ Road L3	2026 PM Case 2 Scenario 2B (Ultimate Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: Mar 21

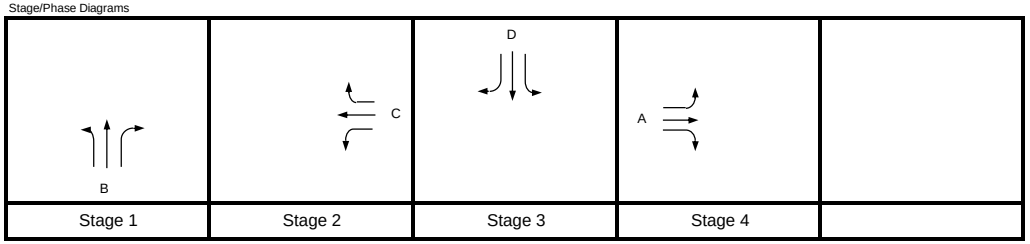
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.356	
Lost time		L =	18	sec
Total Flow		=	22,715	pcu
Optimum Cycle C_o	= (1.5×L+5)/(1-Y)	=	50	sec
Min. Cycle Time C_m	= L/(1-Y)	=	28	sec
Y_{ult}	= 0.9-0.0075×L	=	0.765	
R.C.$_{ult}$	= (Y_{ult}-Y)/Yx100%	=	114.9	%
Practical Cycle Time C_p	= 0.9×L/(0.9-Y)	=	30	sec
Y_{max}	= 1-L/C	=	0.850	

Stage/Phase Diagrams



Critical Case : B,C,D,A

R.C.(C) = ($0.9xY_{max}$-Y)/Yx100% = 115%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	4	3.500	1	15			1		0		1965	159			159	100%		1786	0.089		26	31	0.329	0
	A	4	3.500	1	18					0		2105	136	40		176	77%		1978	0.089		26	31	0.329	0
	A	4	3.500	1		25	0	0		0		2105		0	225	225		100%	1986	0.113	0.113	32	31	0.419	0
	B	1	3.650	1	15			1		0		1980	20	147		167	12%		1957	0.086	0.086	25	24	0.419	4
	B	1	3.650	1		30	0			0		2120		83	94	177		53%	2065	0.086		25	24	0.419	5
	B	1	3.650	1		25	0	0		0		2120			171	171		100%	2000	0.086		25	24	0.419	5
	C	2	3.650	1	20			1		0		1980	162			162	100%		1842	0.088	0.088	25	24	0.419	4
	C	2	3.650	1	25					0		2120	158	20		177	89%		2013	0.088		25	24	0.419	5
	C	2	3.650	1		20	0	0		0		2120		165	20	185		11%	2103	0.088		25	24	0.419	5
	D	3	3.650	1	20			1		0		1980	15	120		135	11%		1964	0.069		20	19	0.419	4
	D	3	3.650	1		20	0	0		0		2120		50	90	140		65%	2022	0.069	0.069	20	19	0.419	4

J1

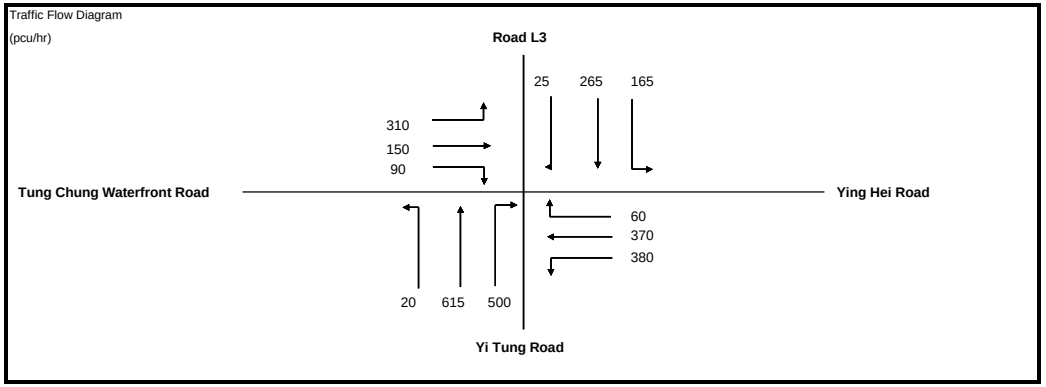
JUNCTION CAPACITY CALCULATION

AECOM

Junction	- TC Waterfront Rd/ Ying Hei Road/ Yi Tung Road/ Road L3	2031 AM Case 2 Scenario 2B (Ultimate Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: Mar 21

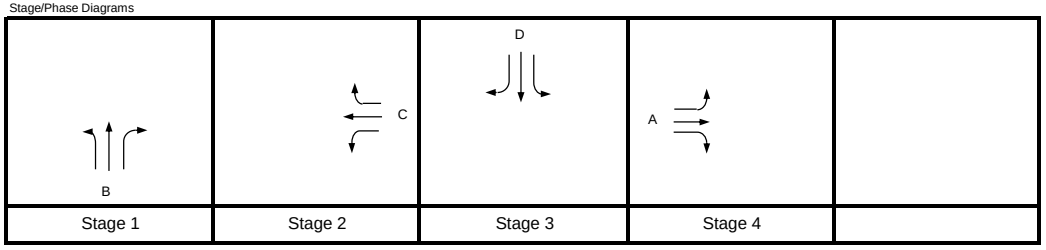
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.532	
Lost time		L =	18	sec
Total Flow		=	22,715	pcu
Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	68	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	38	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.765	
R.C.$_{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	43.9	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	44	sec
Y_{max}	$= 1-L/C$	=	0.850	

Stage/Phase Diagrams



Critical Case : B,C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\% =$ 44%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	4	3.500	1	15			1		0		1965	169			169	100%		1786	0.095		18	17	0.625	0
	A	4	3.500	1	18					0		2105	141	46		187	75%		1981	0.095		18	17	0.625	0
	A	4	3.500	1		25	0	0		0		2105		104	90	194		46%	2048	0.095	0.095	18	17	0.625	0
	B	1	3.650	1	15			1		0		1980	20	349		369	5%		1969	0.187		36	35	0.625	9
	B	1	3.650	1		30	0			0		2120		266	125	391		32%	2087	0.187	0.187	36	35	0.625	9
	B	1	3.650	1		25	0	0		0		2120			375	375		100%	2000	0.187		36	35	0.625	9
	C	2	3.650	1	20			1		0		1980	249			249	100%		1842	0.135		26	25	0.625	7
	C	2	3.650	1	25					0		2120	131	148		279	47%		2062	0.135	0.135	26	25	0.625	7
	C	2	3.650	1		20	0	0		0		2120		222	60	282		21%	2087	0.135		26	25	0.625	7
	D	3	3.650	1	20			1		0		1980	165	49		214	77%		1872	0.114		22	21	0.625	6
	D	3	3.650	1		20	0	0		0		2120		216	25	241		10%	2104	0.114	0.114	22	21	0.625	7

J1

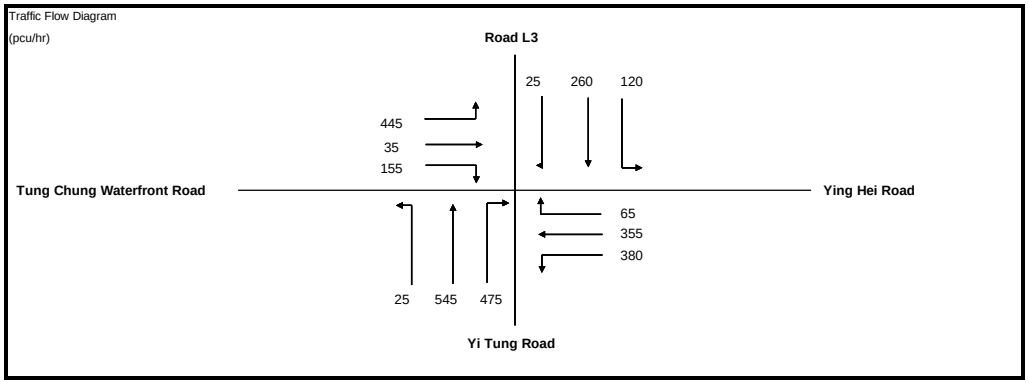
JUNCTION CAPACITY CALCULATION

AECOM

Junction 1 - TC Waterfront Rd/ Ying Hei Road/ Yi Tung Road/ Road L3	2031 PM Case 2 Scenario 2B (Ultimate Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: Mar 21

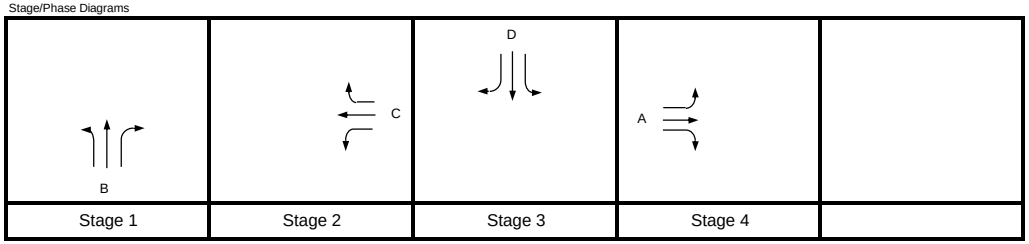
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.527	
Lost time		L =	18	sec
Total Flow		=	22,715	pcu
Optimum Cycle C_o	= (1.5×L+5)/(1-Y)	=	68	sec
Min. Cycle Time C_m	= L/(1-Y)	=	38	sec
Y_{ult}	= 0.9-0.0075×L	=	0.765	
R.C.$_{ult}$	= (Y_{ult}-Y)/Yx100%	=	45.1	%
Practical Cycle Time C_p	= 0.9×L/(0.9-Y)	=	43	sec
Y_{max}	= 1-L/C	=	0.850	

Stage/Phase Diagrams



Critical Case : B,C,D,A

R.C.(C) = ($0.9xY_{max}$-Y)/Yx100% = 45%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	4	3.500	1	15			1		0		1965	213			213	100%		1786	0.119		23	22	0.620	0
	A	4	3.500	1	18					0		2105	232	0		232	100%		1943	0.119	0.119	23	22	0.620	0
	A	4	3.500	1		25	0	0		0		2105		35	155	190		82%	2007	0.095		18	22	0.492	0
	B	1	3.650	1	15			1		0		1980	25	315		340	7%		1966	0.173		33	32	0.620	8
	B	1	3.650	1		30	0			0		2120		230	129	360		36%	2083	0.173		33	32	0.620	9
	B	1	3.650	1		25	0	0		0		2120			346	346		100%	2000	0.173	0.173	33	32	0.620	8
	C	2	3.650	1	20			1		0		1980	246			246	100%		1842	0.134	0.134	26	25	0.620	6
	C	2	3.650	1	25					0		2120	134	142		275	49%		2060	0.134		26	25	0.620	7
	C	2	3.650	1		20	0	0		0		2120		213	65	278		23%	2084	0.134		26	25	0.620	7
	D	3	3.650	1	20			1		0		1980	120	72		192	63%		1891	0.101	0.101	20	19	0.620	5
	D	3	3.650	1		20	0	0		0		2120		188	25	213		12%	2102	0.101		20	19	0.620	6

J2

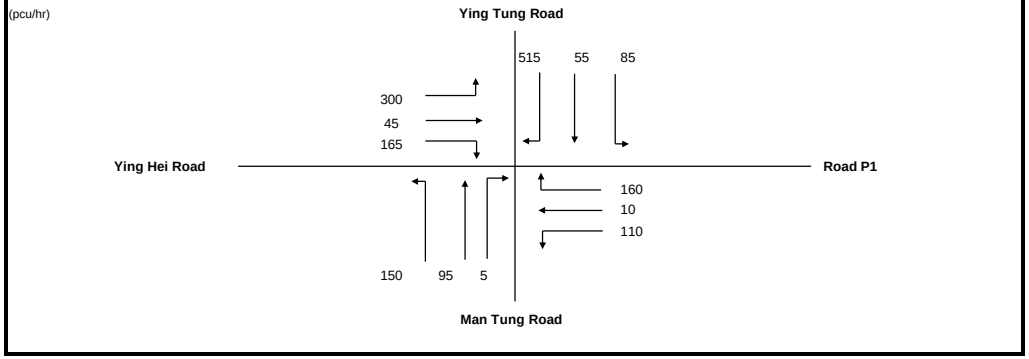
JUNCTION CAPACITY CALCULATION

AECOM

Junction ♪ - Ying Tung Road/ Ying Hei Road/ Man Tung Road/ Road P1	2026 AM Case 2 Scenario 2B (Ultimate Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: Mar 21

Traffic Flow Diagram

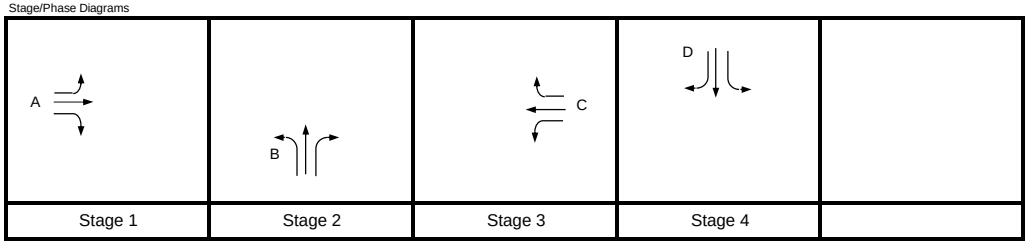
(pcu/hr)



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.387	
Lost time	L =	18	sec
Total Flow	=	20,435	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	52	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	29	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.765	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	97.7	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	32	sec
Y_{max}	$= 1-L/C$	=	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 98%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
↰	A	1	3.650	1	15			1		0		1980	159			159	100%		1800	0.088	0.088	23	22	0.455	0
↰↑	A	1	3.650	1	18					0		2120	141	35		176	80%		1987	0.088		23	22	0.455	0
↑↱	A	1	3.650	1		20	0	0		0		2120		10	165	175		94%	1980	0.088		23	22	0.455	0
↰	B	2	3.000	1	15			1		0		1915	150	0		150	100%		1741	0.086	0.086	23	22	0.455	0
↑↱	B	2	3.000	1		15	0	0		0		2055		95	5	100		5%	2045	0.049		13	22	0.258	0
↰	C	3	3.650	1	15			1		0		1980	110	10		120	92%		1814	0.066		17	20	0.371	3
↑↱	C	3	3.650	1		20	0	0		0		2120		0	160	160		100%	1972	0.081	0.081	21	20	0.455	4
↱	D	4	3.400	1	15			1		0		1955	85	55		140	61%		1843	0.076		20	34	0.264	0
↑↱	D	4	3.400	1		25	0			0		2095		0	259	259		100%	1976	0.131	0.131	35	34	0.455	0
↑	D	4	3.400	1		20	0	0		0		2095			256	256		100%	1949	0.131		35		0.000	0

J2

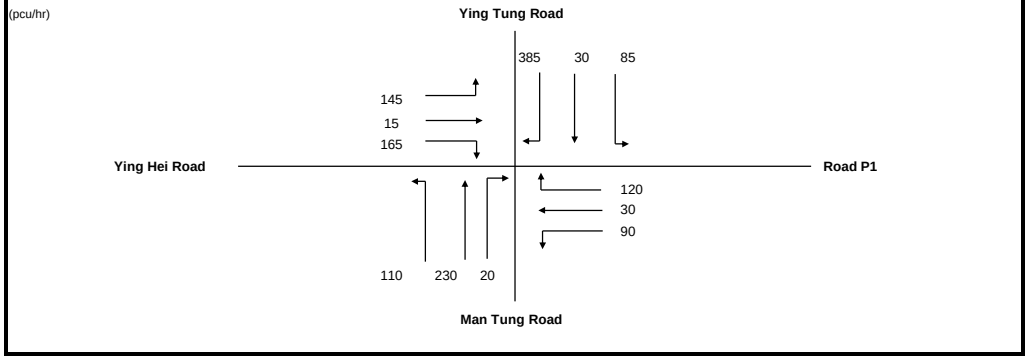
JUNCTION CAPACITY CALCULATION

AECOM

Junction :- Ying Tung Road/ Ying Hei Road/ Man Tung Road/ Road P1	2026 PM Case 2 Scenario 2B (Ultimate Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: Mar 21

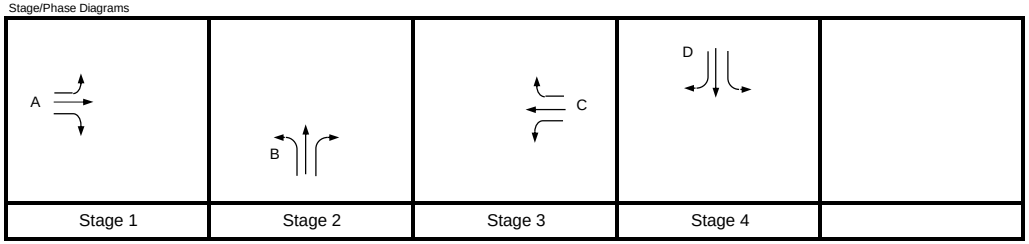
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.339	
Lost time		L =	18	sec
Total Flow		=	20,435	pcu
Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	48	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.765	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	125.9	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	29	sec
Y_{max}	$= 1-L/C$	=	0.850	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 7 I/G = 5

Critical Case : A,B,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 126%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
L	A	1	3.650	1	15			1		0		1980	76			76	100%		1800	0.042		13	24	0.201	0
T	A	1	3.650	1	18					0		2120	69	15		84	82%		1984	0.042		13	24	0.201	0
R	A	1	3.650	1		20	0	0		0		2120		0	165	165		100%	1972	0.084	0.084	25	24	0.398	0
L	B	2	3.000	1	15			1		0		1915	110	59		169	65%		1798	0.094	0.094	28	27	0.398	0
R	B	2	3.000	1		15	0	0		0		2055		171	20	191		10%	2034	0.094		28	27	0.398	0
L	C	3	3.650	1	15			1		0		1980	90	26		116	78%		1837	0.063		19	18	0.398	3
R	C	3	3.650	1		20	0	0		0		2120		4	120	124		96%	1977	0.063	0.063	19	18	0.398	3
L	D	4	3.400	1	15			1		0		1955	85	30		115	74%		1820	0.063		19	29	0.257	0
T	D	4	3.400	1		25	0			0		2095		0	194	194		100%	1976	0.098		30	29	0.398	0
R	D	4	3.400	1		20	0	0		0		2095			191	191		100%	1949	0.098	0.098	30	29	0.398	0

J2

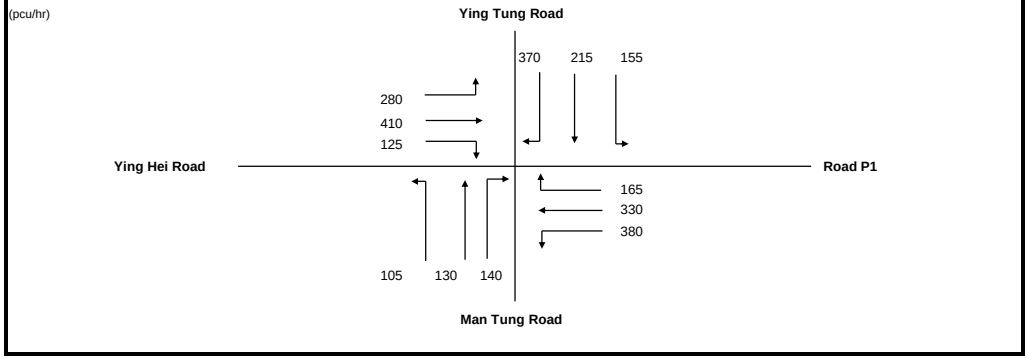
JUNCTION CAPACITY CALCULATION

AECOM

Junction :- Ying Tung Road/ Ying Hei Road/ Man Tung Road/ Road P1	2031 AM Case 2 Scenario 2B (Ultimate Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: Mar 21

Traffic Flow Diagram

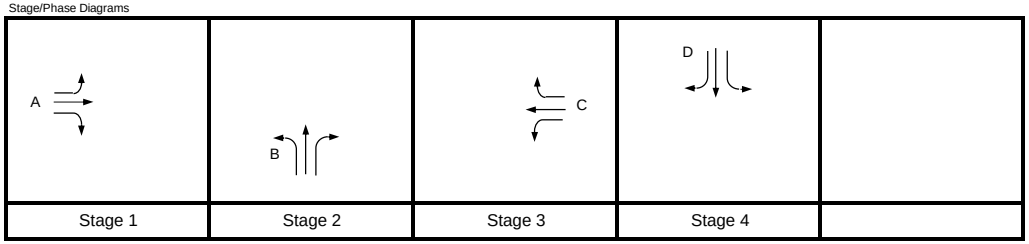
(pcu/hr)



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.590	
Lost time	L =	18	sec
Total Flow	=	20,435	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	78	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	44	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.765	
R.C.$_{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	29.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	52	sec
Y_{max}	$= 1-L/C$	=	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 30%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.650	1	15			1		0		1980	247			247	100%		1800	0.137		24	23	0.695	0
	A	1	3.650	1	18					0		2120	33	254		288	12%		2100	0.137	0.137	24	23	0.695	0
	A	1	3.650	1		20	0	0		0		2120		156	125	281		44%	2052	0.137		24	23	0.695	0
	B	2	3.000	1	15			1		0		1915	105	77		182	58%		1811	0.101	0.101	17	16	0.695	0
	B	2	3.000	1		15	0	0		0		2055		53	140	193		73%	1916	0.101		17	16	0.695	0
	C	3	3.650	1	15			1		0		1980	380	29		409	93%		1812	0.226		39	38	0.695	9
	C	3	3.650	1		20	0	0		0		2120		301	165	466		35%	2065	0.226	0.226	39	38	0.695	10
	D	4	3.400	1	15			1		0		1955	155	78		233	66%		1833	0.127		22	21	0.695	0
	D	4	3.400	1		25	0			0		2095		137	122	259		47%	2037	0.127		22	21	0.695	0
	D	4	3.400	1		20	0	0		0		2095			248	248		100%	1949	0.127	0.127	22	21	0.695	0

J2

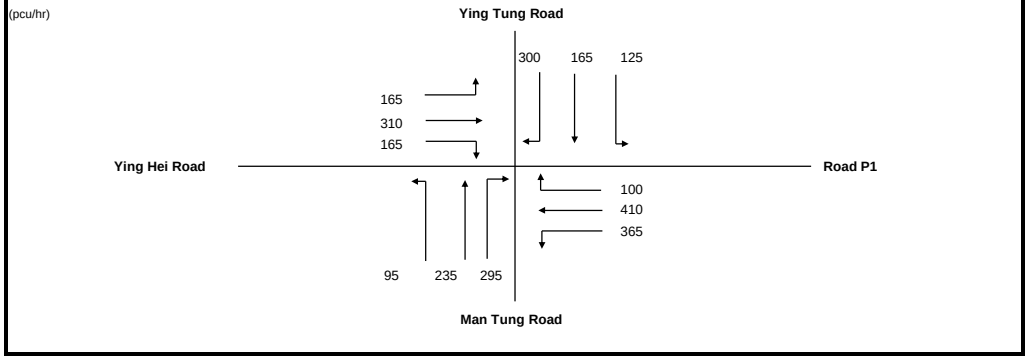
JUNCTION CAPACITY CALCULATION

AECOM

Junction :- Ying Tung Road/ Ying Hei Road/ Man Tung Road/ Road P1	2031 PM Case 2 Scenario 2B (Ultimate Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: Mar 21

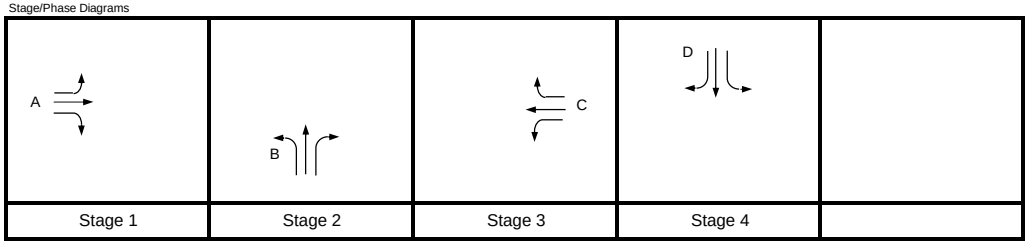
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle		N =	4	
Cycle time		C =	120	sec
Sum(y)		Y =	0.608	
Lost time		L =	18	sec
Total Flow		=	20,435	pcu
Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	82	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	46	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.765	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	25.9	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	55	sec
Y_{max}	$= 1-L/C$	=	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C,D

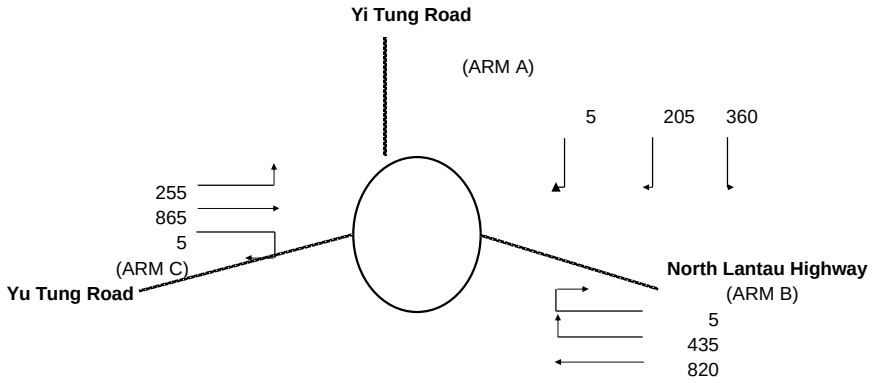
R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 26%

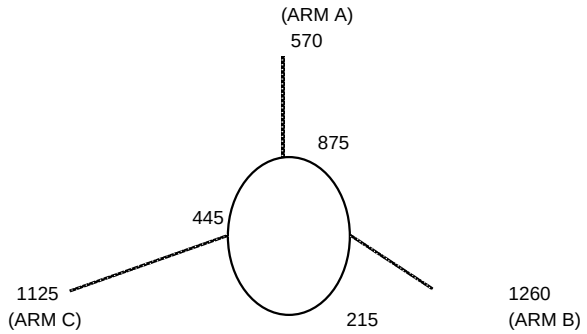
MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m)		OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr)			TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%)		REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
					LEFT	RIGHT							LEFT	STRAIGHT AHEAD	RIGHT		LEFT	RIGHT							
	A	1	3.650	1	15			1		0		1980	165			165	100%		1800	0.092		15	18	0.570	0
	A	1	3.650	1	18					0		2120	0	244		244	0%		2120	0.115	0.115	19	18	0.715	0
	A	1	3.650	1		20	0	0		0		2120		66	165	231		71%	2012	0.115		19	18	0.715	0
	B	2	3.000	1	15			1		0		1915	95	216		311	31%		1858	0.167		28	27	0.715	0
	B	2	3.000	1		15	0	0		0		2055		19	295	314		94%	1879	0.167	0.167	28	27	0.715	0
	C	3	3.650	1	15			1		0		1980	365	42		407	90%		1817	0.224		38	37	0.715	9
	C	3	3.650	1		20	0	0		0		2120		368	100	468		21%	2087	0.224	0.224	38	37	0.715	11
	D	4	3.400	1	15			1		0		1955	125	61		186	67%		1832	0.101		17	16	0.715	0
	D	4	3.400	1		25	0			0		2095		104	102	206		50%	2035	0.101	0.101	17	16	0.715	0
	D	4	3.400	1		20	0	0		0		2095			198	198		100%	1949	0.101		17		0.000	0

J3

ROUNDABOUT CAPACITY CALCULATION

Junction	Tung Chung East Interchange	Scenario	2026AM Case 2 Scenario 2B	Project No.	Prepared By	Checked By	Date
				60507694	RS	ML	30/Sep/21





ARM	A	B	C
INPUT PARAMETERS:			
V = Approach half width (m)	8.00	7.10	8.00
E = Entry width (m)	12.00	12.00	12.00
L = Effective length of flare (m)	10.00	12.00	12.00
R = Entry radius (m)	55.00	60.00	40.00
D = Inscribed circle diameter (m)	107.00	107.00	107.00
A = Entry angle (degree)	40.00	45.00	45.00
Q = Entry flow (pcu/h)	570	1260	1125
Qc= Circulating flow across entry (pcu/h)	875	215	445
OUTPUT PARAMETERS:			
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.65	0.53
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.00	0.98	0.97
X2= V + ((E-V)/(1+2S))	9.75	9.22	9.94
M = EXP((D-60)/10)	109.95	109.95	109.95
F = 303*X2	2956	2795	3010
Td= 1+(0.5/(1+M))	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.62	0.60	0.63
Qe= K(F-Fc*Qc)	2402	2614	2655
DFC = Design flow/Capacity = Q/Qe	0.24	0.48	0.42

TOTAL ENTRY FLOWS = 2955 PCU

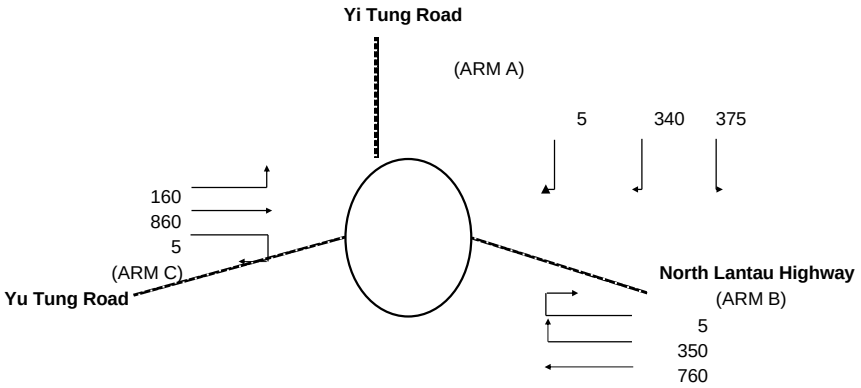
CRITICAL DFC = 0.48

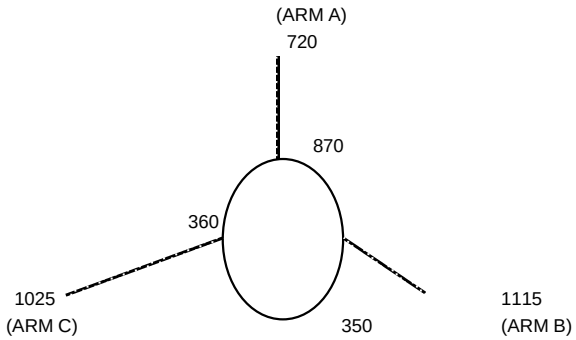
Filename:

J3

ROUNDABOUT CAPACITY CALCULATION

Junction	Tung Chung East Interchange	Scenario	2026PM Case 2 Scenario 2B	Project No.	Prepared By	Checked By	Date
				60507694	RS	ML	30/Sep/21





ARM	A	B	C
INPUT PARAMETERS:			
V = Approach half width (m)	8.00	7.10	8.00
E = Entry width (m)	12.00	12.00	12.00
L = Effective length of flare (m)	10.00	12.00	12.00
R = Entry radius (m)	55.00	60.00	40.00
D = Inscribed circle diameter (m)	107.00	107.00	107.00
A = Entry angle (degree)	40.00	45.00	45.00
Q = Entry flow (pcu/h)	720	1115	1025
Qc= Circulating flow across entry (pcu/h)	870	350	360
OUTPUT PARAMETERS:			
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.65	0.53
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.00	0.98	0.97
X2= V + ((E-V)/(1+2S))	9.75	9.22	9.94
M = EXP((D-60)/10)	109.95	109.95	109.95
F = 303*X2	2956	2795	3010
Td= 1+(0.5/(1+M))	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.62	0.60	0.63
Qe= K(F-Fc*Qc)	2405	2535	2707
DFC = Design flow/Capacity = Q/Qe	0.30	0.44	0.38

TOTAL ENTRY FLOWS = 2860 PCU

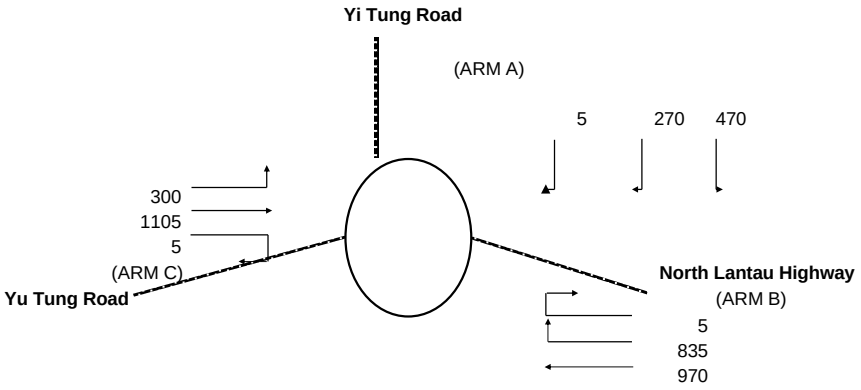
CRITICAL DFC = 0.44

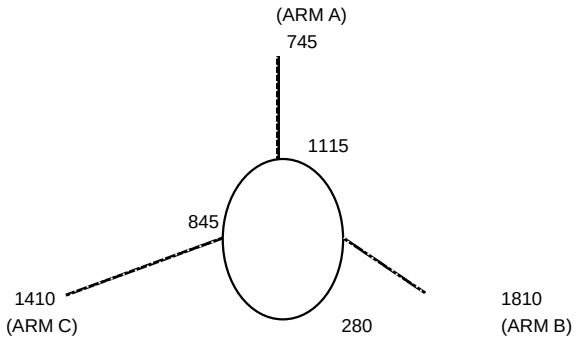
Filename:

J3

ROUNDABOUT CAPACITY CALCULATION

Junction	Tung Chung East Interchange	Scenario	2031AM Case 2 Scenario 2B	Project No.	Prepared By	Checked By	Date
				60507694	RS	ML	30/Sep/21





ARM	A	B	C
INPUT PARAMETERS:			
V = Approach half width (m)	8.00	7.10	8.00
E = Entry width (m)	12.00	12.00	12.00
L = Effective length of flare (m)	10.00	12.00	12.00
R = Entry radius (m)	55.00	60.00	40.00
D = Inscribed circle diameter (m)	107.00	107.00	107.00
A = Entry angle (degree)	40.00	45.00	45.00
Q = Entry flow (pcu/h)	745	1810	1410
Qc= Circulating flow across entry (pcu/h)	1115	280	845
OUTPUT PARAMETERS:			
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.65	0.53
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.00	0.98	0.97
X2= V + ((E-V)/(1+2S))	9.75	9.22	9.94
M = EXP((D-60)/10)	109.95	109.95	109.95
F = 303*X2	2956	2795	3010
Td= 1+(0.5/(1+M))	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.62	0.60	0.63
Qe= K(F-Fc*Qc)	2253	2576	2410
DFC = Design flow/Capacity = Q/Qe	0.33	0.70	0.59

TOTAL ENTRY FLOWS = 3965 PCU

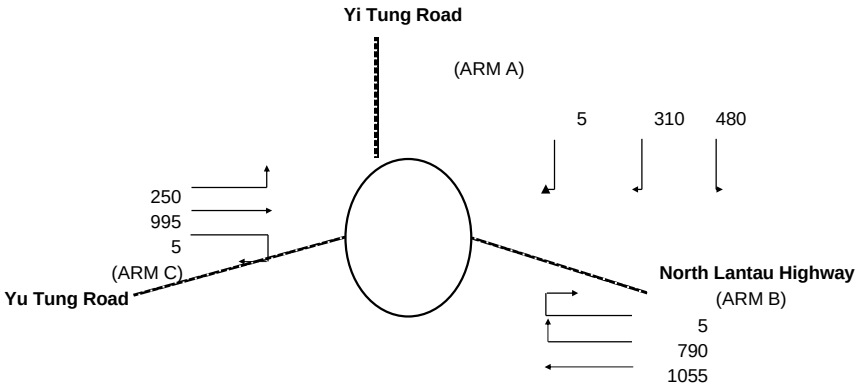
CRITICAL DFC = 0.70

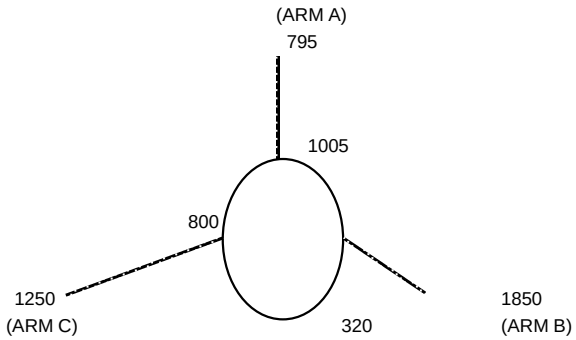
Filename:

J3

ROUNDABOUT CAPACITY CALCULATION

Junction	Tung Chung East Interchange	Scenario	2031PM Case 2 Scenario 2B	Project No.	Prepared By	Checked By	Date
				60507694	RS	ML	30/Sep/21





ARM	A	B	C
INPUT PARAMETERS:			
V = Approach half width (m)	8.00	7.10	8.00
E = Entry width (m)	12.00	12.00	12.00
L = Effective length of flare (m)	10.00	12.00	12.00
R = Entry radius (m)	55.00	60.00	40.00
D = Inscribed circle diameter (m)	107.00	107.00	107.00
A = Entry angle (degree)	40.00	45.00	45.00
Q = Entry flow (pcu/h)	795	1850	1250
Qc= Circulating flow across entry (pcu/h)	1005	320	800
OUTPUT PARAMETERS:			
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.65	0.53
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.00	0.98	0.97
X2= V + ((E-V)/(1+2S))	9.75	9.22	9.94
M = EXP((D-60)/10)	109.95	109.95	109.95
F = 303*X2	2956	2795	3010
Td= 1+(0.5/(1+M))	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.62	0.60	0.63
Qe= K(F-Fc*Qc)	2322	2552	2437
DFC = Design flow/Capacity = Q/Qe	0.34	0.72	0.51

TOTAL ENTRY FLOWS = 3895 PCU

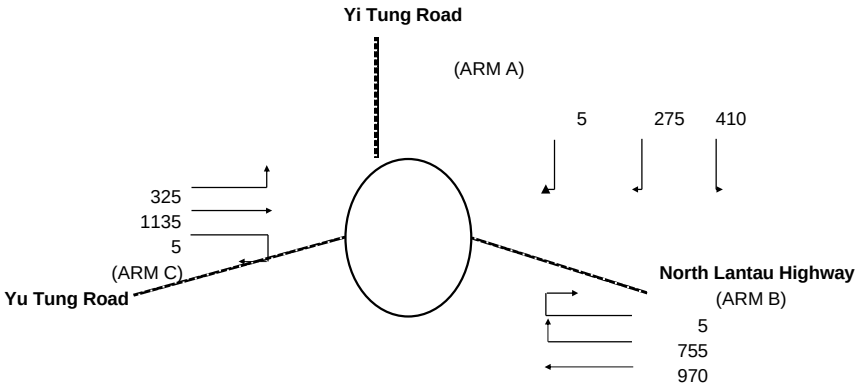
CRITICAL DFC = 0.72

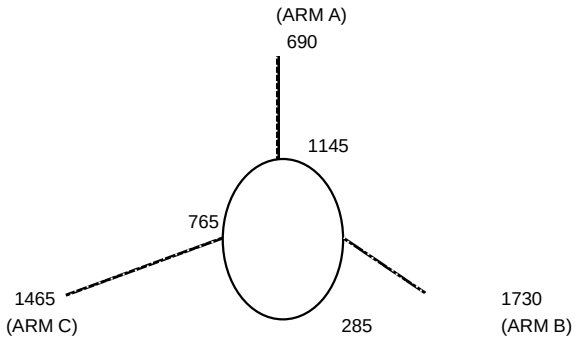
Filename:

J3

ROUNDABOUT CAPACITY CALCULATION

Junction	Tung Chung East Interchange	Scenario	2036AM Case 2 Scenario 2B	Project No.	Prepared By	Checked By	Date
				60507694	RS	ML	30/Sep/21





ARM	A	B	C
INPUT PARAMETERS:			
V = Approach half width (m)	8.00	7.10	8.00
E = Entry width (m)	12.00	12.00	12.00
L = Effective length of flare (m)	10.00	12.00	12.00
R = Entry radius (m)	55.00	60.00	40.00
D = Inscribed circle diameter (m)	107.00	107.00	107.00
A = Entry angle (degree)	40.00	45.00	45.00
Q = Entry flow (pcu/h)	690	1730	1465
Qc= Circulating flow across entry (pcu/h)	1145	285	765
OUTPUT PARAMETERS:			
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.65	0.53
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.00	0.98	0.97
X2= V + ((E-V)/(1+2S))	9.75	9.22	9.94
M = EXP((D-60)/10)	109.95	109.95	109.95
F = 303*X2	2956	2795	3010
Td= 1+(0.5/(1+M))	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.62	0.60	0.63
Qe= K(F-Fc*Qc)	2235	2573	2459
DFC = Design flow/Capacity = Q/Qe	0.31	0.67	0.60

TOTAL ENTRY FLOWS = 3885 PCU

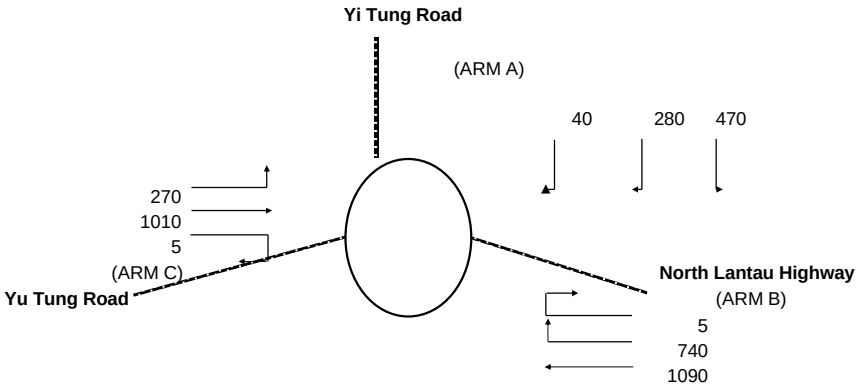
CRITICAL DFC = 0.67

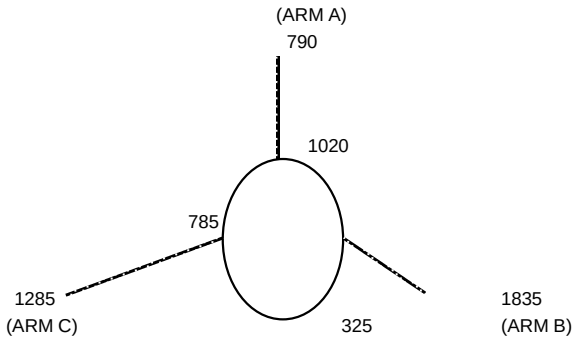
Filename:

J3

ROUNDABOUT CAPACITY CALCULATION

Junction	Tung Chung East Interchange	Scenario	2036PM Case 2 Scenario 2B	Project No.	Prepared By	Checked By	Date
				60507694	RS	ML	30/Sep/21





ARM	A	B	C
INPUT PARAMETERS:			
V = Approach half width (m)	8.00	7.10	8.00
E = Entry width (m)	12.00	12.00	12.00
L = Effective length of flare (m)	10.00	12.00	12.00
R = Entry radius (m)	55.00	60.00	40.00
D = Inscribed circle diameter (m)	107.00	107.00	107.00
A = Entry angle (degree)	40.00	45.00	45.00
Q = Entry flow (pcu/h)	790	1835	1285
Qc= Circulating flow across entry (pcu/h)	1020	325	785
OUTPUT PARAMETERS:			
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.65	0.53
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.00	0.98	0.97
X2= V + ((E-V)/(1+2S))	9.75	9.22	9.94
M = EXP((D-60)/10)	109.95	109.95	109.95
F = 303*X2	2956	2795	3010
Td= 1+(0.5/(1+M))	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.62	0.60	0.63
Qe= K(F-Fc*Qc)	2312	2549	2446
DFC = Design flow/Capacity = Q/Qe	0.34	0.72	0.53

TOTAL ENTRY FLOWS = 3910 PCU

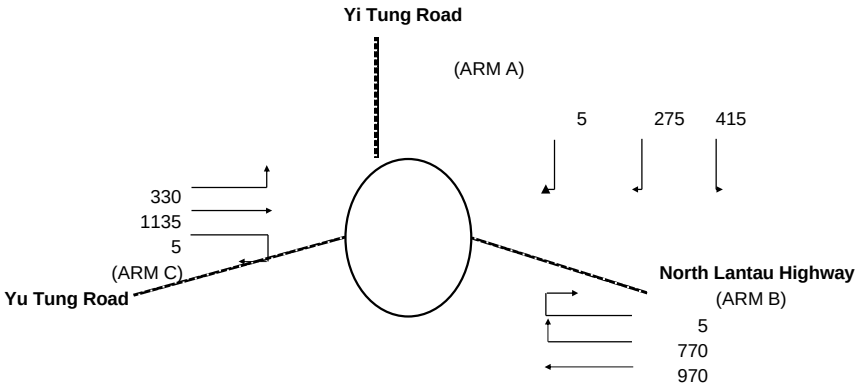
CRITICAL DFC = 0.72

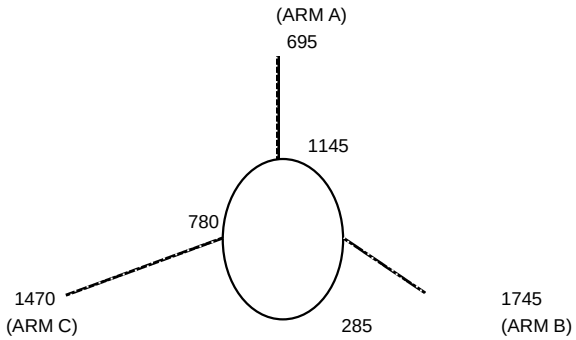
Filename:

J3

ROUNDABOUT CAPACITY CALCULATION

Junction	Tung Chung East Interchange	Scenario	2036AM Case 2 Scenario 2B - Sensitivity	Project No.	Prepared By	Checked By	Date
				60507694	RS	ML	30/Sep/21





ARM	A	B	C
INPUT PARAMETERS:			
V = Approach half width (m)	8.00	7.10	8.00
E = Entry width (m)	12.00	12.00	12.00
L = Effective length of flare (m)	10.00	12.00	12.00
R = Entry radius (m)	55.00	60.00	40.00
D = Inscribed circle diameter (m)	107.00	107.00	107.00
A = Entry angle (degree)	40.00	45.00	45.00
Q = Entry flow (pcu/h)	695	1745	1470
Qc= Circulating flow across entry (pcu/h)	1145	285	780
OUTPUT PARAMETERS:			
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.65	0.53
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.00	0.98	0.97
X2= V + ((E-V)/(1+2S))	9.75	9.22	9.94
M = EXP((D-60)/10)	109.95	109.95	109.95
F = 303*X2	2956	2795	3010
Td= 1+(0.5/(1+M))	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.62	0.60	0.63
Qe= K(F-Fc*Qc)	2235	2573	2449
DFC = Design flow/Capacity = Q/Qe	0.31	0.68	0.60

TOTAL ENTRY FLOWS = 3910 PCU

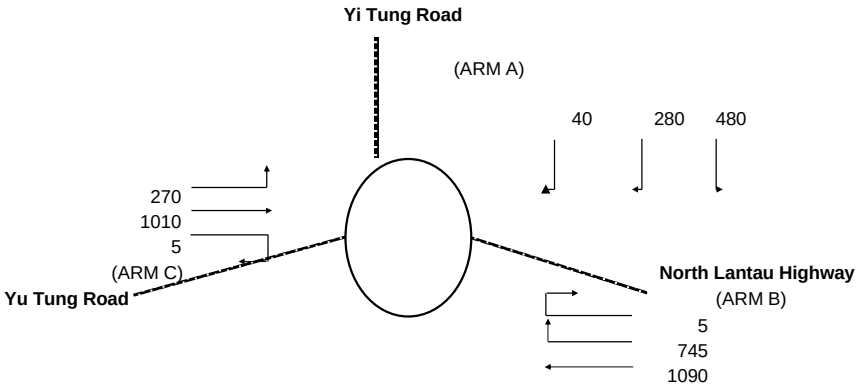
CRITICAL DFC = 0.68

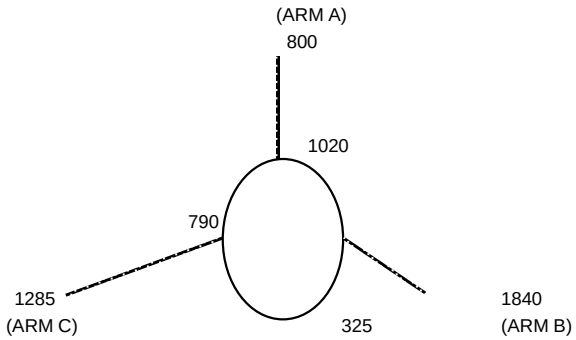
Filename:

J3

ROUNDABOUT CAPACITY CALCULATION

Junction	Tung Chung East Interchange	Scenario	2036PM Case 2 Scenario 2B - Sensitivity	Project No.	Prepared By	Checked By	Date
				60507694	RS	ML	30/Sep/21





ARM	A	B	C
INPUT PARAMETERS:			
V = Approach half width (m)	8.00	7.10	8.00
E = Entry width (m)	12.00	12.00	12.00
L = Effective length of flare (m)	10.00	12.00	12.00
R = Entry radius (m)	55.00	60.00	40.00
D = Inscribed circle diameter (m)	107.00	107.00	107.00
A = Entry angle (degree)	40.00	45.00	45.00
Q = Entry flow (pcu/h)	800	1840	1285
Qc= Circulating flow across entry (pcu/h)	1020	325	790
OUTPUT PARAMETERS:			
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.65	0.53
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.00	0.98	0.97
X2= V + ((E-V)/(1+2S))	9.75	9.22	9.94
M = EXP((D-60)/10)	109.95	109.95	109.95
F = 303*X2	2956	2795	3010
Td= 1+(0.5/(1+M))	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.62	0.60	0.63
Qe= K(F-Fc*Qc)	2312	2549	2443
DFC = Design flow/Capacity = Q/Qe	0.35	0.72	0.53

TOTAL ENTRY FLOWS = 3925 PCU

CRITICAL DFC = 0.72

Filename:

J4

Appendix D

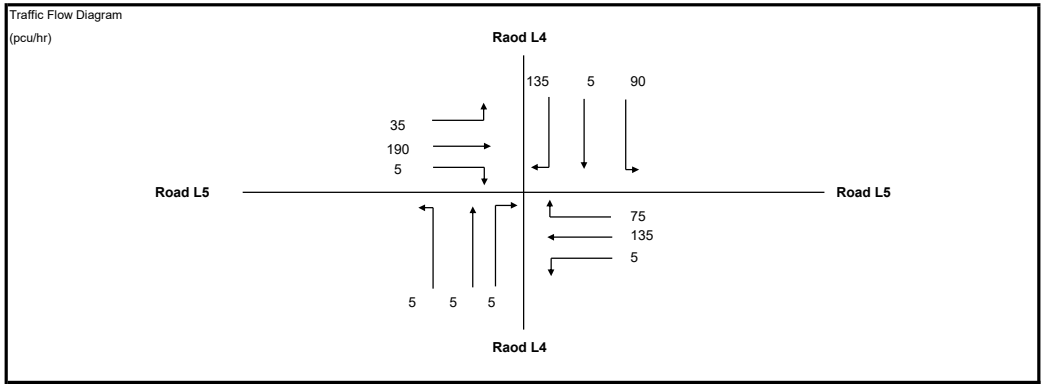
JUNCTION CAPACITY CALCULATION

AECOM

Junction ㄷ - Road L4 / Road L5	2026 AM Case 2 Scenario 2B	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: ######

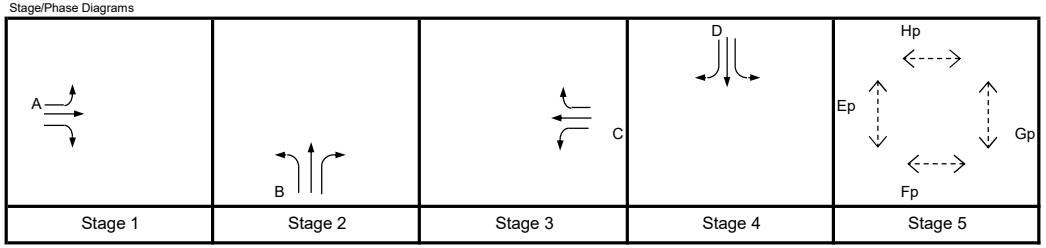
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle		N =	5	
Cycle time		C =	90	sec
Sum(y)		Y =	0.344	
Lost time		L =	42	sec
Total Flow		=	8,060	pcu
Optimum Cycle C_o	= (1.5×L+5)/(1-Y) =		104	sec
Min. Cycle Time C_m	= L/(1-Y)	=	64	sec
Y_{ult}	= 0.9-0.0075×L	=	0.585	
R.C.$_{ult}$	= (Y_{ult}-Y)/Yx100%	=	69.9	%
Practical Cycle Time C_p	= 0.9×L/(0.9-Y)	=	68	sec
Y_{max}	= 1-L/C	=	0.533	

Stage/Phase Diagrams



I/G = 5 G = 5 I/G = 5 I/G = 5 I/G = 11 G = 6 I/G = 8

Critical Case : A,B,C,D,Ep

R.C.(C) = (0.9xY_{max}-Y)/Yx100% = 39%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
⇩	A	1	4.000	1	30	25	0	1		0		2015	35	190	5	230	15%	2%	1997	0.115	0.115	16	15	0.646	5
⇧	B	2	4.000	1	30	25	0	1		0		2015	5	5	5	15	33%	33%	1944	0.008		1		0.000	0
⇦	C	3	4.000	1	30	25	0	1		0		2015	5	135	75	215	2%	35%	1971	0.109	0.109	15	14	0.646	5
⇨	D	4	4.000	1	30	25	0	1		0		2015	135	5	90	230	59%	39%	1914	0.120	0.120	17	16	0.646	5

Pedestrian Crossing			GM		FGM			
Ep	5	min.	6	+	5	=	11	sec
Fp	5	min.	7	+	6	=	13	sec
Gp	5	min.	6	+	5	=	11	sec
Hp	5	min.	7	+	6	=	13	sec

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J4

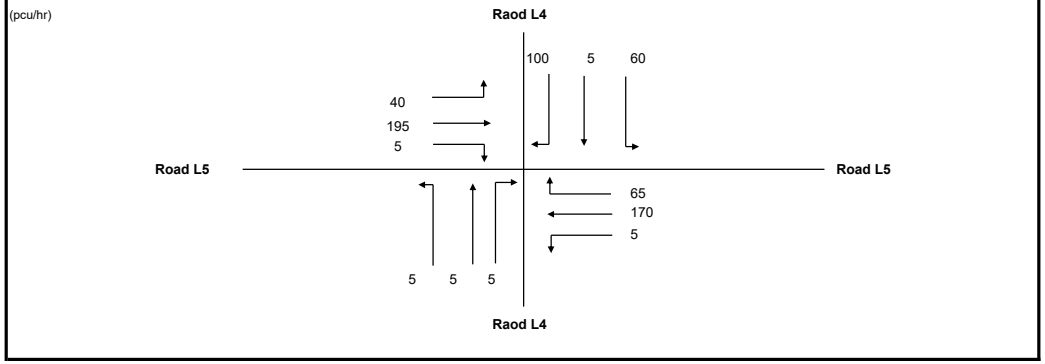
JUNCTION CAPACITY CALCULATION

AECOM

Junction ⓒ - Road L4 / Road L5	2026 PM Case 2 Scenario 2B	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: ######

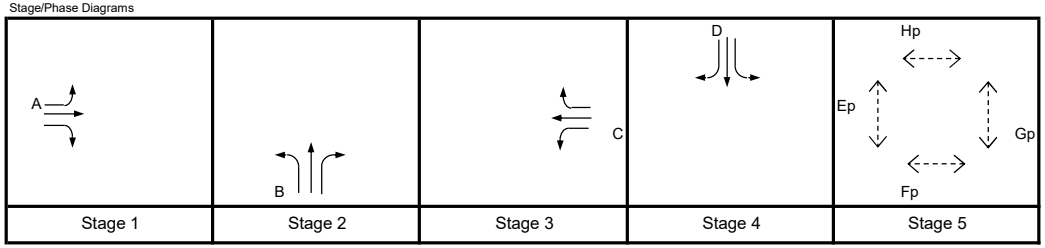
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle	N =	5	
Cycle time	C =	90	sec
Sum(y)	Y =	0.328	
Lost time	L =	42	sec
Total Flow	=	8,060	pcu
Optimum Cycle C_o = (1.5×L+5)/(1-Y)	=	101	sec
Min. Cycle Time C_m = L/(1-Y)	=	62	sec
Y_{ult} = 0.9-0.0075×L	=	0.585	
$R.C._{ult}$ = $(Y_{ult}-Y)/Yx100\%$	=	78.6	%
Practical Cycle Time C_p = 0.9×L/(0.9-Y)	=	66	sec
Y_{max} = 1-L/C	=	0.533	

Stage/Phase Diagrams



I/G = 5 G = 5 I/G = 5 I/G = 5 I/G = 11 G = 6 I/G = 8

Critical Case : A,B,C,D,Ep

R.C.(C) = $(0.9xY_{max}-Y)/Yx100\%$ = 47%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	4.000	1	30	25	0	1		0		2015	40	195	5	240	17%	2%	1996	0.120	0.120	18	17	0.614	5
	B	2	4.000	1	30	25	0	1		0		2015	5	5	5	15	33%	33%	1944	0.008		1		0.000	0
	C	3	4.000	1	30	25	0	1		0		2015	5	170	65	240	2%	27%	1981	0.121	0.121	18	17	0.614	5
	D	4	4.000	1	30	25	0	1		0		2015	100	5	60	165	61%	36%	1915	0.086	0.086	13	12	0.614	4

Pedestrian Crossing			GM		FGM				
Ep	5	min.	6	+	5	=	11	sec	*
Fp	5	min.	7	+	6	=	13	sec	
Gp	5	min.	6	+	5	=	11	sec	
Hp	5	min.	7	+	6	=	13	sec	

J4

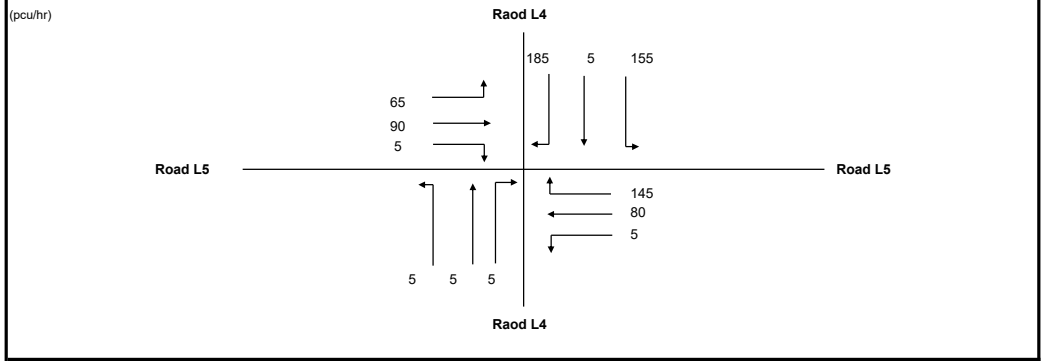
JUNCTION CAPACITY CALCULATION

AECOM

Junction ⑮ - Road L4 / Road L5	2031 AM Case 2 Scenario 2B	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: ######

Traffic Flow Diagram

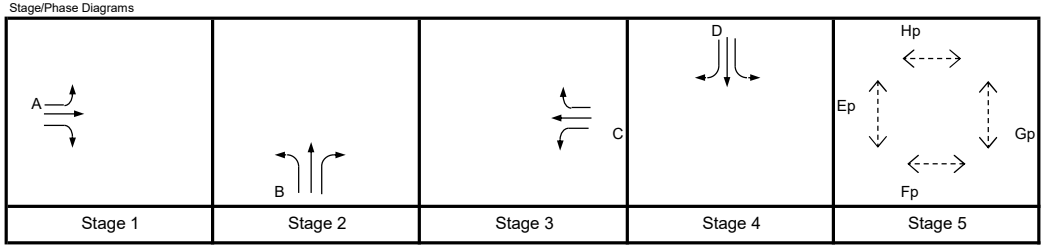
(pcu/hr)



No. of stages per cycle	N =	5	
Cycle time	C =	90	sec
Sum(y)	Y =	0.380	
Lost time	L =	42	sec
Total Flow	=	8,060	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		110	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	68	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.585	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	53.9	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	73	sec
Y_{max}	$= 1-L/C$	=	0.533	

Stage/Phase Diagrams



I/G = 5 G = 5 I/G = 5 I/G = 5 I/G = 11 G = 6 I/G = 8

Critical Case : A,B,C,D,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 26%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
⇩	A	1	4.000	1	30	25	0	1		0		2015	65	90	5	160	41%	3%	1971	0.081	0.081	10	9	0.713	4
⇧	B	2	4.000	1	30	25	0	1		0		2015	5	5	5	15	33%	33%	1944	0.008		1		0.000	0
⇦	C	3	4.000	1	30	25	0	1		0		2015	5	80	145	230	2%	63%	1940	0.119	0.119	15	14	0.713	5
⇩	D	4	4.000	1	30	25	0	1		0		2015	185	5	155	345	54%	45%	1912	0.180	0.180	23	22	0.713	7

Pedestrian Crossing			GM		FGM			
Ep	5	min.	6	+	5	=	11	sec
Fp	5	min.	7	+	6	=	13	sec
Gp	5	min.	6	+	5	=	11	sec
Hp	5	min.	7	+	6	=	13	sec

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J4

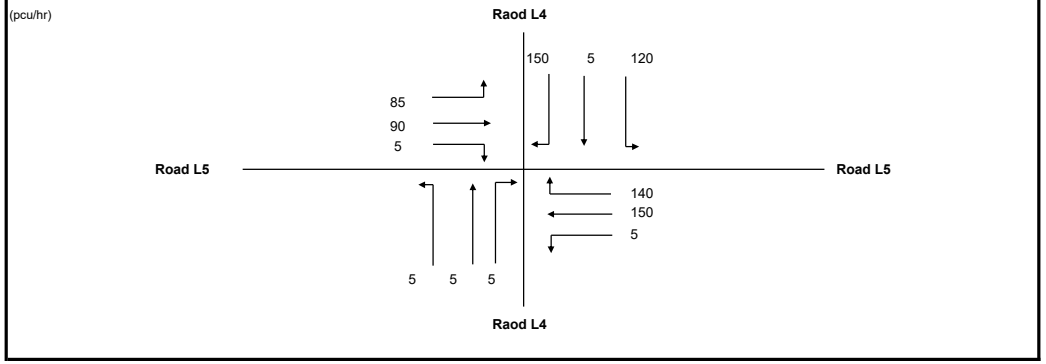
JUNCTION CAPACITY CALCULATION

AECOM

Junction ⑮ - Road L4 / Road L5	2031 PM Case 2 Scenario 2B	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: ######

Traffic Flow Diagram

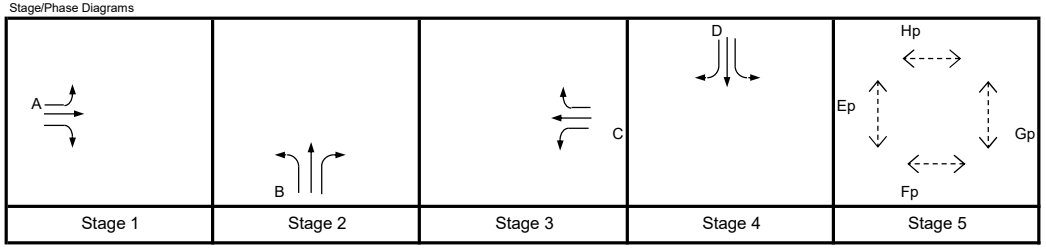
(pcu/hr)



No. of stages per cycle	N =	5	
Cycle time	C =	90	sec
Sum(y)	Y =	0.386	
Lost time	L =	42	sec
Total Flow	=	8,060	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	111	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	68	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.585	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	51.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	74	sec
Y_{max}	$= 1-L/C$	=	0.533	

Stage/Phase Diagrams



I/G = 5 G = 5 I/G = 5 I/G = 5 I/G = 11 G = 6 I/G = 8

Critical Case : A,B,C,D,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 24%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	4.000	1	30	25	0	1		0		2015	85	90	5	180	47%	3%	1965	0.092	0.092	11	10	0.724	5
	B	2	4.000	1	30	25	0	1		0		2015	5	5	5	15	33%	33%	1944	0.008		1		0.000	0
	C	3	4.000	1	30	25	0	1		0		2015	5	150	140	295	2%	47%	1958	0.151	0.151	19	18	0.724	6
	D	4	4.000	1	30	25	0	1		0		2015	150	5	120	275	55%	44%	1913	0.144	0.144	18	17	0.724	6

Pedestrian Crossing			GM		FGM				
Ep	5	min.	6	+	5	=	11	sec	*
Fp	5	min.	7	+	6	=	13	sec	
Gp	5	min.	6	+	5	=	11	sec	
Hp	5	min.	7	+	6	=	13	sec	

J5

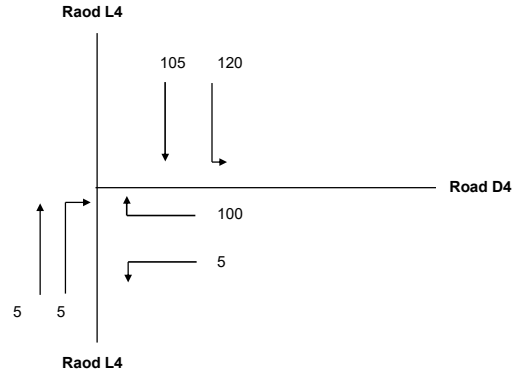
JUNCTION CAPACITY CALCULATION

AECOM

Junction ⊕ - Road D4 / Road L4	2026 AM Case 2 Scenario 2B (Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: ######

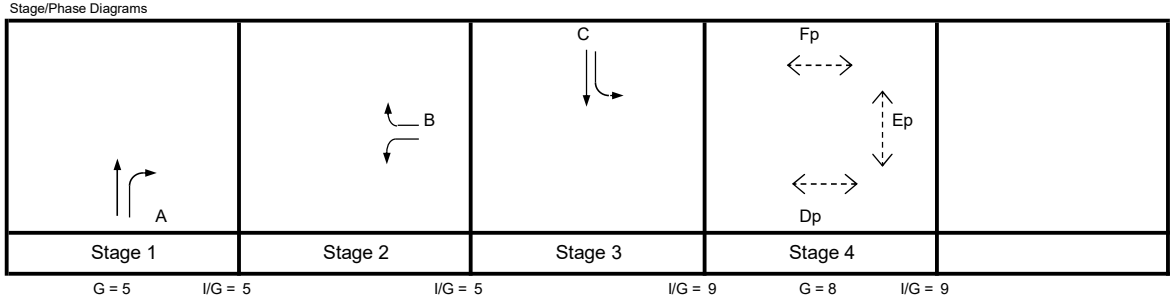
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle	N =	4	
Cycle time	C =	90	sec
Sum(y)	Y =	0.109	
Lost time	L =	39	sec
Total Flow	=	10,165	pcu
Optimum Cycle C_o = (1.5×L+5)/(1-Y)	=	71	sec
Min. Cycle Time C_m = L/(1-Y)	=	44	sec
Y_{ult} = 0.9-0.0075×L	=	0.608	
$R.C._{ult}$ = (Y_{ult}-Y)/Yx100%	=	459.2	%
Practical Cycle Time C_p = 0.9×L/(0.9-Y)	=	44	sec
Y_{max} = 1-L/C	=	0.567	

Stage/Phase Diagrams



Critical Case : A,B,C,Dp

R.C.(C) = (0.9xY_{max}-Y)/Yx100% = 369%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	4.200	1		25	0	1		0		2035		5	5	10		50%	1976	0.005		2		0.000	0
	B	2	3.300	1		25	0	0		0		2085			100	100		100%	1967	0.051	0.051	24	23	0.192	2
	B	2	3.300	1	15			1		0		1945	5			5	100%		1768	0.003		1	23	0.011	0
	C	3	3.650	1	15			1		0		1980	104			104	100%		1800	0.058	0.058	27	26	0.192	0
	C	3	3.650	1	15			0		0		2120	16	105		121	13%		2092	0.058		27	26	0.192	0
Pedestrian Crossing				GM		FGM																			
	Dp	4	min.	8	+	6	=	14	sec												*				
	Ep	4	min.	8	+	6	=	14	sec																
	Fp	4	min.	9	+	7	=	16	sec																

J5

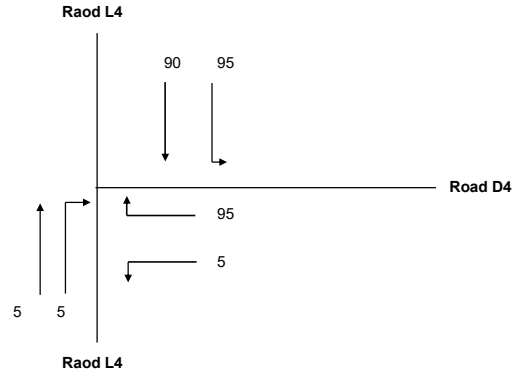
JUNCTION CAPACITY CALCULATION

AECOM

Junction ⊕ - Road D4 / Road L4	2026 PM Case 2 Scenario 2B (Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: ######

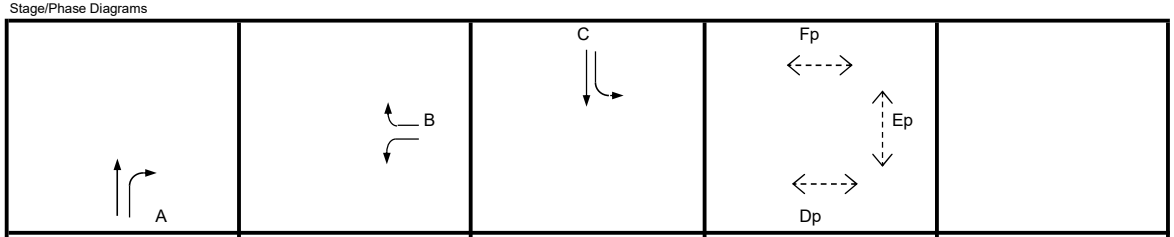
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle		N =	4	
Cycle time		C =	90	sec
Sum(y)		Y =	0.096	
Lost time		L =	39	sec
Total Flow		=	10,165	pcu
Optimum Cycle C_o	= (1.5×L+5)/(1-Y) =		70	sec
Min. Cycle Time C_m	= L/(1-Y)	=	43	sec
Y_{ult}	= 0.9-0.0075×L	=	0.608	
R.C_{ult}	= (Y_{ult}-Y)/Yx100%	=	534.6	%
Practical Cycle Time C_p	= 0.9×L/(0.9-Y)	=	44	sec
Y_{max}	= 1-L/C	=	0.567	

Stage/Phase Diagrams



G = 5 I/G = 5 I/G = 5 I/G = 9 G = 8 I/G = 9

Critical Case : A,B,C,Dp

R.C.(C) = (0.9xY_{max}-Y)/Yx100% = 433%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	4.200	1		25	0	1		0		2035		5	5	10		50%	1976	0.005		3		0.000	0
	B	2	3.300	1		25	0	0		0		2085			95	95		100%	1967	0.048	0.048	26	25	0.169	2
	B	2	3.300	1	15			1		0		1945	5			5	100%		1768	0.003		2	25	0.010	0
	C	3	3.650	1	15			1		0		1980	85			85	100%		1800	0.047	0.047	25	24	0.169	0
	C	3	3.650	1	15			0		0		2120	10	90		100	10%		2100	0.047		25	24	0.169	0
Pedestrian Crossing				GM		FGM																			
	Dp	4	min.	8	+	6	=	14	sec												*				
	Ep	4	min.	8	+	6	=	14	sec																
	Fp	4	min.	9	+	7	=	16	sec																

J5

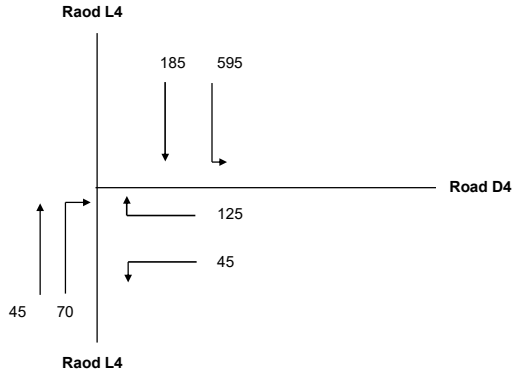
JUNCTION CAPACITY CALCULATION

AECOM

Junction ⊕ - Road D4 / Road L4	2031 AM Case 2 Scenario 2B (Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: ######

Traffic Flow Diagram

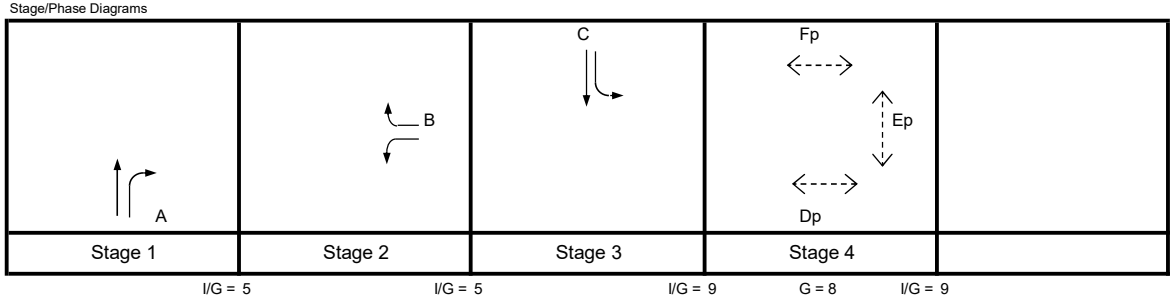
(pcu/hr)



No. of stages per cycle	N =	4	
Cycle time	C =	90	sec
Sum(y)	Y =	0.327	
Lost time	L =	33	sec
Total Flow	=	10,165	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	81	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	49	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.653	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	99.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	52	sec
Y_{max}	$= 1-L/C$	=	0.633	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 9 G = 8 I/G = 9

Critical Case : A,B,C,Dp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 74%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	4.200	1		25	0	1		0		2035		45	70	115		61%	1963	0.059	0.059	10	9	0.516	3
	B	2	3.300	1		25	0	0		0		2085			125	125		100%	1967	0.064	0.064	11	10	0.516	3
	B	2	3.300	1	15			1		0		1945	45			45	100%		1768	0.025		4	10	0.207	1
	C	3	3.650	1	15			1		0		1980	369			369	100%		1800	0.205	0.205	36	35	0.516	0
	C	3	3.650	1	15			0		0		2120	226	185		411	55%		2009	0.205		36	35	0.516	0
Pedestrian Crossing				GM		FGM																			
	Dp	4	min.	8	+	6	=	14	sec												*				
	Ep	4	min.	8	+	6	=	14	sec																
	Fp	4	min.	9	+	7	=	16	sec																

J5

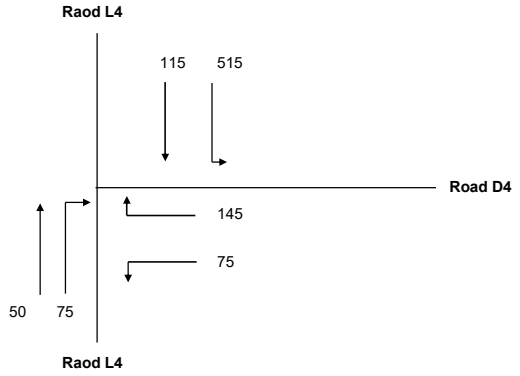
JUNCTION CAPACITY CALCULATION

AECOM

Junction ⊕ - Road D4 / Road L4	2031 PM Case 2 Scenario 2B (Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: ######

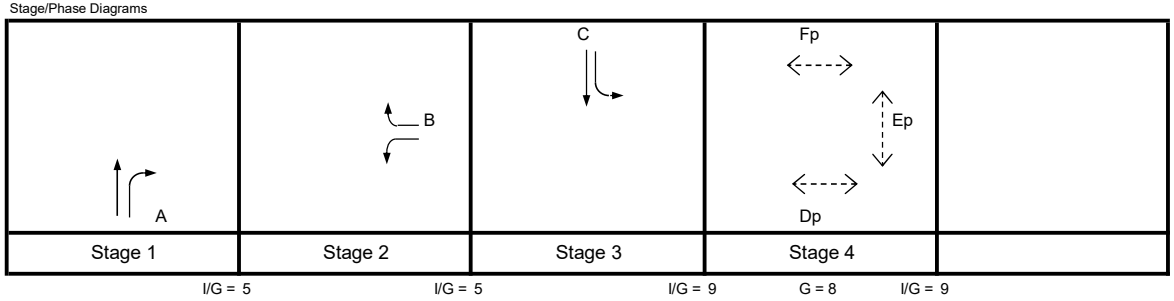
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle	N =	4	
Cycle time	C =	90	sec
Sum(y)	Y =	0.304	
Lost time	L =	33	sec
Total Flow	=	10,165	pcu
Optimum Cycle C_o = (1.5×L+5)/(1-Y)	=	78	sec
Min. Cycle Time C_m = L/(1-Y)	=	47	sec
Y_{ult} = 0.9-0.0075×L	=	0.653	
$R.C._{ult}$ = (Y_{ult}-Y)/Yx100%	=	114.9	%
Practical Cycle Time C_p = 0.9×L/(0.9-Y)	=	50	sec
Y_{max} = 1-L/C	=	0.633	

Stage/Phase Diagrams



Critical Case : A,B,C,Dp

R.C.(C) = (0.9xY_{max}-Y)/Yx100% = 88%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	4.200	1		25	0	1		0		2035		50	75	125		60%	1964	0.064	0.064	12	11	0.479	3
	B	2	3.300	1		25	0	0		0		2085			145	145		100%	1967	0.074	0.074	14	13	0.479	3
	B	2	3.300	1	15			1		0		1945	75			75	100%		1768	0.042		8	13	0.276	2
	C	3	3.650	1	15			1		0		1980	299			299	100%		1800	0.166	0.166	31	30	0.479	0
	C	3	3.650	1	15			0		0		2120	216	115		331	65%		1990	0.166		31	30	0.479	0
Pedestrian Crossing				GM		FGM																			
	Dp	4	min.	8	+	6	=	14	sec												*				
	Ep	4	min.	8	+	6	=	14	sec																
	Fp	4	min.	9	+	7	=	16	sec																

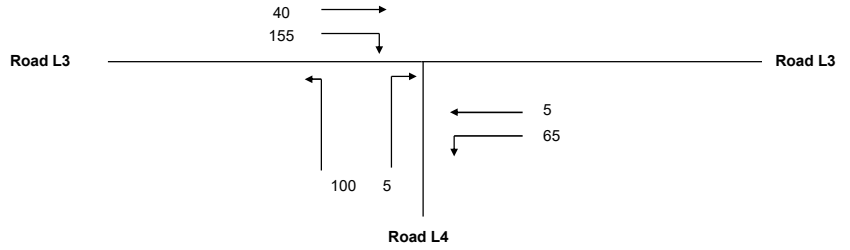
J6

JUNCTION CAPACITY CALCULATION

AECOM

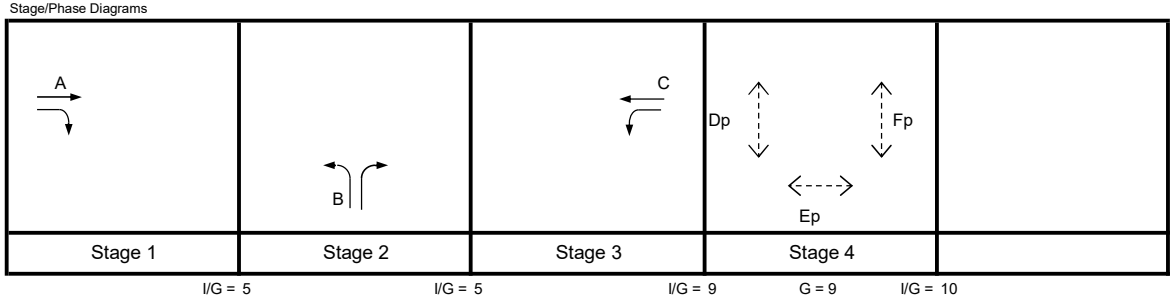
Junction 7 - Road L3 / Road L4	2026 AM Case 2 Scenario 2B (Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: ######

Traffic Flow Diagram
(pcu/hr)



No. of stages per cycle		N =	4	
Cycle time		C =	90	sec
Sum(y)		Y =	0.151	
Lost time		L =	35	sec
Total Flow		=	7,860	pcu
Optimum Cycle C_o	= (1.5×L+5)/(1-Y) =		68	sec
Min. Cycle Time C_m	= L/(1-Y)	=	41	sec
Y_{ult}	= 0.9-0.0075×L	=	0.638	
$R.C._{ult}$	= (Y_{ult}-Y)/Yx100%	=	322.0	%
Practical Cycle Time C_p	= 0.9×L/(0.9-Y)	=	42	sec
Y_{max}	= 1-L/C	=	0.611	

Stage/Phase Diagrams



Critical Case : A,B,C,Dp

R.C.(C) = (0.9xY_{max}-Y)/Yx100% = 264%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.300	1		20	0	1		0		1945		40	59	99		60%	1862	0.053	0.053	19	18	0.247	0
	A	1	3.300	1		10	0	0		0		2085			96	96		100%	1813	0.053		19	18	0.247	0
	B	2	3.000	1	20	25	0	1		0		1915	100		5	105	95%	5%	1783	0.059	0.059	21	20	0.247	2
	C	3	3.000	1	20			1		0		1915	65	5		70	93%		1790	0.039	0.039	14	13	0.247	1
Pedestrian Crossing				GM		FGM																			
	Dp	4	min.	9	+	7	=	16	sec												*				
	Ep	4	min.	9	+	7	=	16	sec																
	Fp	4	min.	7	+	5	=	12	sec																

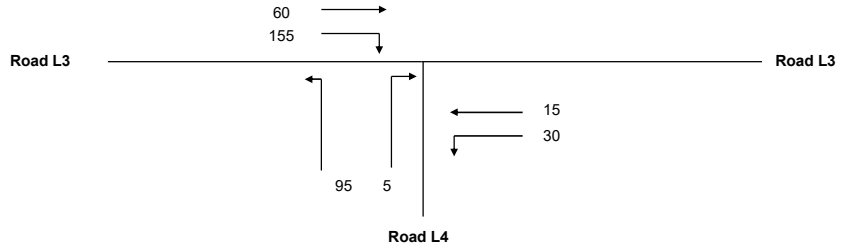
JUNCTION CAPACITY CALCULATION

AECOM

Junction 7 - Road L3 / Road L4	2026 PM Case 2 Scenario 2B (Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: ######

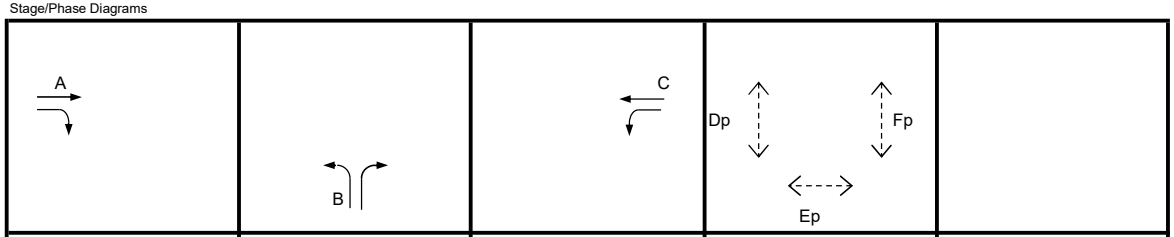
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle		N =	4	
Cycle time		C =	90	sec
Sum(y)		Y =	0.139	
Lost time		L =	35	sec
Total Flow		=	7,860	pcu
Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		67	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =		41	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =		0.638	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =		358.7	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =		41	sec
Y_{max}	$= 1-L/C$ =		0.611	

Stage/Phase Diagrams



Critical Case : A,B,C,Dp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 296%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.300	1		20	0	1		0		1945		60	49	109		45%	1881	0.058		23	22	0.227	0
	A	1	3.300	1		10	0	0		0		2085			106	106		100%	1813	0.058	0.058	23	22	0.227	0
	B	2	3.000	1	20	25	0	1		0		1915	95		5	100	95%	5%	1783	0.056	0.056	22	21	0.227	2
	C	3	3.000	1	20			1		0		1915	30	15		45	67%		1824	0.025	0.025	10	9	0.227	1
Pedestrian Crossing				GM		FGM																			
	Dp	4	min.	9	+	7	=	16	sec												*				
	Ep	4	min.	9	+	7	=	16	sec																
	Fp	4	min.	7	+	5	=	12	sec																

J6

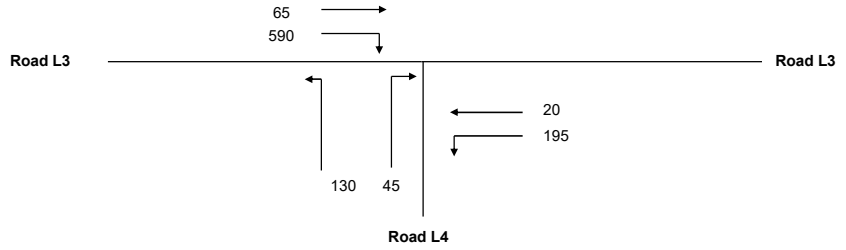
JUNCTION CAPACITY CALCULATION

AECOM

Junction 7 - Road L3 / Road L4	2031 AM Case 2 Scenario 2B (Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: ######

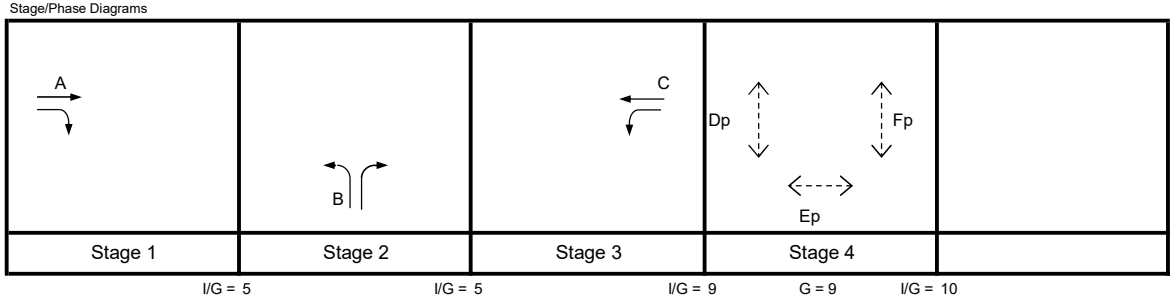
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle		N =	4	
Cycle time		C =	90	sec
Sum(y)		Y =	0.397	
Lost time		L =	35	sec
Total Flow		=	7,860	pcu
Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		95	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =		58	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =		0.638	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =		60.4	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =		63	sec
Y_{max}	$= 1-L/C$ =		0.611	

Stage/Phase Diagrams



Critical Case : A,B,C,Dp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 38%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.300	1		20	0	1		0		1945		65	264	329		80%	1835	0.180		25	24	0.650	0
	A	1	3.300	1		10	0	0		0		2085			326	326		100%	1813	0.180	0.180	25	24	0.650	0
	B	2	3.000	1	20	25	0	1		0		1915	130		45	175	74%	26%	1788	0.098	0.098	14	13	0.650	4
	C	3	3.000	1	20			1		0		1915	195	20		215	91%		1793	0.120	0.120	17	16	0.650	5
Pedestrian Crossing				GM		FGM																			
	Dp	4	min.	9	+	7	=	16	sec												*				
	Ep	4	min.	9	+	7	=	16	sec																
	Fp	4	min.	7	+	5	=	12	sec																

J6

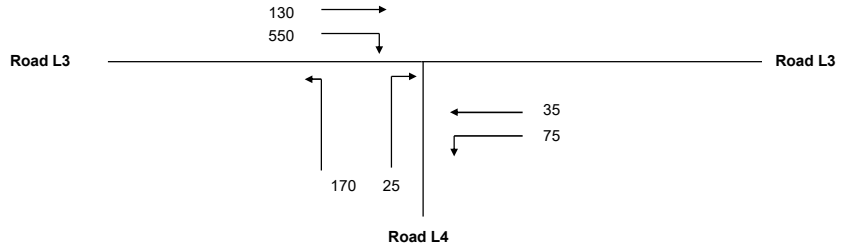
JUNCTION CAPACITY CALCULATION

AECOM

Junction 6 - Road L3 / Road L4	2031 PM Case 2 Scenario 2B (Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: ######

Traffic Flow Diagram

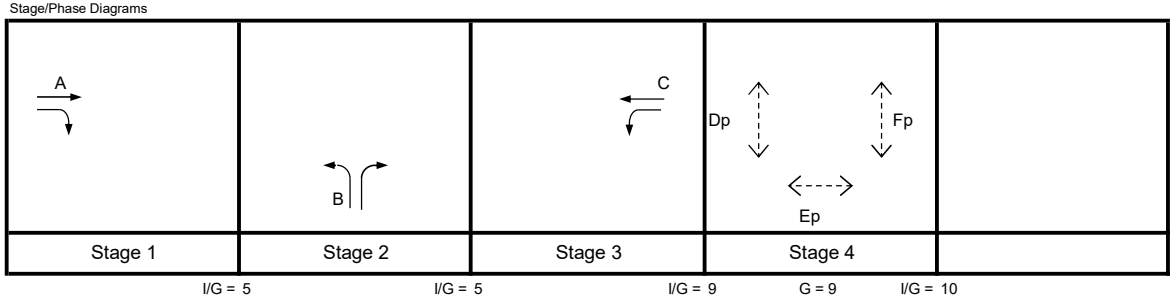
(pcu/hr)



No. of stages per cycle	N =	4	
Cycle time	C =	90	sec
Sum(y)	Y =	0.355	
Lost time	L =	35	sec
Total Flow	=	7,860	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		89	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	54	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.638	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	79.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	58	sec
Y_{max}	$= 1-L/C$	=	0.611	

Stage/Phase Diagrams



Critical Case : A,B,C,Dp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 55%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.300	1		20	0	1		0		1945		130	214	344		62%	1858	0.185	0.185	29	28	0.581	0
	A	1	3.300	1		10	0	0		0		2085			336	336		100%	1813	0.185		29	28	0.581	0
	B	2	3.000	1	20	25	0	1		0		1915	170		25	195	87%	13%	1785	0.109	0.109	17	16	0.581	4
	C	3	3.000	1	20			1		0		1915	75	35		110	68%		1822	0.060	0.060	9	8	0.581	3
Pedestrian Crossing				GM		FGM																			
	Dp	4	min.	9	+	7	=	16	sec												*				
	Ep	4	min.	9	+	7	=	16	sec																
	Fp	4	min.	7	+	5	=	12	sec																

J7

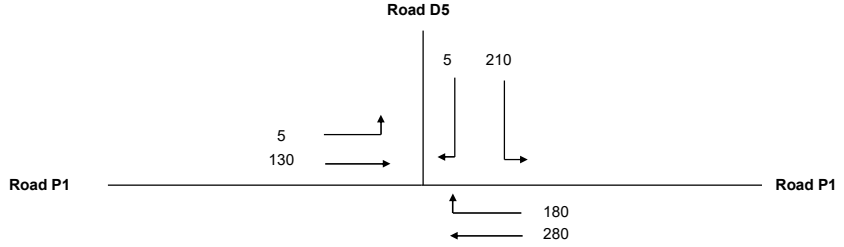
JUNCTION CAPACITY CALCULATION

AECOM

Junction 9 - Road P1/ Road D5	2026 AM Case 2 Scenario 2B (Improvement)	DESIGN: IW	CHECK: IW	JOB NO: 60507694	DATE: ######

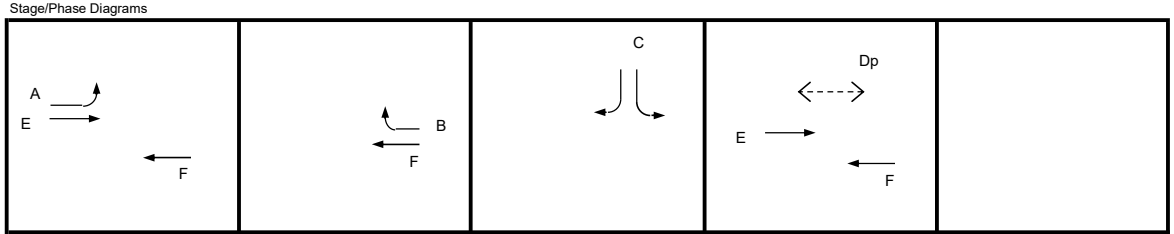
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle		N =	4	
Cycle time		C =	90	sec
Sum(y)		Y =	0.198	
Lost time		L =	9	sec
Total Flow		=	18,295	pcu
Optimum Cycle C_o	= (1.5×L+5)/(1-Y) =		23	sec
Min. Cycle Time C_m	= L/(1-Y)	=	11	sec
Y_{ult}	= 0.9-0.0075×L	=	0.833	
$R.C._{ult}$	= $(Y_{ult}$-Y)/Yx100%	=	321.4	%
Practical Cycle Time C_p	= 0.9×L/(0.9-Y)	=	12	sec
Y_{max}	= 1-L/C	=	0.900	

Stage/Phase Diagrams



I/G = I/G = I/G = 5 I/G = 6

Critical Case : F,C

R.C.(C) = (0.9xY_{max}-Y)/Yx100% = 310%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.200	1	15			1		0		1935	5			5	100%		1759	0.003		1		0.000	0
	E	1,4	3.200	2				0		0		4150		130		130			4150	0.031		13		0.000	2
	F	1,2,4	3.500	1				1		0		1965		280		280			1965	0.142	0.142	58	57	0.220	0
	B	2	3.500	2		25	0	1		0		4070			180	180		100%	3840	0.047		19		0.000	0
	C	3	3.500	1	20			1		0		1965	101			101	100%		1828	0.055	0.055	23	22	0.220	0
	C	3	3.500	1	25	30	0			0		2105	109		0	109	100%	0%	1986	0.055		23	22	0.220	0
	C	3	3.500	1		25	0	0		0		2105			5	5		100%	1986	0.003		1	22	0.010	0
Pedestrian Crossing				GM		FGM																			
	Dp	4	min.	14	+	12	=	26	sec																

J7

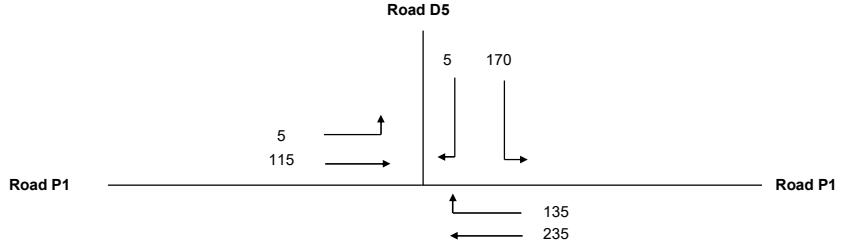
JUNCTION CAPACITY CALCULATION

AECOM

Junction ⊬ - Road P1/ Road D5	2026 PM Case 2 Scenario 2B (Improvement)	DESIGN: IW	CHECK: IW	JOB NO: 60507694	DATE: ######

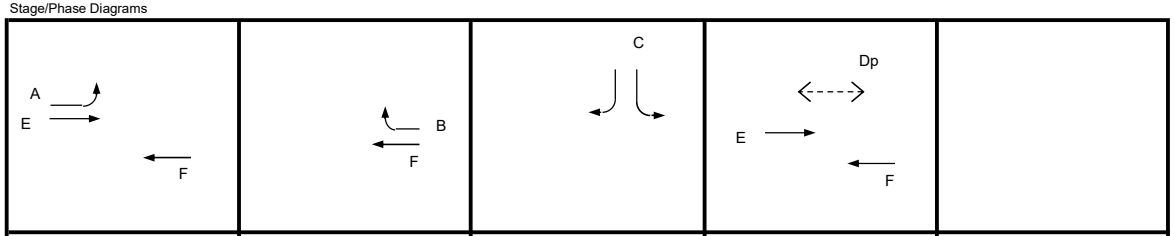
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle		N =	4	
Cycle time		C =	90	sec
Sum(y)		Y =	0.164	
Lost time		L =	9	sec
Total Flow		=	18,295	pcu
Optimum Cycle C_o	= (1.5×L+5)/(1-Y) =		22	sec
Min. Cycle Time C_m	= L/(1-Y) =		11	sec
Y_{ult}	= 0.9-0.0075×L =		0.833	
$R.C._{ult}$	= $(Y_{ult}-Y)/Yx100\%$ =		407.1	%
Practical Cycle Time C_p	= 0.9×L/(0.9-Y) =		11	sec
Y_{max}	= 1-L/C =		0.900	

Stage/Phase Diagrams



Stage 1	Stage 2	Stage 3	Stage 4	
I/G =	I/G =	I/G = 5	I/G = 6	

Critical Case : F,C

R.C.(C) = $(0.9xY_{max}-Y)/Yx100\%$ = 393%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.200	1	15			1		0		1935	5			5	100%		1759	0.003		1		0.000	0
	E	1,4	3.200	2				0		0		4150		115		115			4150	0.028		14		0.000	1
	F	1,2,4	3.500	1				1		0		1965		235		235			1965	0.120	0.120	59	58	0.182	0
	B	2	3.500	2		25	0	1		0		4070			135	135		100%	3840	0.035		17		0.000	0
	C	3	3.500	1	20			1		0		1965	81			81	100%		1828	0.045	0.045	22	21	0.182	0
	C	3	3.500	1	25	30	0			0		2105	89		0	89	100%	0%	1986	0.045		22	21	0.182	0
	C	3	3.500	1		25	0	0		0		2105			5	5		100%	1986	0.003		1	21	0.010	0
Pedestrian Crossing				GM		FGM																			
	Dp	4	min.	14	+	12	=	26	sec																

J7

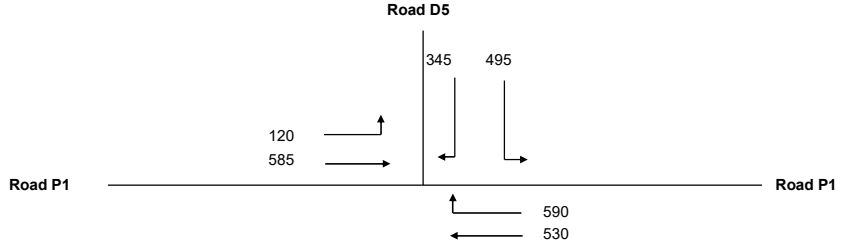
JUNCTION CAPACITY CALCULATION

AECOM

Junction ⇳ - Road P1/ Road D5	2031 AM Case 2 Scenario 2B (Improvement)	DESIGN: IW	CHECK: IW	JOB NO: 60507694	DATE: ######

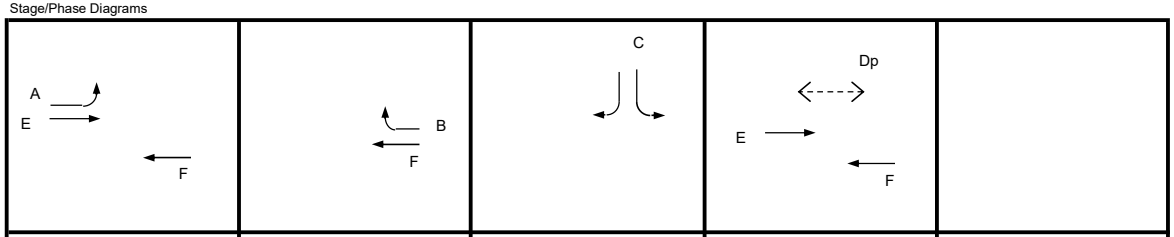
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle		N =	4	
Cycle time		C =	90	sec
Sum(y)		Y =	0.367	
Lost time		L =	39	sec
Total Flow		=	18,295	pcu
Optimum Cycle C_o	= (1.5×L+5)/(1-Y) =		100	sec
Min. Cycle Time C_m	= L/(1-Y) =		62	sec
Y_{ult}	= 0.9-0.0075×L =		0.608	
$R.C._{ult}$	= $(Y_{ult}$-Y)/Yx100% =		65.7	%
Practical Cycle Time C_p	= 0.9×L/(0.9-Y) =		66	sec
Y_{max}	= 1-L/C =		0.567	

Stage/Phase Diagrams



Critical Case : A,B,C,Dp

R.C.(C) = (0.9xY_{max}-Y)/Yx100% = 39%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
⇖	A	1	3.200	1	15			1		0		1935	120			120	100%		1759	0.068	0.068	9	8	0.647	3
→	E	1,4	3.200	2				0		0		4150		585		585			4150	0.141		20		0.000	7
←	F	1,2,4	3.500	1				1		0		1965		530		530			1965	0.270		38		0.000	0
⇗	B	2	3.500	2		25	0	1		0		4070			590	590		100%	3840	0.154	0.154	21	20	0.647	0
⇘	C	3	3.500	1	20			1		0		1965	265			265	100%		1828	0.145	0.145	20	19	0.647	0
⇕	C	3	3.500	1	25	30	0			0		2105	230		58	288	80%	20%	1990	0.145		20	19	0.647	0
⇙	C	3	3.500	1		25	0	0		0		2105			287	287		100%	1986	0.145		20	19	0.647	0
Pedestrian Crossing				GM		FGM																			
	Dp	4	min.	14	+	12	=	26	sec												*				

J7

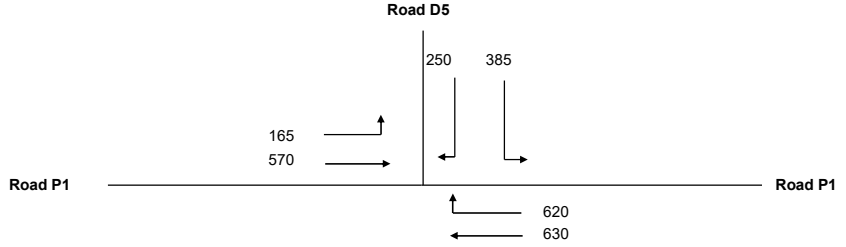
JUNCTION CAPACITY CALCULATION

AECOM

Junction ⊕ - Road P1/ Road D5	2031 PM Case 2 Scenario 2B (Improvement)	DESIGN: IW	CHECK: IW	JOB NO: 60507694	DATE: ######

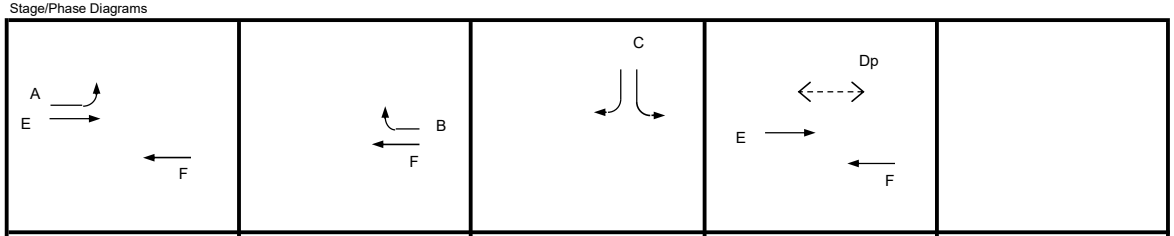
Traffic Flow Diagram

(pcu/hr)



No. of stages per cycle		N =	4	
Cycle time		C =	90	sec
Sum(y)		Y =	0.365	
Lost time		L =	39	sec
Total Flow		=	18,295	pcu
Optimum Cycle C_o	= (1.5×L+5)/(1-Y) =		100	sec
Min. Cycle Time C_m	= L/(1-Y)	=	61	sec
Y_{ult}	= 0.9-0.0075×L	=	0.608	
$R.C._{ult}$	= $(Y_{ult}$-Y)/Yx100%	=	66.6	%
Practical Cycle Time C_p	= 0.9×L/(0.9-Y)	=	66	sec
Y_{max}	= 1-L/C	=	0.567	

Stage/Phase Diagrams



Critical Case : A,B,C,Dp

R.C.(C) = (0.9xY_{max}-Y)/Yx100% = 40%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.200	1	15			1		0		1935	165			165	100%		1759	0.094	0.094	13	12	0.644	4
	E	1,4	3.200	2				0		0		4150		570		570			4150	0.137		19		0.000	7
	F	1,2,4	3.500	1				1		0		1965		630		630			1965	0.321		45		0.000	0
	B	2	3.500	2		25	0	1		0		4070			620	620		100%	3840	0.161	0.161	23	22	0.644	0
	C	3	3.500	1	20			1		0		1965	200			200	100%		1828	0.109	0.109	15	14	0.644	0
	C	3	3.500	1	25	30	0			0		2105	185		33	218	85%	15%	1989	0.109		15	14	0.644	0
	C	3	3.500	1		25	0	0		0		2105			217	217		100%	1986	0.109		15	14	0.644	0
Pedestrian Crossing				GM		FGM																			
	Dp	4	min.	14	+	12	=	26	sec												*				

J8

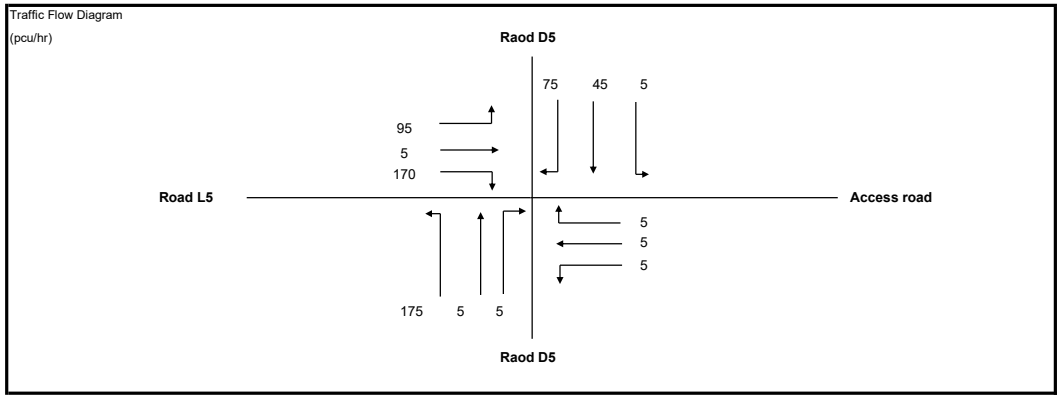
JUNCTION CAPACITY CALCULATION

AECOM

Junction ⇳ - Road D5 / Road L5	2026 AM Case 2 Scenario 2B (Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: 一月 22

Traffic Flow Diagram

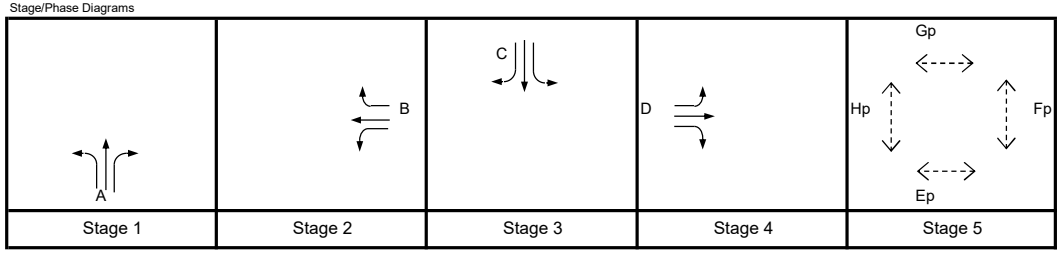
(pcu/hr)



No. of stages per cycle	N =	5	
Cycle time	C =	95	sec
Sum(y)	Y =	0.205	
Lost time	L =	52	sec
Total Flow	=	18,385	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	104	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	65	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.510	
R.C.$_{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	148.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	67	sec
Y_{max}	$= 1-L/C$	=	0.453	

Stage/Phase Diagrams



I/G = 5 G = 5 I/G = 5 I/G = 5 I/G = 12 G = 11 I/G = 12

Critical Case : A,B,C,D,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Y \times 100\%$ = 98%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
⇦	A	1	3.300	1	20			1		0		1945	175			175	100%		1809	0.097	0.097	20	19	0.454	0
⇧	A	1	3.300	1				0		0		2085		5		5			2085	0.002		1	19	0.011	0
⇨	A	1	3.300	1		25	0	0		0		2085			5	5		100%	1967	0.003		1	19	0.012	0
⇦	B	2	3.500	1	15			1		0		1965	5			5	100%		1786	0.003		1		0.000	0
⇧	B	2	3.500	1	15	25	0	0		0		2105	0	5	5	10	0%	50%	2044	0.005		1		0.000	0
⇧	C	3	3.650	1	15			1		0		1980	5	45		50	10%		1960	0.026		5	7	0.297	1
⇨	C	3	3.650	1		15	0	0		0		2120		0	75	75		100%	1927	0.039	0.039	8	7	0.454	2
⇧	D	4	3.650	1	25	25	0	1		0		1980	95	5	31	131	73%	23%	1872	0.070	0.070	15	14	0.454	0
⇨	D	4	3.650	1		25	0	0		0		2120			139	139		100%	2000	0.070		15	14	0.454	0
Pedestrian Crossing				GM		FGM																			
	Ep	5	min.	11	+	9	=	20	sec												*				
	Fp	5	min.	10	+	8	=	18	sec																
	Gp	5	min.	10	+	8	=	18	sec																
	Hp	5	min.	10	+	8	=	18	sec																

J8

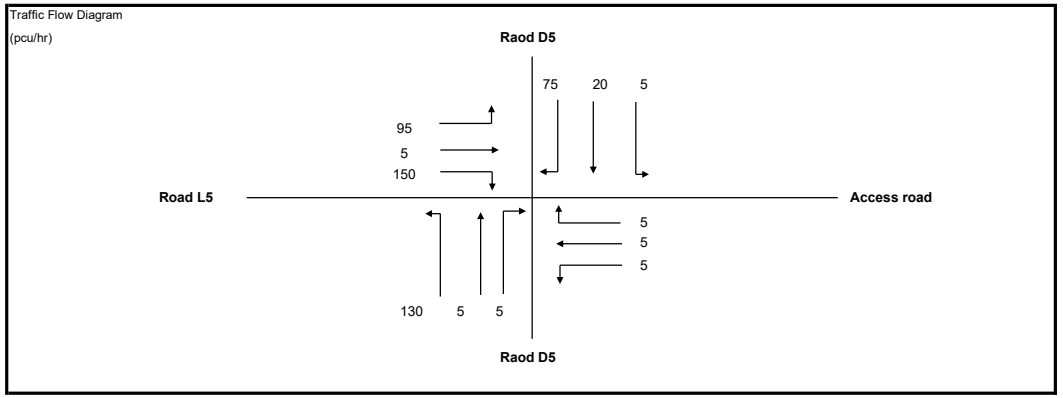
JUNCTION CAPACITY CALCULATION

AECOM

Junction ๒ - Road D5 / Road L5	2026 PM Case 2 Scenario 2B (Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: 一月 22

Traffic Flow Diagram

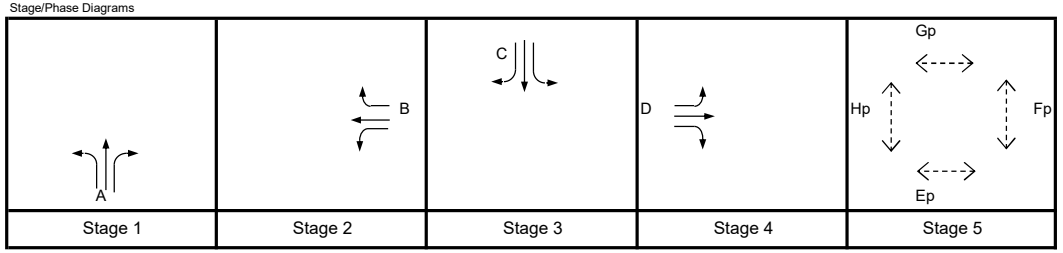
(pcu/hr)



No. of stages per cycle	N =	5	
Cycle time	C =	95	sec
Sum(y)	Y =	0.175	
Lost time	L =	52	sec
Total Flow	=	18,385	pcu

Optimum Cycle C_o	= (1.5×L+5)/(1-Y)	=	101	sec
Min. Cycle Time C_m	= L/(1-Y)	=	63	sec
Y_{ult}	= 0.9-0.0075×L	=	0.510	
R.C.$_{ult}$	= (Y_{ult}-Y)/Yx100%	=	190.9	%
Practical Cycle Time C_p	= 0.9×L/(0.9-Y)	=	65	sec
Y_{max}	= 1-L/C	=	0.453	

Stage/Phase Diagrams



I/G = 5 G = 5 I/G = 5 I/G = 5 I/G = 12 G = 11 I/G = 12

Critical Case : A,B,C,D,Ep

R.C.(C) = (0.9xY_{max}-Y)/Yx100% = 132%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.300	1	20			1		0		1945	130			130	100%		1809	0.072	0.072	18	17	0.387	0
	A	1	3.300	1				0		0		2085		5		5			2085	0.002		1	17	0.013	0
	A	1	3.300	1		25	0	0		0		2085			5	5		100%	1967	0.003		1	17	0.014	0
	B	2	3.500	1	15			1		0		1965	5			5	100%		1786	0.003		1		0.000	0
	B	2	3.500	1	15	25	0	0		0		2105	0	5	5	10	0%	50%	2044	0.005		1		0.000	0
	C	3	3.650	1	15			1		0		1980	5	20		25	20%		1941	0.013		3	9	0.128	1
	C	3	3.650	1		15	0	0		0		2120		0	75	75		100%	1927	0.039	0.039	10	9	0.387	2
	D	4	3.650	1	25	25	0	1		0		1980	95	5	21	121	79%	17%	1872	0.065	0.065	16	15	0.387	0
	D	4	3.650	1		25	0	0		0		2120			129	129		100%	2000	0.065		16	15	0.387	0
Pedestrian Crossing				GM		FGM																			
	Ep	5	min.	11	+	9	=	20	sec												*				
	Fp	5	min.	10	+	8	=	18	sec																
	Gp	5	min.	10	+	8	=	18	sec																
	Hp	5	min.	10	+	8	=	18	sec																

J8

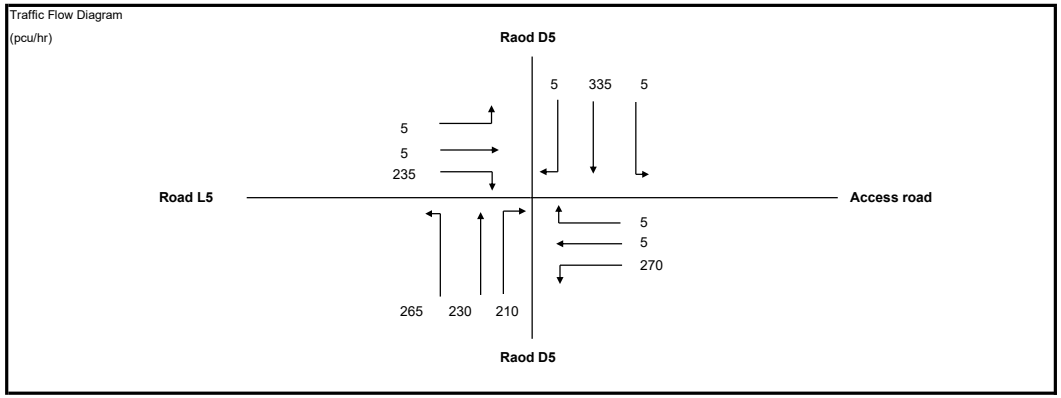
JUNCTION CAPACITY CALCULATION

AECOM

Junction 中 - Road D5 / Road L5	2031 AM Case 2 Scenario 2B (Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: 一月 22

Traffic Flow Diagram

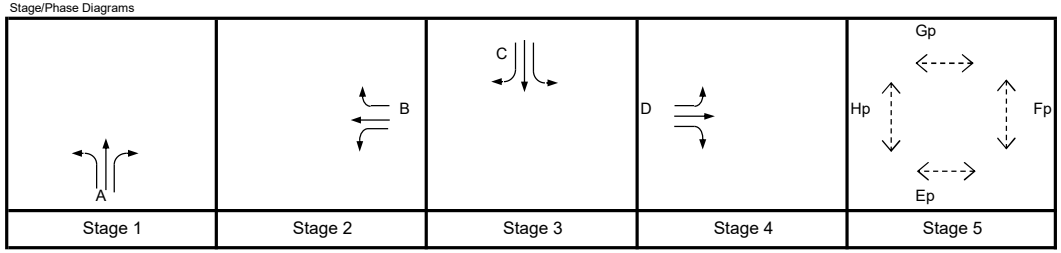
(pcu/hr)



No. of stages per cycle	N =	5	
Cycle time	C =	95	sec
Sum(y)	Y =	0.370	
Lost time	L =	46	sec
Total Flow	=	18,385	pcu

Optimum Cycle C_o	$= (1.5\times L+5)/(1-Y)$	=	117	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	73	sec
Y_{ult}	$= 0.9-0.0075\times L$	=	0.555	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	50.2	%
Practical Cycle Time C_p	$= 0.9\times L/(0.9-Y)$	=	78	sec
Y_{max}	$= 1-L/C$	=	0.516	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 I/G = 12 G = 11 I/G = 12

Critical Case : A,B,C,D,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\% =$ 26%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.300	1	20			1		0		1945	265			265	100%		1809	0.146	0.146	19	18	0.717	0
	A	1	3.300	1				0		0		2085		230		230			2085	0.110		15	18	0.540	0
	A	1	3.300	1		25	0	0		0		2085			210	210		100%	1967	0.107		14	18	0.522	0
	B	2	3.500	1	15			1		0		1965	135			135	100%		1786	0.076	0.076	10	9	0.717	0
	B	2	3.500	1	15	25	0	0		0		2105	135	5	5	145	93%	3%	1922	0.076		10	9	0.717	0
	C	3	3.650	1	15			1		0		1980	5	162		167	3%		1974	0.084	0.084	11	10	0.717	4
	C	3	3.650	1		15	0	0		0		2120		173	5	178		3%	2114	0.084		11	10	0.717	5
	D	4	3.650	1	25	25	0	1		0		1980	5	5	108	118	4%	92%	1872	0.063	0.063	8	7	0.717	0
	D	4	3.650	1		25	0	0		0		2120			127	127		100%	2000	0.063		8	7	0.717	0
Pedestrian Crossing				GM		FGM																			
	Ep	5	min.	11	+	9	=	20	sec												*				
	Fp	5	min.	10	+	8	=	18	sec																
	Gp	5	min.	10	+	8	=	18	sec																
	Hp	5	min.	10	+	8	=	18	sec																

J8

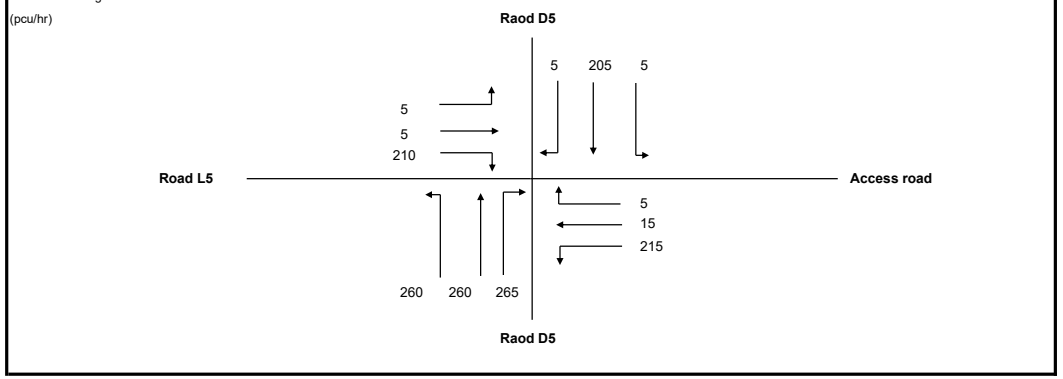
JUNCTION CAPACITY CALCULATION

AECOM

Junction ✣ - Road D5 / Road L5	2031 PM Case 2 Scenario 2B (Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: 一月 22

Traffic Flow Diagram

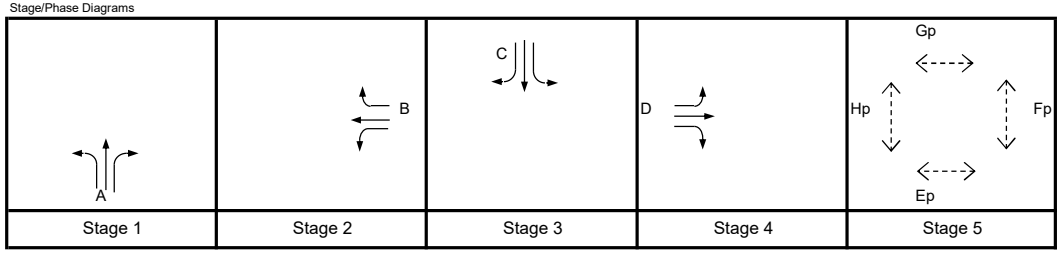
(pcu/hr)



No. of stages per cycle	N =	5	
Cycle time	C =	95	sec
Sum(y)	Y =	0.316	
Lost time	L =	46	sec
Total Flow	=	18,385	pcu

Optimum Cycle C_o	$= (1.5\times L+5)/(1-Y)$	=	108	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	67	sec
Y_{ult}	$= 0.9-0.0075\times L$	=	0.555	
R.C.$_{ult}$	$= (Y_{ult}-Y)/Y\times 100\%$	=	75.5	%
Practical Cycle Time C_p	$= 0.9\times L/(0.9-Y)$	=	71	sec
Y_{max}	$= 1-L/C$	=	0.516	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 I/G = 12 G = 11 I/G = 12

Critical Case : A,B,C,D,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\% =$ 47%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.300	1	20			1		0		1945	260			260	100%		1809	0.144	0.144	22	21	0.613	0
	A	1	3.300	1				0		0		2085		260		260			2085	0.125		19	21	0.532	0
	A	1	3.300	1		25	0	0		0		2085			265	265		100%	1967	0.135		21	21	0.575	0
	B	2	3.500	1	15			1		0		1965	113			113	100%		1786	0.063		10	9	0.613	0
	B	2	3.500	1	15	25	0	0		0		2105	102	15	5	122	84%	4%	1938	0.063	0.063	10	9	0.613	0
	C	3	3.650	1	15			1		0		1980	5	99		104	5%		1971	0.053	0.053	8	7	0.613	3
	C	3	3.650	1		15	0	0		0		2120		106	5	111		4%	2111	0.053		8	7	0.613	3
	D	4	3.650	1	25	25	0	1		0		1980	5	5	96	106	5%	91%	1873	0.057	0.057	9	8	0.613	0
	D	4	3.650	1		25	0	0		0		2120			114	114		100%	2000	0.057		9	8	0.613	0
Pedestrian Crossing				GM		FGM																			
	Ep	5	min.	11	+	9	=	20	sec												*				
	Fp	5	min.	10	+	8	=	18	sec																
	Gp	5	min.	10	+	8	=	18	sec																
	Hp	5	min.	10	+	8	=	18	sec																

J8

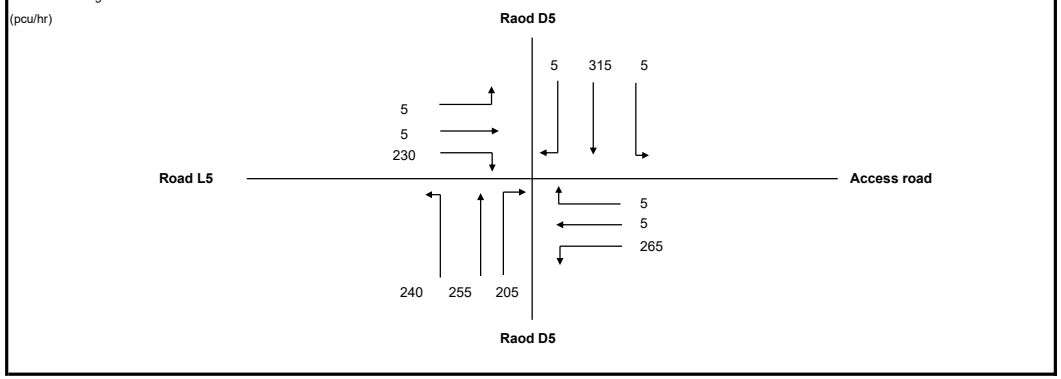
JUNCTION CAPACITY CALCULATION

AECOM

Junction ⇳ - Road D5 / Road L5	2036 AM Case 2 Scenario 2B (Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: 一月 22

Traffic Flow Diagram

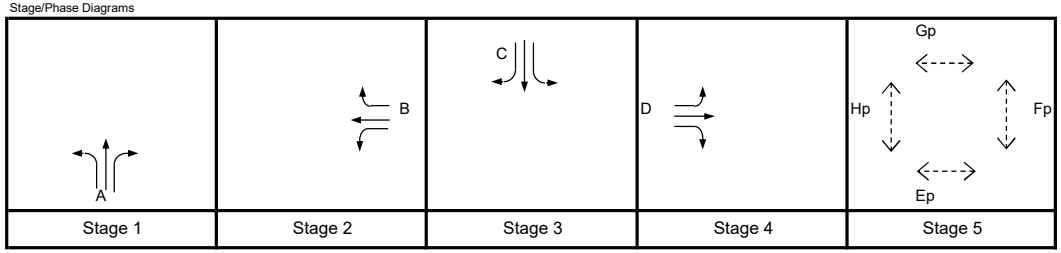
(pcu/hr)



No. of stages per cycle	N =	5	
Cycle time	C =	95	sec
Sum(y)	Y =	0.348	
Lost time	L =	46	sec
Total Flow	=	18,385	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	114	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	71	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.555	
R.C.$_{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	59.4	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	75	sec
Y_{max}	$= 1-L/C$	=	0.516	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 I/G = 12 G = 11 I/G = 12

Critical Case : A,B,C,D,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\% =$ 33%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.300	1	20			1		0		1945	240			240	100%		1809	0.133	0.133	19	18	0.675	5
	A	1	3.300	1				0		0		2085		255		255			2085	0.122		17	18	0.623	5
	A	1	3.300	1		25	0	0		0		2085			205	205		100%	1967	0.104		15	18	0.531	4
	B	2	3.500	1	15			1		0		1965	132			132	100%		1786	0.074		10	9	0.675	4
	B	2	3.500	1	15	25	0	0		0		2105	133	5	5	143	93%	4%	1922	0.074	0.074	10	9	0.675	4
	C	3	3.650	1	15			1		0		1980	5	152		157	3%		1974	0.080	0.080	11	10	0.675	4
	C	3	3.650	1		15	0	0		0		2120		163	5	168		3%	2114	0.080		11	10	0.675	4
	D	4	3.650	1	25	25	0	1		0		1980	5	5	106	116	4%	91%	1872	0.062		9	8	0.675	3
	D	4	3.650	1		25	0	0		0		2120			124	124		100%	2000	0.062	0.062	9	8	0.675	3
Pedestrian Crossing				GM		FGM																			
	Ep	5	min.	11	+	9	=	20	sec												*				
	Fp	5	min.	10	+	8	=	18	sec																
	Gp	5	min.	10	+	8	=	18	sec																
	Hp	5	min.	10	+	8	=	18	sec																

J8

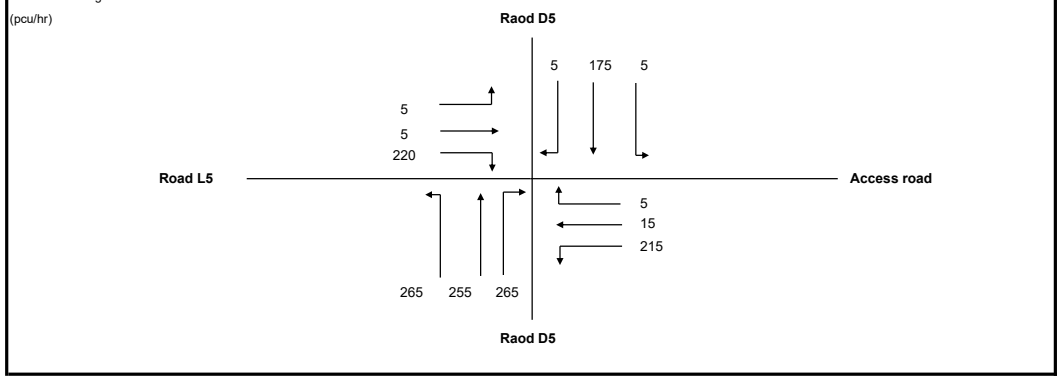
JUNCTION CAPACITY CALCULATION

AECOM

Junction 15 - Road D5 / Road L5	2036 PM Case 2 Scenario 2B (Improvement)	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: 一月 22

Traffic Flow Diagram

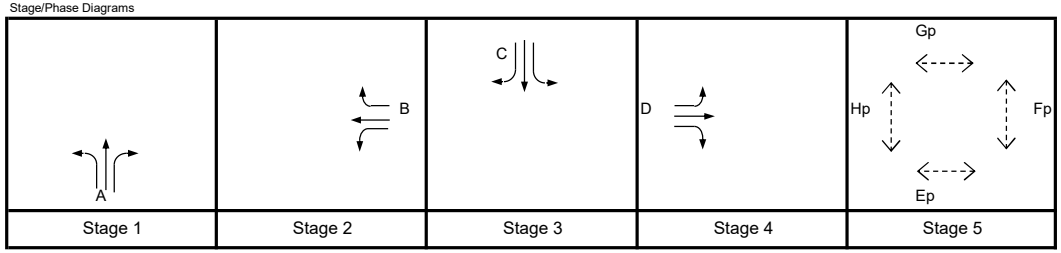
(pcu/hr)



No. of stages per cycle	N =	5	
Cycle time	C =	95	sec
Sum(y)	Y =	0.314	
Lost time	L =	46	sec
Total Flow	=	18,385	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	108	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	67	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.555	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	76.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	71	sec
Y_{max}	$= 1-L/C$	=	0.516	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 I/G = 12 G = 11 I/G = 12

Critical Case : A,B,C,D,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\% =$ 48%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.300	1	20			1		0		1945	265			265	100%		1809	0.146	0.146	23	22	0.609	5
	A	1	3.300	1				0		0		2085		255		255			2085	0.122		19	22	0.509	5
	A	1	3.300	1		25	0	0		0		2085			265	265		100%	1967	0.135		21	22	0.561	5
	B	2	3.500	1	15			1		0		1965	113			113	100%		1786	0.063		10	9	0.609	3
	B	2	3.500	1	15	25	0	0		0		2105	102	15	5	122	84%	4%	1938	0.063	0.063	10	9	0.609	3
	C	3	3.650	1	15			1		0		1980	5	84		89	6%		1969	0.045	0.045	7	6	0.609	2
	C	3	3.650	1		15	0	0		0		2120		91	5	96		5%	2109	0.045		7	6	0.609	3
	D	4	3.650	1	25	25	0	1		0		1980	5	5	101	111	4%	91%	1873	0.059	0.059	9	8	0.609	3
	D	4	3.650	1		25	0	0		0		2120			119	119		100%	2000	0.059		9	8	0.609	3
Pedestrian Crossing				GM		FGM																			
	Ep	5	min.	11	+	9	=	20	sec												*				
	Fp	5	min.	10	+	8	=	18	sec																
	Gp	5	min.	10	+	8	=	18	sec																
	Hp	5	min.	10	+	8	=	18	sec																

J8

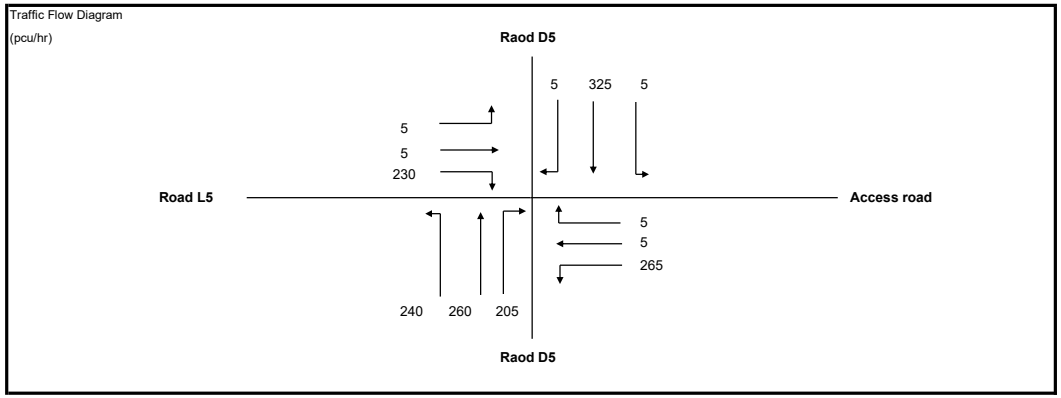
JUNCTION CAPACITY CALCULATION

AECOM

Junction ⑮ - Road D5 / Road L5	2036 AM Case 2 Scenario 2B (Improvement) - Sensitivity	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: 一月 22

Traffic Flow Diagram

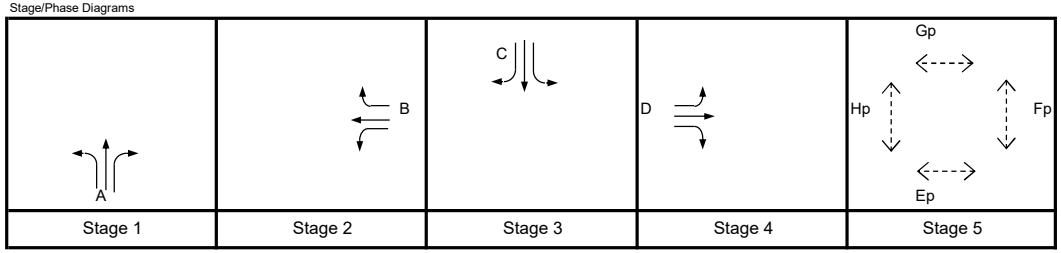
(pcu/hr)



No. of stages per cycle	N =	5	
Cycle time	C =	95	sec
Sum(y)	Y =	0.351	
Lost time	L =	46	sec
Total Flow	=	18,385	pcu

Optimum Cycle C_o	$= (1.5\times L+5)/(1-Y)$	=	114	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	71	sec
Y_{ult}	$= 0.9-0.0075\times L$	=	0.555	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y\times 100\%$	=	58.2	%
Practical Cycle Time C_p	$= 0.9\times L/(0.9-Y)$	=	75	sec
Y_{max}	$= 1-L/C$	=	0.516	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 I/G = 12 G = 11 I/G = 12

Critical Case : A,B,C,D,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\% =$ 32%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.300	1	20			1		0		1945	240			240	100%		1809	0.133	0.133	19	18	0.680	5
	A	1	3.300	1				0		0		2085		260		260			2085	0.125		17	18	0.639	6
	A	1	3.300	1		25	0	0		0		2085			205	205		100%	1967	0.104		15	18	0.534	4
	B	2	3.500	1	15			1		0		1965	132			132	100%		1786	0.074		10	9	0.680	4
	B	2	3.500	1	15	25	0	0		0		2105	133	5	5	143	93%	4%	1922	0.074	0.074	10	9	0.680	4
	C	3	3.650	1	15			1		0		1980	5	157		162	3%		1974	0.082	0.082	11	10	0.680	4
	C	3	3.650	1		15	0	0		0		2120		168	5	173		3%	2114	0.082		11	10	0.680	4
	D	4	3.650	1	25	25	0	1		0		1980	5	5	106	116	4%	91%	1872	0.062		9	8	0.680	3
	D	4	3.650	1		25	0	0		0		2120			124	124		100%	2000	0.062	0.062	9	8	0.680	3
Pedestrian Crossing				GM		FGM																			
	Ep	5	min.	11	+	9	=	20	sec												*				
	Fp	5	min.	10	+	8	=	18	sec																
	Gp	5	min.	10	+	8	=	18	sec																
	Hp	5	min.	10	+	8	=	18	sec																

J8

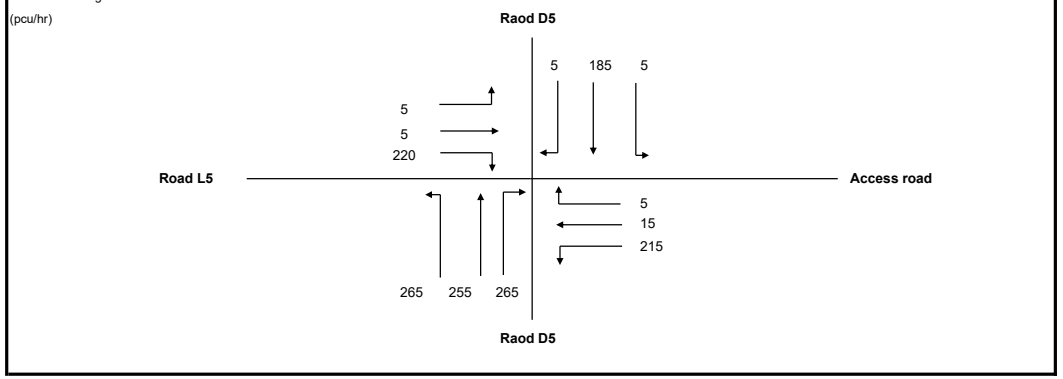
JUNCTION CAPACITY CALCULATION

AECOM

Junction ⑮ - Road D5 / Road L5	2036 PM Case 2 Scenario 2B (Improvement) - Sensitivity	DESIGN: RS	CHECK: RS	JOB NO: 60507694	DATE: 一月 22

Traffic Flow Diagram

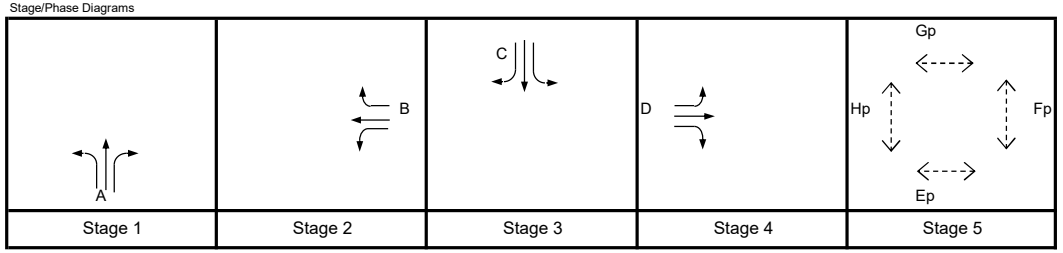
(pcu/hr)



No. of stages per cycle	N =	5	
Cycle time	C =	95	sec
Sum(y)	Y =	0.317	
Lost time	L =	46	sec
Total Flow	=	18,385	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	108	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	67	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.555	
R.C.$_{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	75.2	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	71	sec
Y_{max}	$= 1-L/C$	=	0.516	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 I/G = 12 G = 11 I/G = 12

Critical Case : A,B,C,D,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\% =$ 47%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR y	CRITICAL y	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.300	1	20			1		0		1945	265			265	100%		1809	0.146	0.146	23	22	0.614	5
	A	1	3.300	1				0		0		2085		255		255			2085	0.122		19	22	0.513	5
	A	1	3.300	1		25	0	0		0		2085			265	265		100%	1967	0.135		21	22	0.565	5
	B	2	3.500	1	15			1		0		1965	113			113	100%		1786	0.063		10	9	0.614	3
	B	2	3.500	1	15	25	0	0		0		2105	102	15	5	122	84%	4%	1938	0.063	0.063	10	9	0.614	3
	C	3	3.650	1	15			1		0		1980	5	89		94	5%		1970	0.048		7	6	0.614	3
	C	3	3.650	1		15	0	0		0		2120		96	5	101		5%	2110	0.048	0.048	7	6	0.614	3
	D	4	3.650	1	25	25	0	1		0		1980	5	5	101	111	4%	91%	1873	0.059	0.059	9	8	0.614	3
	D	4	3.650	1		25	0	0		0		2120			119	119		100%	2000	0.059		9	8	0.614	3
Pedestrian Crossing				GM		FGM																			
	Ep	5	min.	11	+	9	=	20	sec												*				
	Fp	5	min.	10	+	8	=	18	sec																
	Gp	5	min.	10	+	8	=	18	sec																
	Hp	5	min.	10	+	8	=	18	sec																

J9

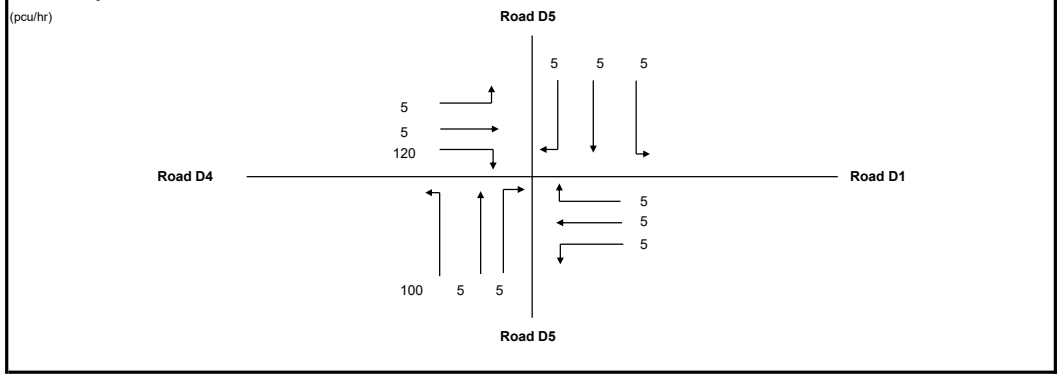
JUNCTION CAPACITY CALCULATION

AECOM

Junction :	2026 AM Case 2 Scenario 2B (With Right-turn Pocket, Cycle Time = 95s)	DESIGN: RP	CHECK: RS	JOB NO: 60507694	DATE: ######
- Road D5/ Road D1/ Road D4					

Traffic Flow Diagram

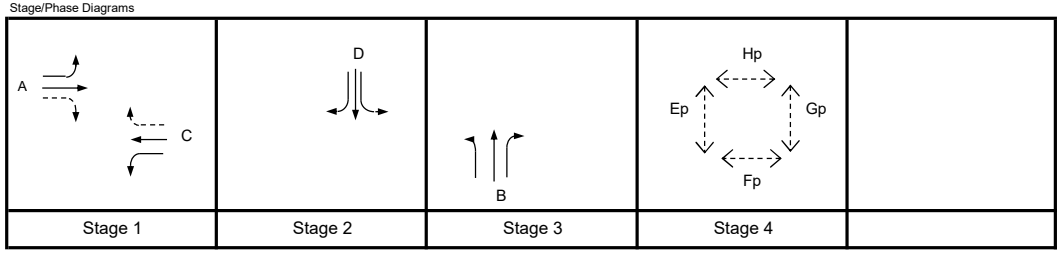
(pcu/hr)



No. of stages per cycle	N =	4	
Cycle time	C =	95	sec
Sum(y)	Y =	0.124	
Lost time	L =	54	sec
Total Flow	=	16,480	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	98	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	62	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.495	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	300.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	63	sec
Y_{max}	$= 1-L/C$	=	0.432	

Stage/Phase Diagrams



I/G = 6 G = 5 I/G = 8 I/G = 10 G = 13 I/G = 14

Critical Case : A,D,B,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 214%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.300	1	15			1		0		1945	5			5	100%		1768	0.003		1	22	0.011	0
	A	1	3.300	1	18					0		2085	0	5		5	7%		2072	0.003		1	22	0.011	0
	A	1	3.300	1		25	1	0		0		2085		0	120	120		100%	1750	0.069	0.069	23	22	0.287	2
	B	3	3.800	1	15			1		0		1995	100	0		100	100%		1814	0.055	0.055	18	17	0.287	2
	B	3	3.800	1		15	0	0		0		2135		5	5	10		50%	2033	0.005		2	17	0.026	0
	C	1	4.000	1	15			1		0		2015	5	3		8	66%		1890	0.004		1		0.000	0
	C	1	4.000	1		25	1	0		0		2155		2	5	7		67%	1850	0.004		1		0.000	0
	D	2	4.500	1	15	25	0	1		0		2065	5	5	5	15	33%	33%	1960	0.008		3		0.000	0
Pedestrian Crossing				GM		FGM																			
	Ep	4	min.	13	+	11	=	24	sec												*				
	Fp	4	min.	13	+	11	=	24	sec																
	Gp	4	min.	11	+	9	=	20	sec																
	Hp	4	min.	11	+	9	=	20	sec																

J9

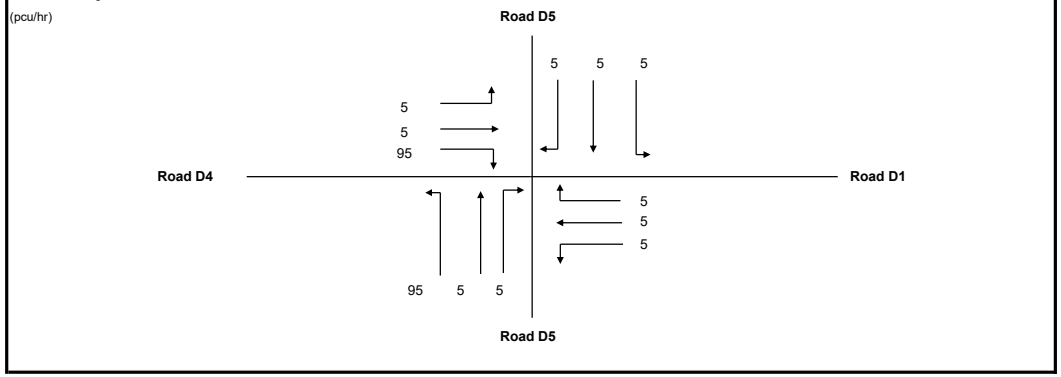
JUNCTION CAPACITY CALCULATION

AECOM

Junction	2026 PM Case 2 Scenario 2B (With Right-turn Pocket, Cycle Time = 95s)	DESIGN: RP	CHECK: RS	JOB NO: 60507694	DATE: ######
- Road D5/ Road D1/ Road D4					

Traffic Flow Diagram

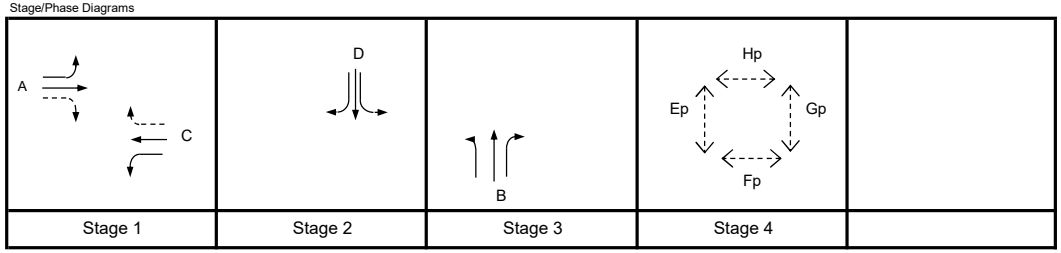
(pcu/hr)



No. of stages per cycle	N =	4	
Cycle time	C =	95	sec
Sum(y)	Y =	0.107	
Lost time	L =	54	sec
Total Flow	=	16,480	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	96	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	60	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.495	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	364.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	61	sec
Y_{max}	$= 1-L/C$	=	0.432	

Stage/Phase Diagrams



I/G = 6 G = 5 I/G = 8 I/G = 10 G = 13 I/G = 14

Critical Case : A,D,B,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 264%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.300	1	15			1		0		1945	5			5	100%		1768	0.003		1	20	0.012	0
	A	1	3.300	1	18					0		2085	0	5		5	7%		2072	0.003		1	20	0.012	0
	A	1	3.300	1		25	1	0		0		2085		0	95	95		100%	1750	0.054	0.054	21	20	0.247	2
	B	3	3.800	1	15			1		0		1995	95	0		95	100%		1814	0.052	0.052	20	19	0.247	2
	B	3	3.800	1		15	0	0		0		2135		5	5	10		50%	2033	0.005		2	19	0.023	0
	C	1	4.000	1	15			1		0		2015	5	3		8	66%		1890	0.004		2		0.000	0
	C	1	4.000	1		25	1	0		0		2155		2	5	7		67%	1850	0.004		2		0.000	0
	D	2	4.500	1	15	25	0	1		0		2065	5	5	5	15	33%	33%	1960	0.008		3		0.000	0
Pedestrian Crossing				GM		FGM																			
	Ep	4	min.	13	+	11	=	24	sec												*				
	Fp	4	min.	13	+	11	=	24	sec																
	Gp	4	min.	11	+	9	=	20	sec																
	Hp	4	min.	11	+	9	=	20	sec																

J9

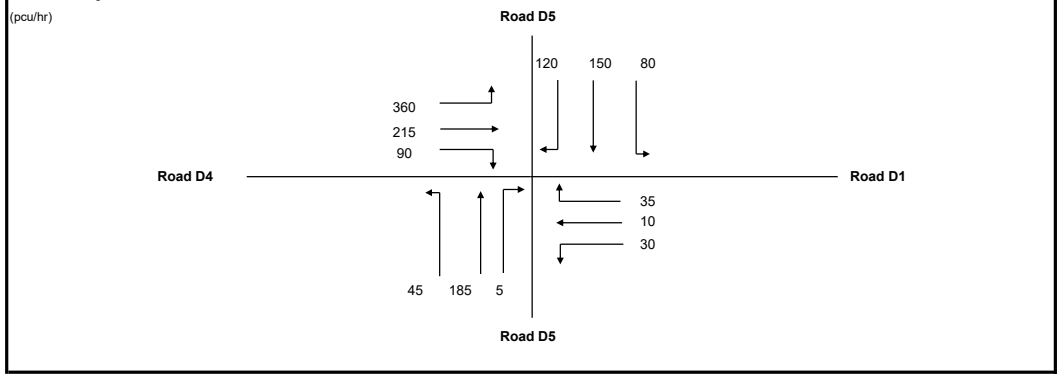
JUNCTION CAPACITY CALCULATION

AECOM

Junction	- Road D5/ Road D1/ Road D4	2031 AM Case 2 Scenario 2B (With Right-turn Pocket, Cycle Time = 95s)	DESIGN: RP	CHECK: RS	JOB NO: 60507694	DATE: ######

Traffic Flow Diagram

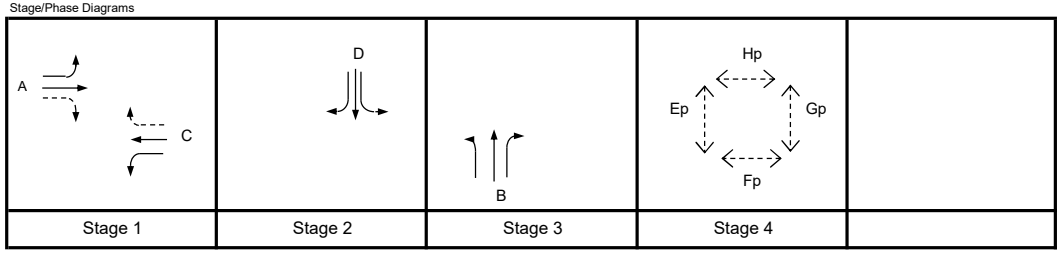
(pcu/hr)



No. of stages per cycle	N =	4	
Cycle time	C =	95	sec
Sum(y)	Y =	0.355	
Lost time	L =	48	sec
Total Flow	=	16,480	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	119	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	74	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.540	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	52.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	79	sec
Y_{max}	$= 1-L/C$	=	0.495	

Stage/Phase Diagrams



I/G = 6 I/G = 8 I/G = 10 G = 13 I/G = 14

Critical Case : A,D,B,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Y \times 100\% =$ 26%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.300	1	15			1		0		1945	211			211	100%		1768	0.120	0.120	16	15	0.717	5
	A	1	3.300	1	18					0		2085	149	89		237	63%		1982	0.120		16	15	0.717	6
	A	1	3.300	1		25	1	0		0		2085		126	90	216		42%	1810	0.120		16	15	0.717	5
	B	3	3.800	1	15			1		0		1995	45	66		111	40%		1918	0.058	0.058	8	7	0.717	3
	B	3	3.800	1		15	0	0		0		2135		119	5	124		4%	2126	0.058		8	7	0.717	4
	C	1	4.000	1	15			1		0		2015	30	8		38	79%		1867	0.020		3		0.000	1
	C	1	4.000	1		25	1	0		0		2155		2	35	37		95%	1822	0.020		3		0.000	1
	D	2	4.500	1	15	25	0	1		0		2065	80	150	120	350	23%	34%	1979	0.177	0.177	23	22	0.717	7
Pedestrian Crossing				GM		FGM																			
	Ep	4	min.	13	+	11	=	24	sec												*				
	Fp	4	min.	13	+	11	=	24	sec																
	Gp	4	min.	11	+	9	=	20	sec																
	Hp	4	min.	11	+	9	=	20	sec																

J9

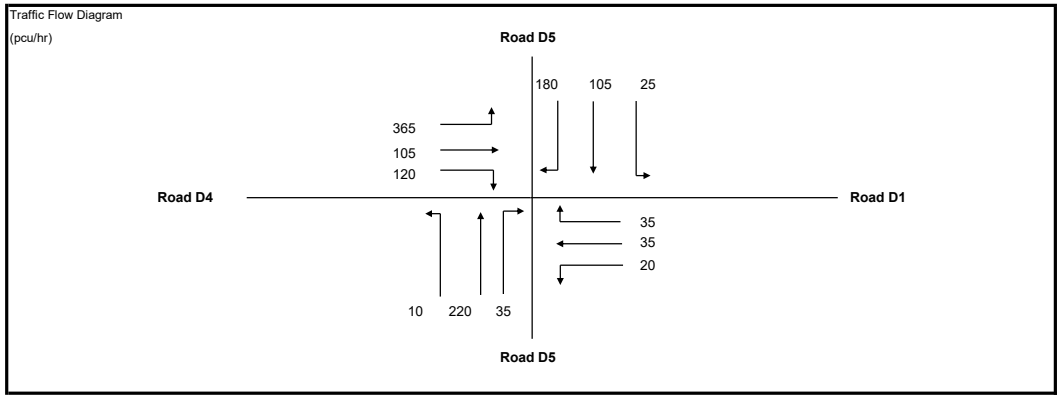
JUNCTION CAPACITY CALCULATION

AECOM

Junction : - Road D5/ Road D1/ Road D4	2031 PM Case 2 Scenario 2B (With Right-turn Pocket, Cycle Time = 95s)	DESIGN: RP	CHECK: RS	JOB NO: 60507694	DATE: ######

Traffic Flow Diagram

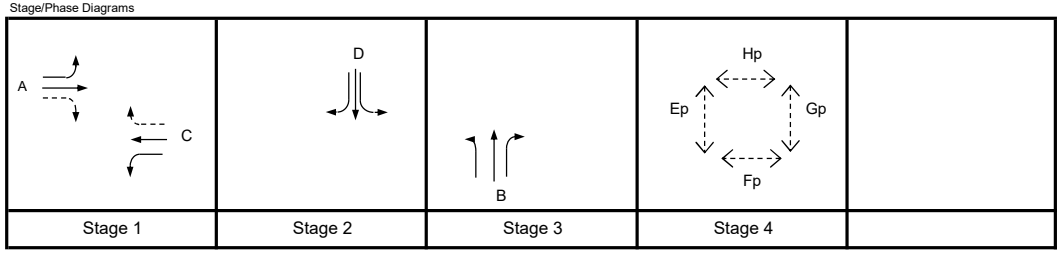
(pcu/hr)



No. of stages per cycle	N =	4	
Cycle time	C =	95	sec
Sum(y)	Y =	0.329	
Lost time	L =	48	sec
Total Flow	=	16,480	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	115	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	72	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.540	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	64.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	76	sec
Y_{max}	$= 1-L/C$	=	0.495	

Stage/Phase Diagrams



I/G = 6 I/G = 8 I/G = 10 G = 13 I/G = 14

Critical Case : A,D,B,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 35%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*	EFFECTIVE GREEN g=y/Yx(C-L) (sec)	ACTUAL GREEN G (sec)	DEGREE OF SATURATION X	Average Queue N
	A	1	3.300	1	15			1		0		1945	190			190	100%		1768	0.107		15	14	0.665	4
	A	1	3.300	1	18					0		2085	175	33		209	84%		1949	0.107	0.107	15	14	0.665	5
	A	1	3.300	1		25	1	0		0		2085		72	120	192		63%	1788	0.107		15	14	0.665	5
	B	3	3.800	1	15			1		0		1995	10	119		129	8%		1980	0.065	0.065	9	8	0.665	3
	B	3	3.800	1		15	0	0		0		2135		101	35	136		26%	2081	0.065		9	8	0.665	4
	C	1	4.000	1	15			1		0		2015	20	26		46	43%		1931	0.024		3		0.000	1
	C	1	4.000	1		25	1	0		0		2155		9	35	44		80%	1837	0.024		3		0.000	1
	D	2	4.500	1	15	25	0	1		0		2065	25	105	180	310	8%	58%	1980	0.157	0.157	22	21	0.665	6
Pedestrian Crossing				GM		FGM																			
	Ep	4	min.	13	+	11	=	24	sec												*				
	Fp	4	min.	13	+	11	=	24	sec																
	Gp	4	min.	11	+	9	=	20	sec																
	Hp	4	min.	11	+	9	=	20	sec																

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Appendix 8

Technical Assessments – Part 6

(Environmental Assessment Study)

Agreement No. CB20180686 Term Traffic and Environmental Consultancy Services 2019 – 2021 for Kowloon Central and West and Islands Region

Instruction No. K03
Proposed Public Housing Development at Tung Chung Area 103
Environmental Assessment Study (EAS)

Final Report

Hong Kong Housing Authority

30 June 2022

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Executive Summary

An Environmental Assessment Study (EAS) has been conducted for the Public Rental Housing Development at Tung Chung Area 103 (the Development) with respect to Chapter 9 of the Hong Kong Planning Standards and Guidelines (HKPSG).

The Development is located at the newly reclaimed area of Tung Chung New Town Extension at Tung Chung East. It consists of four public housing blocks with retail shops, kindergarten, welfare facility, Owners' Corporation Office (OC office) and Estate Management Office (EMO). Welfare facilities included Neighbourhood Elderly Centre (NEC) and Home Care Services (HCS) for Frail Elderly Persons. It is adjacent to Road L4 and Road L3 and other public housing developments such as Tung Chung Areas 99, 100 and 109. Road traffic noise impact is the key environmental issue to be addressed for the Development.

Road traffic noise assessment results for public housing blocks indicated that the Base-case scenario would achieve a noise compliance rate of 91 % with a total of 188 out of 2018 flats exposed to traffic noise levels exceeding $L_{10(1\ hour)}$ 70 dB(A) criterion. The maximum predicted peak hourly L_{10} noise level is 74 dB(A). All practicable noise mitigation measures have been considered and recommended, including fixed windows and acoustic windows to mitigate the road traffic noise impact. With the implementation of these mitigation measures, the compliance rate for the public housing blocks is 100% and the maximum noise level is 70 dB(A). Non-domestic uses will not rely on opened window for ventilation based on HKHA's DDRP2 Scheme design. Therefore, the HKPSG noise criterion is not applicable.

Fixed type noise sources from salt water pumping station in Area 105, sewage pumping station in Area 104 and ventilation fans installed in Public Vehicle Park/Public Transport Interchange Complex at Area 99 have been reviewed in this study. These sources as well as the potential fixed noise sources (i.e. ventilation systems) at the proposed carpark would be designed to follow requirements in TM-EIAO and/or HKPSG, where appropriate. Therefore, adverse fixed plant noise impacts on the Development are not anticipated.

The Development is located outside the Noise Exposure Forecast (NEF) 25 of the Hong Kong International Airport at Chek Lap Kok. No adverse aircraft noise impact is anticipated at the Development.

Vehicular emissions impact on the Development have been assessed. All air sensitive uses are located at distance in compliant with the HKPSG recommended buffer distance from roads. This EAS is based on the latest layout plan, new population and development intensity of the report "Review for Population Increase and Development Intensity" (the Review Report).

行政摘要

香港房屋委員會就東涌第 103 區的擬建公營房屋發展項目的環境可行性,根據《香港規劃標準與準則》中第 9 章進行了是次環境評估研究。

擬建發展項目位於東涌新市鎮擴展的東涌東填海區。主要項目包括四座住宅大廈，零售商店，幼稚園，福利設施，業主立案法團，屋邨辦事處，長者鄰舍中心及體弱長者家居照顧服務隊，。毗鄰為住宅區，包括東涌第 99、100 及 109 區及規劃中的 L3、L4 道路，在東南邊界設有一帶休憩用地。道路交通噪音為擬建發展項目須的主要環境問題。

道路交通噪音評估結果顯示，在基本方案下，總共 2018 單位中約 91%的單位將符合噪音標準，而 188 個單位會受到交通噪音超過 $L_{10(1\text{ 小時})}$ 70 分貝(A)標準的影響。預測最高的噪音聲級為 74 分貝(A)。在實施緩解措施的情況下，包括提供固定窗及減音窗，100%的住宅單位會符合 70 分貝(A)噪音標準。根據房屋委員會 DDRP2 設計，非住宅的通風將不會依賴開敞式窗戶，所以，香港規劃標準與準則之下的噪音標準不適用。

在固定噪音影響方面，是次環境評估研究檢視了位於東涌第 105 區的海水抽水站，第 104 區的污水泵水站，第 99 區公共車輛泊車/交通交匯處的通風扇及擬建發展項目內的通風扇。以上的固定噪音源以及在擬建停車場的潛在固定噪音源(即 通風系統)的設計將符合《環境影響評估程序的技術備忘錄》 並/或《香港規劃標準與準則》的要求。預期固定噪音源對擬建發展項目不會引致不良的噪音影響。

擬建發展項目位於赤鱲角香港國際機場飛機噪音預測等量線 25 外，因此預計不會受到飛機噪音的負面影響。

環境評估研究亦審查了來自車輛廢氣排放對擬建發展項目的影響，發現所有易受空氣污染影響的地方與毗鄰道路分隔的距離均符合《香港規劃標準與準則》的規定。是次環境評估建基於以下資料:最新平面圖，於 “人口增長和發展密度審查”報告 (該審查報告) 內新的人口和發展密度。

1. Introduction

1.1. Project Background

1.1.1. Tung Chung Area 103 of the Tung Chung New Town Extension is intended to be developed as public housing development (the Development). The proposed housing type of the Development will be Subsidised Sale Flats (SSF)**. The target completion year of the Development is scheduled to be in 2026/27.

1.1.2. Atkins China Limited was commissioned by Hong Kong Housing Authority (HKHA) to undertake an Environmental Assessment Study (EAS) for the Development.

1.1.3. The site of the Development, with a gross site area of about 1.73 hectare (ha), is located in Tung Chung New Town Extension (East) (TCNTE(E)). The site has been handed over to HKHA for construction of the Development in February 2021. This EAS would study one layout scheme of the Development, namely 'Detail Design Review Panel (DDRP) 2 Scheme' with four residential blocks located on a podium.

1.1.4. This EAS has been undertaken with reference to the guidance for environmental considerations provided in Chapter 9 "Environment" of the Hong Kong Planning Standards and Guidelines (HKPSG).

1.1.5. This EAS is based on the latest layout plan, new population and development intensity-Scenario L (Case 2 Scenario 2B) of the report "Review for Population Increase and Development Intensity" (the Review Report).

1.2. Scope

1.2.1. The scope of this EAS is outlined as follow:

- Assess the road traffic noise impacts upon the Development with reference to the HKPSG;
- Assess the potential noise impacts of other fixed type noise sources upon the Development with reference to HKPSG;
- Review the potential aircraft noise impacts on the Development due to the operation of Hong Kong International Airport with reference to the HKPSG;
- Assess the potential air quality impacts due to vehicular emissions from the surroundings road network upon the Development with reference to HKPSG; and
- Recommend appropriate environmental mitigation measures as required.

** Flexibility would be allowed to change the housing type to cater for demand change between Public Rental Housing (PRH)/ Green Form Subsidised Home Ownership Scheme (GSH) and Subsidised Sale Flats (SSFs) subject to pro-rata adjustments of provision of ancillary facilities in accordance with the HKPSG

1.3. Site Location and Scale

1.3.1. The Development Site, with a gross site area of about 1.73 ha, is located in the north-eastern part of Tung Chung and is located at a newly reclaimed area (currently under construction by CEDD) of the Tung Chung New Town Extension at Tung Chung East with formation level +5.5mPD. The Development is surrounded by residential zone (Tung Chung Areas 99, 100 and 109) and Government, Institution and Community (G/IC) zone (Area 102) with a strip of open space adjacent to its south-eastern boundary. It is bounded by planned Roads L3 and L4 at the north-western and north-eastern sides, respectively. North Lantau Highway is located 513m to the south of the Development and Mass Transit Railway (MTR) including Tung Chung Line (TCL) and Airport Express Line (AEL) are located more than 483m to the south of the Development. The site location plan is given in **Figure 1.1.**

1.3.2. The Development site is zoned "Residential (Group A) 5" ("R(A)5") on the approved Tung Chung Extension Area Outline Zoning Plan No. S/I-TCE/2 (OZP). Stipulated in the OZP, the site is intended primarily for high-density residential development and subject to a maximum building height of +110mPD and maximum plot ratio of 5.4. HKHA's proposal on increasing overall PR to 5.9 (domestic PR of 5.5 and non-domestic PR of 0.4) and maximum building height to +125mPD will be submitted to Town Planning Board for approval on minor relaxation of development restriction.

1.4. Development Layout Details

1.4.1. The site layout scheme under this EAS is namely "DDRP2 Scheme", which includes four public housing blocks, namely Block A, Block B, Block C and Block D. Retail shops, Welfare facilities and Estate Management Office (EMO)/District Maintenance Office (DMO) are provided on the ground floor and the first floor of the Development. The site layout for domestic floor and non-domestic floor are provided in **Figure 1.2** to **Figure 1.4** and block sectional plans are given in **Figure 1.5.** The key development parameters of DDRP2 Scheme are summarised in **Table 1.1 and Table 1.2**.

Table 1.1 Key Development Parameters of the Development (DDRP2 Scheme) (Domestic)

Parameters	Block A	Block B	Block C	Block D
Domestic Floor	2/F to 15/F	2/F to 38/F	2/F to 39/F(1)	2/F to 29/F
No. of Domestic Storeys	14	37	38	28
Flats per Floor	12	17	19	19
Floor to Floor Height (m)	2.75	2.75	2.75	2.75
First Domestic Floor Level (mPD)	18.85	19.65	19.65	17.9
No. of Flats	168	629	689(1)	532
Flat Roof Level (mPD)	18.65	19.65	19.65	17.9
Podium Level (mPD)	12.3			
Total No. of Flats	2018			
Proposed Project Completion Date	2026/27			

Note:
(1): Flat 17,18 and 19 in Block C are truncated from 29/F to 39/F.

Table 1.2 Key Development Parameters for the Proposed Development (Non-domestic)

Location			Name of the Proposed Facility	Type of Use
Block	Floor	Floor Level, mPD		
B	1/F	+12.3	Estate Management Office (EMO)(1)	Office
			Owners' Corporation Office (OC Office)(1)	Office
C	1/F	+12.3	Office in Kindergarten (1)	Office
			Classrooms 1-9 in Kindergarten(1)	Education
D	1/F	+12.3	Neighbourhood Elderly Centre (NEC) Office(1)	Office
			Activity Rooms 1 and 2 in NEC (1)	Community Uses
			Common Room in NEC (1)	Community Uses
			Centre for Home Care Services (HCS) for Frail Elderly Persons(1)	Office
			Area for Personal Care Workers (P.C.W)(1)	Material Storage

Note:
(1) The concerned rooms do not rely on openable window for ventilation and window/spilt type air conditioners will be provided. Therefore, the HKPSG noise criterion is not applicable.

1.5. Site Surroundings

1.5.1. The site is currently under foundation construction and is surrounded by the planned developments. There are proposed public housing developments in Areas 99, 100 to the south, south-east of the site, which are zoned as “Residential (Group A) 3” (“R(A)3”) and “Residential (Group A) 1” (“R(A)1”). And Area 109, east of the site is zoned as “Residential (Group A) 5” (“R(A)5”). A G/IC site, Area 102, is adjacent to west of the site. The site is bounded by planned Road L3 to the north-western and planned Road L4 to its north-eastern. To the north of the Development is Area 106, which is zoned as “Residential (Group B) 3” (“R(B)3”)”. A strip of open space zone is located adjacent to the southern boundary of the site.

1.5.2. The corresponding locations of the surrounding Areas shown on OZP No. S/I-TCE/2 are displayed in **Plate 1-1**.

Plate 1-1, Statutory Plan for Tung Chung Extension Area Outline Zoning Plan (extracted from OZP No. S/I-TCE/2)

2. Road Traffic Noise Impact Assessment

2.1. Assessment Criteria

2.1.1. According to the HKPSG, the road traffic noise criterion of $L_{10\ (peak\ hour)}$ 70 dB(A) is applicable to the domestic premises within the proposed development. This criterion applies to uses which only rely on openable windows for ventilation.

2.1.2. Non-domestic uses, such as offices, community uses and kindergarten are proposed to adopt a close window environment with air conditioning based on HKHA's DDRP2 Scheme design. They will not rely on opened window for ventilation. Therefore, the HKPSG noise criterion is not applicable.

2.2. Assessment Methodology

2.2.1. Road traffic noise level prediction has been carried out using the NoiseMap model, which is a computerized model developed on the basis of the UK Department of Transport's Calculation of Road Traffic Noise (CRTN) procedures, which is a method accepted by EPD for use in Hong Kong.

2.2.2. Existing roads and the planned roads within the Tung Chung New Town Extension based on information given by CEDD[1] within 300m from the site of the Development have been included in the assessment.

2.2.3. All openable windows for ventilation in all noise sensitive rooms on domestic floors of the Development are considered as Noise Sensitive Receivers (NSRs) and are assigned with noise assessment points for the noise impact assessment. The noise assessment points (1m from the façades of the windows) were taken at 1.2m above each floor level. All noise assessment points, building structures with noise screening effects, topographical features and road segments with traffic flow data have been input into the NoiseMap model in predicting the potential traffic noise impacts. The noise assessment points are shown in **Figure 2.1** to **Figure 2.4**.

2.2.4. The planned population intake of Area 103 will be in Year 2026/27. Whilst the assessment year normally follows the CRTN methodology, i.e., 15 years after the population intake year which is expected to have the highest traffic flow within a 15 years period, this EAS has taken into account a separate study currently being undertaken by CEDD which is a study for enhancement of the public housing development (PHD) intensity of the entire Tung Chung New Town Extension (East) (TCNTE(E)). Under CEDD's study the ultimate completion year of the entire TCNTE(E) PHD will be in Year 2030 and the assessment year of their road traffic noise impact assessment is Year 2045, i.e., 15 years plus ultimate completion year of TCNTE(E) PHD in Year 2030). To this end, HKHA proposes to adopt the same assessment year as in the CEDD study, i.e., Year 2045 for the traffic noise impact assessment of Area 103 in this EAS. EPD have been consulted and they have no adverse comments on adopting Year 2045 for the road traffic noise impact assessment for Area 103. The plot ratio relaxation in Area 99 and the proposed

[1] The latest road layout including the proposed road improvement works in Tung Chung East is made reference to the report Agreement No. CE 69/2015 (CE) Tung Chung New Town Extension (East) Design and Construction - Technical Note on Preliminary Findings of Traffic Impact Assessment for Population Increase and Development Intensity – CASE 2 Scenario 2B (Draft).

intensification at various public housing sites in TCNTE(E)[2] have been considered in the forecast traffic data at Year 2045. The traffic forecast data of Year 2045, including traffic flow, percentage of heavy vehicles, road type and speeds, are provided in **Appendix A**. The traffic forecast data has been prepared following strictly the methodology endorsed by Transport Department (TD).

2.2.5. Other features that would have screening effect such as roadside planter walls along planned roads have made reference to the gazette plan (PWP ITEM NO.7786 CL Tung Chung New Town Extension (Tung Chung East and Road P1 Tung Chung East to Tai Ho Section) Road Work)) and was included in the traffic noise model. The dimensions of planter walls are based on Highway Department (HyD)'s standard drawing. The relevant information is given in **Appendix B.** According to the Section 16 planning application for Tung Chung (application No. A/I-TCE/1) and Civil Engineering and Development Department (CEDD)'s intensification study, CEDD/HyD have been agreed to apply the low noise road surfacing materials on Road L4, Road D4 and Ying Tung Road and it will be completed in Year 2024. The relevant information is given in **Appendix C**.

2.3. Design Consideration for the Base-case Scenario

2.3.1. The design of the given layout studied in this EAS has implemented the following design consideration in order to minimize the road traffic noise impact as much as practicable and with an aim to achieve a high compliance rate.

Further Setback

2.3.2. Further setback is considered not feasible for the Development given the limited site area. With current layout scheme, the site is butting nearby roads and buildings.

Provision of Podium

2.3.3. The four public housing blocks are located on top of a podium at a level of +. 12.2 mPD has been adopted as building feature. The provision of such building feature is to reduce the noise impact to the lower floor levels. The extent of the podium is given in **Figure 1.2**.

Provision of Flat Roof

2.3.4. Flat roof at the level of +19.65mPD has been adopted as building feature for Block A, Block B and Block C while +17.9mPD has been adopted for Block D. The provision of such building feature is able to reduce the noise impact to the lower floor level. The extent of flat roof for each block is given in **Figure 1.2.**

Building Block Design

2.3.5. Building blocks are arranged such that angles of view to traffic noise sources are minimised as far as possible. Due to site constrained by limited site area, the block layout is unavoidable to design with flats having a view to the planned Road L3 and L4.

[2] As advised by HKHA, the traffic forecast for the intensified scenario – Scenario L is adopted in this assessment. The traffic forecast assumption for the intensified scenario – Scenario L is equivalent to CASE 2 Scenario 2B in Agreement No. CE 69/2015(CE) Tung Chung New Town Extension (East) – Design and Construction – Review for Population Increase and Development Intensity.

2.4. Assessment Results

Predicted Road Traffic Noise Impacts under Base-case Scenario

Public Housing Blocks

2.4.1. The predicted peak hourly road traffic noise levels at the Development (base-case scenario) are detailed in **Appendix D**. The predicted hourly road traffic noise levels of the proposed residential flats at Area 103 exceeding $L_{10\ (peak\ hour)}$ 70dB(A) noise criterion are summarized in **Table 2.1**. The noise assessment points are shown in **Figure 2.1** to **Figure 2.4**. The predicted road traffic noise exceedance levels of the Development are given in **Figure 2.5 to Figure 2.8.**

Table 2.1 Summary of Predicted Peak Hourly Road Traffic Noise Results for the Public Housing Blocks (Base-case Scenario)

Block No.	Total No. of Flats	Predicted Maximum $L_{10\ (peak\ hour)}$ dB(A)	Noise Criterion $L_{10\ (peak\ hour)}$ dB(A)	No. of Flat with Noise Exceedance	Compliance Rate
A	168	73	70	30	82%
B	629	73		37	94%
C	689	73		35	95%
D	532	74		86	84%
Overall	**2018**	**74**		**188**	**91%**

2.4.2. As seen from **Table 2.1**, for the base-case scenario, there are 188 residential flats predicted to have road traffic noise levels exceeding the $L_{10\ (peak\ hour)}$ 70 dB(A) noise criterion. The predicted maximum $L_{10\ (peak\ hour).}$ noise level is 74 dB(A) and the compliance rate is 91%.

Predicted Road Traffic Noise Impacts under Mitigated Scenario

2.4.3. Mitigation measures, such as fixed window at some specific location have been considered. Predicted traffic noise results under mitigated scenario are presented in the following sections.

Mitigation Measures at the Public Housing Flats

Change of Openable Side Window to Fixed Glazing (with maintenance windows if necessary)

2.4.4. Some windows such as side windows for some of the flats are directly facing the traffic noise source (i.e. Road L3 and L4). To mitigate the road traffic noise impact, fixed glazing window with 6mm thick of window pane (normally closed) is proposed to be installed at these locations to reduce the road traffic noise entering the flat. Future tenants will be notified that these fixed panes should normally be closed and need not be opened for ventilation. The fixed windows are only opened for cleaning and maintenance purpose only. The information about fixed glazing windows would be incorporated in the Deed of Mutual (DMC) and sales brochure well aware of the above. For the purpose of cleansing, the fixed window can be opened only with a special Allen key. Fixed window would be adopted in Block B and Block D is summarized in **Table 2.3**.

Table 2.2 Summary of Proposed Fixed Window for Side Window

Block	Fixed Window location and NSR target of protection	Implemented Floor
B	BB_12e	3/F – 5/F
D	BD_6e	2/F – 12/F
D	BD_6f	2/F – 12/F
D	BD_7e	2/F – 12/F
D	BD_7f	2/F – 12/F
D	BD_13c	2/F – 16/F

2.4.5. Having considered the provision of fixed glazing at specific location, 186 flats of the Development will still be exposing to traffic noise levels exceeding relevant noise criterion, i.e. 70 dB(A) (list in **Table 2.3**). In order to alleviate the traffic noise impact at the affected flats, the acoustic window design will be adopted at window in the affected flats.

Table 2.3 Summary of Predicted Peak Hourly Road Traffic Noise Levels exceeding 70dB(A) Noise Criterion (Mitigation with the provision of fixed glazing)

Block No.	No. of Flats	Predicted Maximum $L_{10\ (peak\ hour)}$ dB(A)	Noise Criterion $L_{10\ (peak\ hour)}$ dB(A)	No. of Flat with Noise Exceedance	Compliance Rate
A	168	73	70	30	82%
B	629	73		36	94%
C	689	73		35	95%
D	532	73		85	84%
Overall	**2018**	**73**		**186**	**91%**

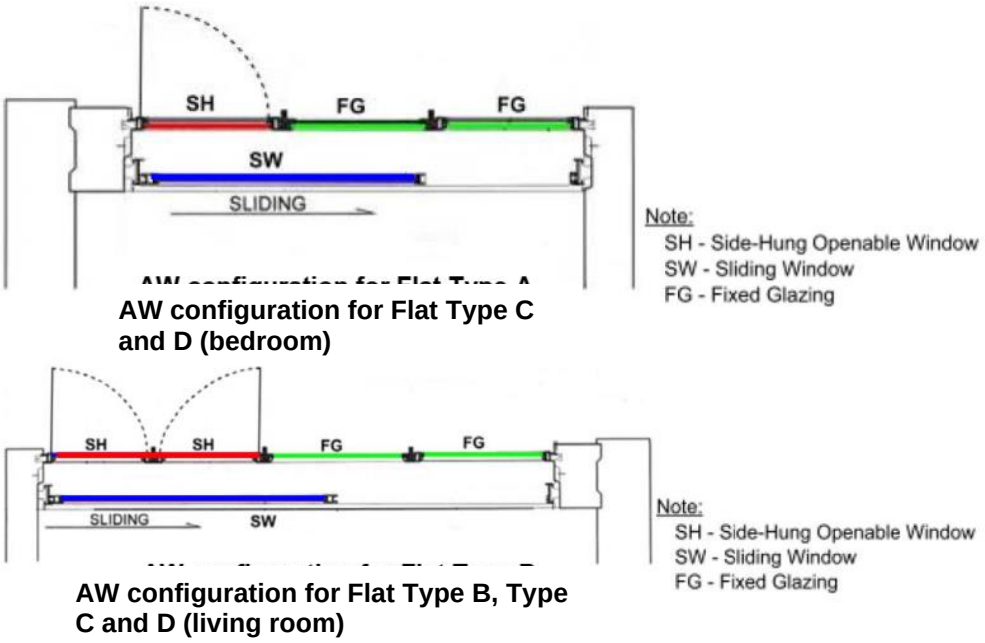
Provision of Acoustic Windows

2.4.6. Acoustic windows are proposed to be installed at flats that are still subject to noise exceedances after provision of architectural fins. Schematic features of acoustic window included:

- Outer layer of the window system consists of fixed glazing and side-hung openable gasketted window;
- Inner layer consists of one sliding window.

The schematic plan view of proposed acoustic window as indicated in **Plate 2-1**.

Schematic Plan View of Acoustic Window



AW configuration for Flat Type C and D (bedroom)

AW configuration for Flat Type B, Type C and D (living room)

Plate 2-1 Typical Configuration of Acoustic Window

2.4.7. For fixed glazing window design equipped with side-hung openable window, the provision of special window opening device like Allen Key should be provided in order to keep the side-hung window normally closed. However, as advised by the final report of Acoustic Design and Performance Evaluation of Acoustic Window (ADPEAW), the future resident shall be advised of the caution that such window should be closed to achieve the intended sound attenuation and that opening of the windows for purpose of other operation, maintenance or additional ventilation would compromise the indoor noise level in the flat.

2.4.8. The design of the proposed acoustic window meets the relevant natural ventilation requirement under the Building (Planning) Regulations. The inner sliding glass panel need to be slid behind the opened outer window for creating an air gap for the supply of fresh air with noise mitigation effect. According to the Practice Note on Lighting and Ventilation Requirements – Performance-based Approach (APP-130) issued by Buildings Department, for optimum performance with the inner sliding glass panel in a closed position, the air gap should have a length of not less than 100mm and a width between 100mm and 175mm. The length and width of the air gap of the proposed acoustic window also meet these conditions.

2.4.9. The noise reduction performance of the proposed acoustic window is made reference to the Housing Department's Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window" (Technical Note). Modular flat Type B, Type C and Type D referenced from the Technical Note have been proposed in the Development. Sound attenuation performance and configurations of the acoustic window for public housing are detailed in **Appendix E** and **Table 2.4**. Habitation Area for Flat Type B, Type C and Type D is summarized in **Table 2.5.**

Table 2.4 Summary of Acoustic Window Configurations (Retrieved from HD's Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Windows")

Flat Type	Inner Window Opening	Outer Window Opening	Window Overlapping Length	Window Pane Separation	Window Pane Thickness	Noise Reduction Performance dB(A) (Without sound Absorptive Lining)
Type B-5	1383mm(H)x 940mm(W)	1383mm (H) x 1010mm (W)	200mm	175mm	6mm	5.5
Type C – Living Room	1383mm(H)x 1060mm(W)	1383mm (H) x 1050mm (W)	330mm	175mm	6mm	5.6
Type C – Bedroom 1	1383mm(H)x 675mm(W)	1383mm (H) x 600mm (W)	525mm	175mm	6mm	
Type D – Living Room*	1383mm(H)x 1040mm(W)	1383mm (H) x 1060mm (W)	140mm	175mm	6mm	5.4
Type D – Bedroom 1*	1383mm(H)x 575mm(W)	1383mm (H) x 550mm (W)	525mm	175mm	6mm	
Type D – Bedroom 2	1383mm(H)x 550mm(W)	1383mm (H) x 550mm (W)	500mm	175mm	6mm	2.7

Remark (*): Type D flats under current layout are neither Type D-6 nor D-7 of HD's Technical Note on "Noise Attenuation for Modular Flat Design (MFD), compared inner and outer window of Type D flats between MFD and Non MFD, the different is 20mm to 100mm for Living Room and Bedroom 1. Such as slightly difference on the window size, the noise reduction values are not significantly affected. For purpose of conservative assessment, a 1dB(A) safety factor has been deducted for Living Room and Bedroom 1 for the noise attenuation. The predicted road traffic noise results are compliance after manual correction.

Table 2.5 Table of Habitation Area for Flat Type B, Type C and Type D

Flat Type	Habitation Area (m^2)
Type B-5	16
Type C	23
Type D	28

Acoustic Window Settings

2.4.10. For achieving the sound attenuation assessed in the study, the acoustic window should be set at the intended orientation as described in the Final Report of ADPEAW. The setting and orientation are summarized and described below:

- In case a flat is fronting a major noisy road running in parallel with the façade, the left or right settings of the openings of its acoustic window are only mutual images; both of which could achieve the intended sound attenuation.

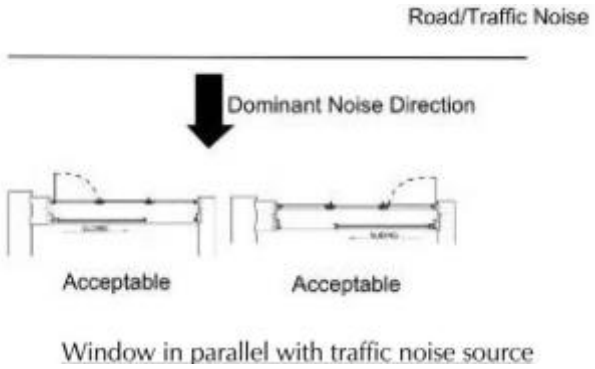


Plate 2-2 Acoustic Window in Parallel with Traffic Noise Source

- In case the road is located at one side of the flat, the traffic noise would propagate to the façade more from the side of the road rather than right in front of it. The staggered openings of the acoustic window should be set to intercept direct propagation of noise through the openings and the gap between outer and inner panes. In general, the opening of the outer layer of window should be sited further away from the road, as illustrated below:

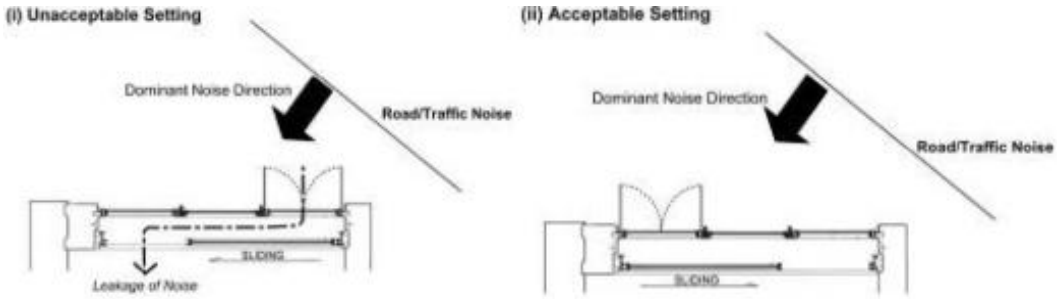


Plate 2-3 Acoustic Window not in Parallel with Traffic Noise Source

Advice to Future Residents for the Use of Acoustic Window

2.4.11. The sound attenuation achieved by the acoustic window refers to the designated setting of window. Hence the future residents in the flats equipped with acoustic windows should be advised of such settings stated in **Section 2.4.7** to **2.4.10** for achieving the intended attenuation. Deviation from the recommended setting might affect the noise level in the flat.

2.4.12. The noise reduction purpose of the acoustic window and its setting to achieve the noise reduction effect would be incorporated in the DMC and sale brochure to inform the future occupants.

2.4.13. The flats proposed to be installed with acoustic windows are summarized in **Table 2.6** Summary of Acoustic Window for Main Window (Without Sound Absorptive Lining)

2.4.14. The relevant locations are shown in **Figure 2.6 to Figure 2.8**.

Table 2.6 Summary of Acoustic Window for Main Window (Without Sound Absorptive Lining)

Block	Acoustic Window Locations	Flat Type	Implemented Floor
A	9a-b	Type C – Living Room and Bedroom 1	3/F-12/F
A	10a-b	Type C – Living Room and Bedroom 1	3/F-12/F
A	11a-b	Type D – Living Room and Bedroom 1	3/F-12/F
A	11d	Type D –Bedroom 2	4/F-6/F
B	12a-b	Type D – Living Room and Bedroom 1	3/F-12/F
B	12d	Type D –Bedroom 2	3/F-8/F
B	13a-b	Type C – Living Room and Bedroom 1	3/F-11/F
B	14a-b	Type C – Living Room and Bedroom 1	3/F-11/F
B	15a-b	Type C – Living Room and Bedroom 1	3/F-11/F
C	15a-b	Type C – Living Room and Bedroom 1	3/F-10/F
C	16a-b	Type C – Living Room and Bedroom 1	3/F-10/F
C	17a-b	Type C – Living Room and Bedroom 1	2/F-10/F
C	18a-b	Type D – Living Room and Bedroom 1	2/F-11/F
C	18d	Type D –Bedroom 2	3/F-4/F
D	6d	Type D –Bedroom 2	3/F-4/F
D	7a-b	Type D – Living Room and Bedroom 1	3/F-14/F
D	7d	Type D –Bedroom 2	3/F-13/F
D	8a-b	Type D – Living Room and Bedroom 1	3/F-12/F
D	8d	Type D –Bedroom 2	4/F-8/F
D	9a-b	Type C – Living Room and Bedroom 1	2/F-12/F
D	10a-b	Type C – Living Room and Bedroom 1	2/F-12/F
D	11b	Type B-5	2/F-11/F
D	12b	Type B-5	2/F-6/F

2.4.15. With all recommended noise mitigation in place, overall noise compliance rate for the public housing blocks of the Development is 100%. The predicted mitigated road traffic noise results are summarized in **Table 2.6** and detailed result is given **Appendix F.**

Table 2.7 Summary of Predicted Peak Hourly Road Traffic Noise Results for the Public Housing Blocks (Mitigated Scenario)

Block No.	No. of Flats	Predicted Maximum L_{10} (peak hour) dB(A)	Noise Criterion L_{10} (peak hour) dB(A)	No. of Flat with Noise Exceedance	Compliance Rate
A	168	70	70	0	100.0%
B	629	70		0	100.0%
C	689	70		0	100.0%
D	532	70		0	100.0%
Overall	**2018**	70		0	100.0%

2.5. Summary

2.5.1. This EAS has considered all possible mitigation measures and all practicable measures have been proposed for the Development. With the implementation of acoustic windows and fixed windows, the overall noise compliance rate for residential blocks under mitigated scenario will be 100%.

3. Fixed Plant Noise Impact Assessment

3.1. Assessment Criteria

3.1.1. According to Chapter 9 of the HKPSG, noise assessments for fixed noise sources would normally be conducted in accordance with the Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places Or Construction Sites (IND-TM), published under the Noise Control Ordinance (NCO). The IND-TM lays down statutory Acceptable Noise Levels (ANL). The ANLs for fixed noise sources as stipulated in the IND-TM are provided in **Table 3.1** below:

Table 3.1 Acceptable Noise Level in IND-TM

Time Period	Acceptable Noise Level, Leq 30 min, dB(A)		
	ASR"A"	ASR"B"	ASR"C"
Day-time (0700 – 1900 hours)	60	65	70
Evening (1900 – 2300 hours)			
Night-time (2300 – 0700 hours)	50	55	60

Notes: ASR = Area Sensitivity Rating

3.1.2. The Acceptable Noise Levels (ANLs) are dependent on the Area Sensitivity Rating (ASR) defined and the time period of the day. The ASR of the NSR is determined by the type of area containing it and the presence of any influencing factors (IF) such as industrial areas, major roads, etc.

3.1.3. Under the current design scheme, the Development is surrounded by residential zone (Areas 99, 100 and 109) and open space adjacent to its south eastern boundary and planned L3 and L4 at north western and north eastern to the Development respectively. The background noise of the Development is dominated by the local noise such as the community noise, aircraft noise from HKIA, and traffic noise arising from Road L3 and Road L4. The development site contains high density residential developments with limited small-scale shops and commercial elements. The Development is not classified as rural rea, low density residential area and urban area. Therefore, the type of area of the Development is categorized as "Area other than those above" The NSRs in the Development are located at 538m from North Lantau Highway (NLH) which is screened by the nearby buildings. As the Development is classified as "Area other than those above" and not affected by influencing factor (IF), the ASR of the Development is classified as "B".

3.1.4. The Subject site will be surrounded by high-rise residential buildings and GI/C zones in the OZP. It is envisaged the Subject Site should be classified as " Area other than those above" according to Table 1 of IND-TM. As the development is not affected by Influencing Factor (IF) defined in IND-TM, the development should be classified as ASR B according to IND-TM. The cumulative levels of existing and planned fixed noise sources shall comply the appropriate ANLs.

3.2. Identified Fixed Plant Noise Sources

3.2.1. Potential fixed noise sources within 300m from the Development were identified and shown in **Figure 3.1**. According to the latest OZP (No. S/I-TCE/2), the Development is mainly surrounded by residential developments, no industrial area is situated in the vicinity of the Development. Based on the approved Tung Chung New Town Extension Environmental Impact Assessment Report (Register No: AEIAR-196/2016) (hereafter referred to as "TCNTE EIA report") and the information provided by HKHA and Island District Council Meeting Document, the identified fixed noise sources within 300m from the Development include sewage pumping station (S1), salt water pumping station (S2), ventilation fans installed at Public Vehicle Park/Public Transport Interchange Complex at Area 99 (S3 and S4) and the planned District Cooling System (DCS) in Tung Chung Area 120 (S5). The identified noise sources were summarized in **Table 3.2**.

3.2.2. The planned DCS in Tung Chung Area 120 (S5) is located at about 320m to the north-eastern of the Development. Due to the planned DCS is out of study area of the Development (>300m), as such, adverse noise impacts due to the planned DCS is not expected to occur.

Table 3.2 Identified Fixed Plant Noise Sources within 300m from the Development

Source ID	Identified Fixed Plant Sources		Remarks
	Location	Approximate Horizontal Separation Distance to the Nearest NSR at Block A (round to the nearest 10m)	
S1	Planned Sewage Pumping Station at Area 104	150 m	The noise emission from the fixed plant is properly designed to meet the maximum allowable SWL based on the approved TCNTE EIA report.
S2	Planned Salt Water Pumping Station at Area 105	190 m	
S3	Public Vehicle Park (PVP)/Public Transport Interchange Complex at Area 99	100 m (1)	The Sound Power Levels of the fixed plant sources have been designed to be ANL- 5 dB(A) and the noise planning standards recommended in HKPSG.
S4		100 m (1)	
S5	District Cooling System at Area 120	>300m	It is understood that the future proponent shall carry out a separate study to assess the potential noise impact and provide the appropriate mitigation measures, if necessary.

Note:

(1) The proposed locations of ventilation fans (S3 and S4) are based on the available design information.

*(2) The location plan of the planned DSC is given in **Figure 3.1**.*

3.3. The Fixed Plant Noise Impacts Caused by the Development

3.3.1. The proposed carpark is to be located at underground basement structure of the Development. Ventilation systems would be installed for the basement carpark. As advised by HKHA, the ventilation systems in the Develpment should be designed to fulfil requirements, i.e Chapter 9 of the HKPSG. Noise emission from any fixed plant shall be designed to be 5dB(A) below the appropriate ANLs as stipulated in IND-TM and the relevant noise planning standard recommended in the HKPSG No adverse noise impact arising from the planned ventilation fans is anticipated.

3.4. Other Potential Noise Source

Planned Sewage Pumping Station at Area 104 and Planned Salt Water Pumping Station at Area 105 (S1 and S2)

3.4.1. With considering of the large separation (>150m), screening from its surrounding buildings and design of S1 and S2 will comply with approved TCNTE EIA (i.e. designed to be 5 dB(A) below the appropriate ANL under the Noise Control Ordinance (IND-TM). Therefore, adverse noise impacts due to the fixed plant sources including S1 and S2 are not expected to occur.

Public Vehicle Park/ Public Transport Interchange Complex at Area 99 (S3 and S4)

3.4.2. The major fixed plant noise sources for Public Vehicle Park (PVP)/ Public Transport Interchange (PTI) complex are from the operation of ventilation fan. The proposed locations of ventilation fans (S3 and S4) are shown in **Figure 3.1**. As advised by HKHA, design of the ventilation fans will comply with noise requirements under the Noise Control Ordinance (IND-TM)(i,e. designed to be 5 dB(A) below the appropriate ANL) and the relevant noise planning standards recommended in the HKPSG. Adverse noise impacts at the Development due to ventilation fans (S3 and S4) are not expected to occur.

Discussion on Planned Public Transport Interchange (PTI) at Area 99

3.4.3. A PTI in Area 99 is about 67m to the south of the Development. Noise arising from planned PTI should be considered. The PTI shall be designed to follow the recommendation of Section S.4.2.14 of Ch.9 of HKPSG. With proper design, noise impact from PTI to NSRs is not expected to occur.

3.5. Summary

3.5.1. It is noted that the identified fixed noise sources (i.e., S1, S2, S3 and S4) shall be designed to follow the recommendation of Section S.4.2.14 of Ch.9 of HKPSG. Therefore, adverse fixed plant noise impact on the Development is not anticipated.

4. Aircraft Noise Impact Assessment

4.1. Aircraft Noise

4.1.1. Aircraft noise is governed by the Civil Aviation (Aircraft Noise) Ordinance (Cap. 312). With reference to the HKPSG, exposure to aircraft noise is described by Noise Exposure Forecast (NEF) contours. The NEF standards applicable to the Hong Kong International Airport at Chek Lap Kok as stipulated in Table 4.1 of HKPSG Chapter 9, Environment should not be exceeded. The aircraft noise standard for planning noise sensitive uses is summarised below:

- All domestic premises, including temporary housing accommodation should not be located within 25 NEF contours as described.

4.1.2. The predicted NEF25 contours of the Three-Runway System (3RS) has made reference to **Figure 4.3d-1, Figure 4.3f-1** and **Figure 4.3h-1** of the approved TCNTE EIA report.

4.1.3. According to the approved TCNTE EIA report, the predicted NEF noise contours assessment at Year 2021 (interim phase aircraft noise impact to the planned NSRs from intake), Year 2030 (worst operation mode of 3RS[3]) and Year 2032 (full operation mode) are used for the evaluation taking consideration of the population intake of this Development in Year 2026/27. The predicted NEF25 contours are shown in **Figure 4.1, Figure 4.2** and **Figure 4.3**. The separation distance between the NEF25 contour and the site boundary of Area 103 in assessment years are provided in **Table 4.1.** The Development is outside the predicted NEF 25 contours. Therefore, no adverse aircraft noise impacts on the Development are expected to occur when the population intake is expected by 2026/27.

Table 4.1 The separation distance between the NEF 25 noise contours and the site boundary of Area 103

Assessment Year	The shortest separation distance, m (round to the nearest 10m)
2021	44
2030	805
2032	830

4.2. Summary

4.2.1. Since the Development is located outside the 25 NEF contours, no adverse aircraft noise impacts on the Development are expected to occur.

[3] According to 3RS EIA (AEIAR-185/2014), the worst operation mode of 3RS is defined as the year with the largest total area within the NEF contour. The worst operation mode is represented the maximum noise emission scenario and concluded that Year 2030 represents as the worst operation mode.

5. Air Quality Impact Assessment

5.1. Assessment Criteria

The Hong Kong Planning Standards Guidelines

5.1.1. Chapter 9 of the Hong Kong Planning Standards Guidelines (HKPSG) provides environmental guidance for residential developments on air quality. In general, suitable buffer distance between sensitive uses and air pollution sources should be provided to minimize air quality impact.

5.2. Study Area and Emission Sources

5.2.1. The study area of the air quality assessment includes all area within 500 m from the Development site as shown in **Figure 5.1.** The site is surrounded by residential zone (Tung Chung Areas 99, 100 and 109) and open space adjacent to its south-eastern boundary. It is bounded by planned Roads L3 and L4 at the north-western and north-eastern sides, respectively. Based on the current information, the key emission sources would be the vehicle emissions from the nearby roads only. No other air polluting emissions sources such as industrial chimneys were identified within study area.

5.2.2. A planned sewage pumping station (SPS) in Area 104 is located at about 150m to south of the Development. The location is shown in **Figure 5.2**. Operation of SPS can create an odour nuisance. The design of the SPS is recommended to implement of appropriate mitigation measures to minimise odour nuisance, such as:

- Enclosing the odourous facilities
- Maintaining negative pressure to prevent foul air from escaping the building
- Provision of odour removal system

5.2.3. With properly design, odour nuisance to nearby air sensitive uses due to the SPS is not expected to occur.

5.3. Traffic Emissions

5.3.1. The HKPSG recommends buffer distance between roads and active open spaces. The different type of roads and the respective minimum buffer distance and permitted uses are given in **Table 5.1** below:

Table 5.1 Guidelines on Usage of Open Space Site

Pollution Source	Type of Road	Buffer Distance	Permitted Uses
Road and Highways	Trunk Road and Primary Distributor	>20m	Active and passive recreational uses
		3 - 20m	Passive recreational uses
		<3m	Amenity areas
	District Distributor	>10m	Active and passive recreational uses
		<10m	Passive recreational uses
	Local Distributor	>5m	Active and passive recreational uses
		<5m	Passive recreational uses
	Under Flyovers	--	Passive recreational uses

Note: The buffer distance is the horizontal, shortest distance from the edge of road kerb to the boundary of open space sites.

Assessment Results

5.3.2. The Development site is bounded by planned Road L3 to the north-west and planned Road L4 to its north-east. In this assessment, new roads L4 and L3 are classified as Local Distributor. The correspondences with Transport Department (TD) and Civil Engineering and Development Department (CEDD) is provided in **Appendix I**.

5.3.3. The HKPSG buffer distance from roads to "open space" sites have been referred to for evaluation of the potential traffic emissions impacts from the roads nearby. The HKPSG recommends a buffer distance on usage of "open space" site for active and passive recreational uses from local distributor is to be more than 5m. The minimum setback distance of residential blocks from the kerb of the roads are summarized in **Table 5.2**. The buffer zone required in general for the development is illustrated in **Figure 5.1**.

Table 5.2 Separation Distance Between Residential Blocks and Road Kerb

Road Source	Type of Road	Buffer Distance Required for Active Recreation Uses	The Shortest Horizontal Distance Separation from the Road Kerb to The Public Housing Blocks			
			Block A	Block B	Block C	Block D
Road L3	Local Distributor	>5m	7 m	9 m	12 m	12 m
Road L4	Local Distributor	>5m	151 m	92 m	51 m	9 m

5.3.4. The minimum horizontal separation distances from the nearest facades of the building blocks to the road kerbs meet the HKPSG recommended buffer distances and would meet the HKPSG standard with regards to vehicular emissions from open roads. As shown in **Figure 5.1**, there are no air sensitive uses, openable window or fresh air intake would be located within the buffer zones. To this end, no adverse air quality impacts on the Development due to vehicular emissions are anticipated.

5.3.5. For the non-residential facilities including kindergarten, retails, Estate Management Office and District Maintenance Office, no air sensitive uses, openable window or fresh air intake are located within the buffer zones and shown in **Figure 5.3.** Therefore, no adverse air quality impact on the non-residential facilities is anticipated.

5.4. Summary

5.4.1. Air quality impacts arising from road traffic vehicular emissions on the Development have been assessed. Since the requirements set out in the HKPSG on the buffer distance between roads and all air sensitive receivers have been fully satisfied, adverse air quality impacts due to traffic emission are not anticipated. This EAS is based on the latest layout plan, new population and development intensity of the report "Review for Population Increase and Development Intensity" (the Review Report).

6. Conclusion

6.1. Overall

6.1.1. An Environmental Assessment Study (EAS) has been conducted for the Proposed Public Housing Development at Tung Chung Area 103 comprising four specific blocks. Impacts related to road traffic noise, fixed plant noise, aircraft noise and air quality have been assessed.

6.2. Noise

6.2.1. Road traffic on planned Road L3 and Road L4 is identified as the major noise in the vicinity of the Development.

6.2.2. For public housing blocks, the Development has incorporated the design such as provision of roof podium, flat roof and building orientation under base-case scenario. To minimize the traffic noise, fixed window and acoustic window have been adopted as noise mitigation measures, all residential flats are compliance with the 70 dB(A) noise criterion.

6.2.3. Noise assessment has been conducted on potential fixed plant noise including the planned sewage pumping station, planned salt water pumping station and ventilation fans installed in Public Vehicle Park/Public Transport Interchange Complex at Area 99. Due to large separation and screening from its surrounding buildings and the ventilation fans at Area 99 will follow noise requirements under the Noise Control Ordinance (IND-TM) and standards in HKPSG adverse noise impacts due to the fixed plant sources (e.g. S1, S2, S3 and S4) are not expected to occur. With the adoption of the proposed SWLs for the planned fixed plant, the impact noise levels at NSRs will comply with the relevant noise criteria. Therefore, adverse fixed plant noise impact on the Development is not anticipated.

6.2.4. The Development is located outside of the NEF 25 contour. No adverse aircraft noise impact on the Development is expected to occur.

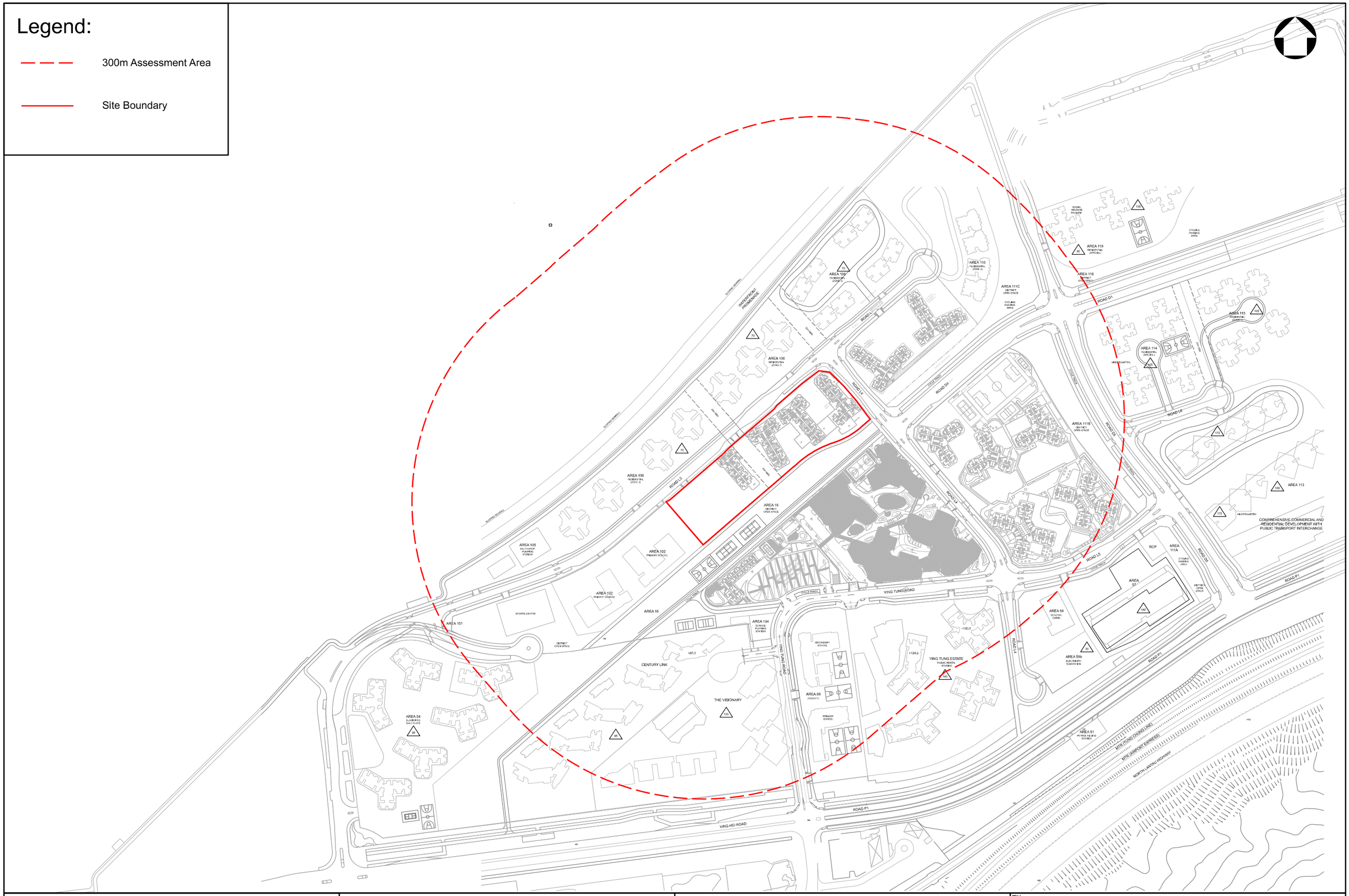
6.3. Air Quality

6.3.1. No air sensitive uses of the Development are located within the HKPSG recommended buffered area from open roads. No other air polluting sources are identified in the Development vicinity. No adverse air quality impacts due to traffic emission are expected to occur. This EAS is based on the latest layout plan, new population and development intensity of the report “Review for Population Increase and Development Intensity” (the Review Report).

Figures

Legend:

- 300m Assessment Area
- Site Boundary



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K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title

Location Plan and Study Area for Tung Chung Area 103

Scale at A3	Date	Figure No.
1 : 5000	Mar 2022	1.1

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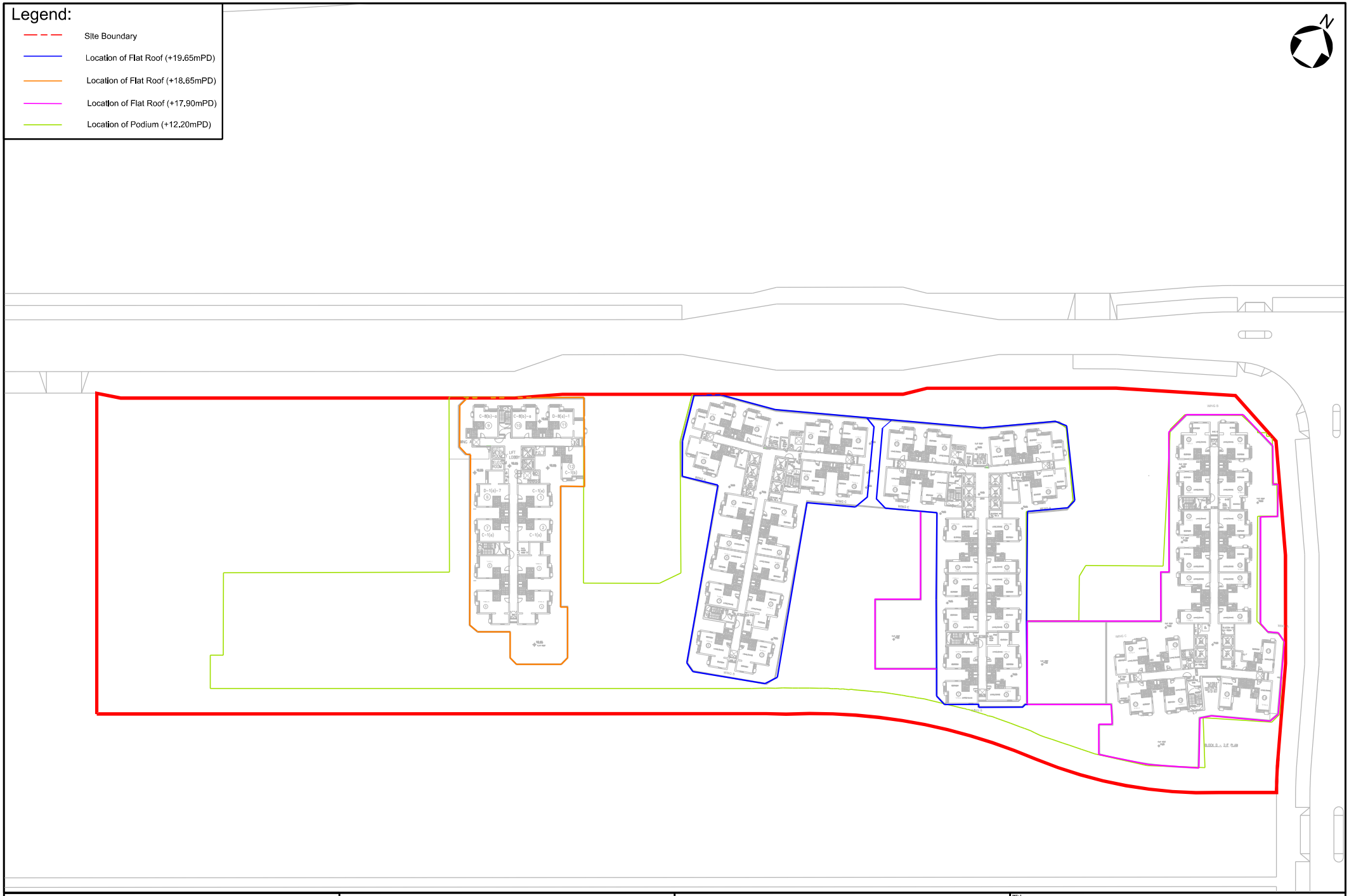

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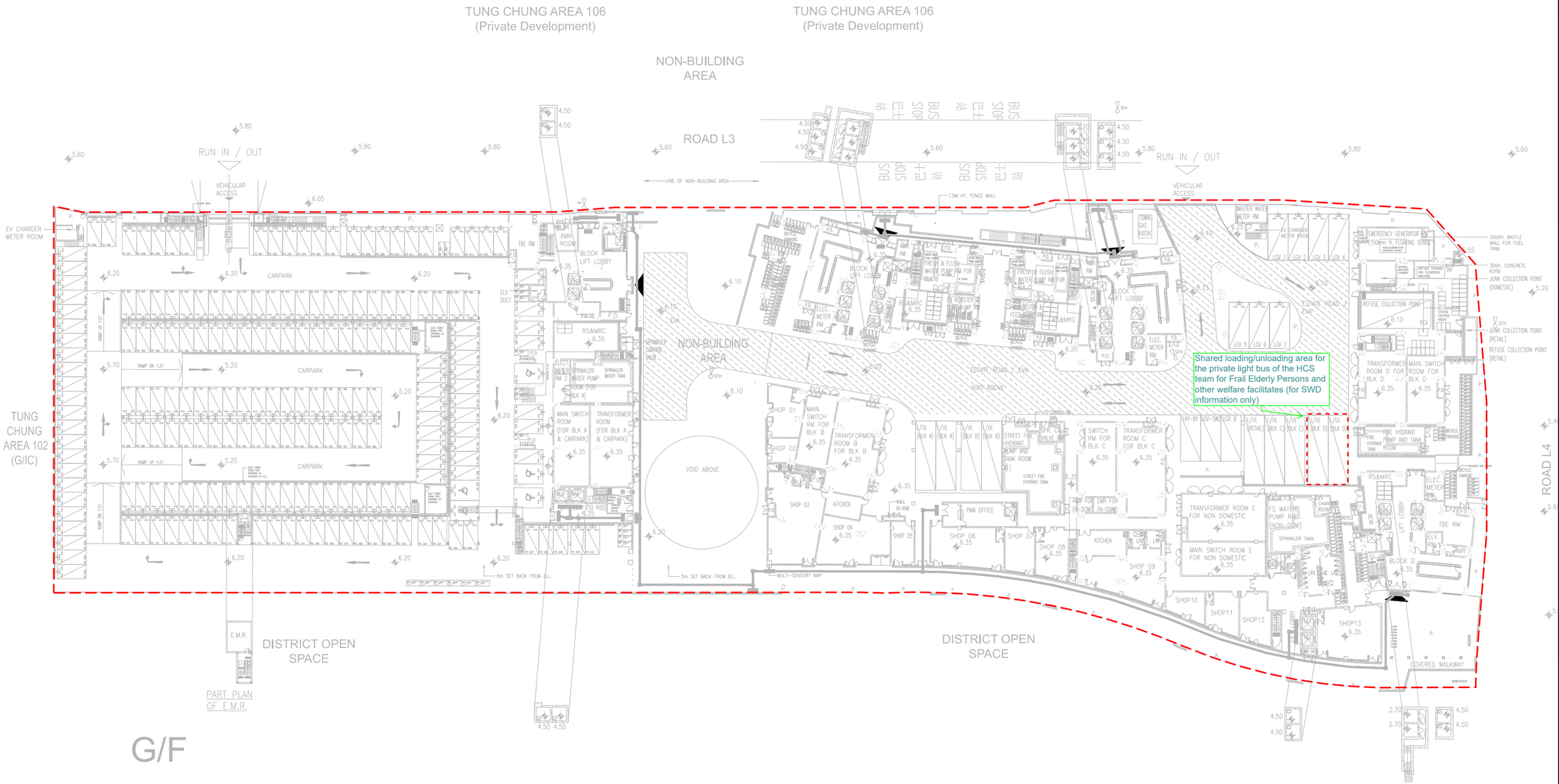
K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title
Proposed Public Housing Development at Tung Chung Area 103

Scale at A3	Date	Figure No.
NTS	Mar 2022	1.2

Legend:

Site Boundary



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K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title

Proposed Non-Residential Facities (Ground Floor) at Tung Chung Area 103

Scale at A3	Date	Figure No.
NTS	Jun 2022	1.3

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Legend:

Site Boundary

TUNG CHUNG AREA 106
(Private Development)

NON-BUILDING AREA

TUNG CHUNG AREA 106
(Private Development)

ROAD L3

FLAT ROOF 9.675

BASKETBALL COURT

BADMINTON COURT

COMMUNAL PLAY AREA

JOGGING PATH

FRESH & FLUSH PUMP RM.

F.S. BOOSTER & FEED PUMP RM. FOR BLK A

BUILDING LINE ABOVE

COVERED LANDSCAPE AREA

COVERED WALKWAY

MULTI-SENSORY MAP

TRELLIS

VOID

TABLE TENNIS COURT

INDOOR PLAY AREA

KINDERGARTEN

CANOPY

ACCESSIBLE TOILET

Toilet for staff (Male)
(for SWD information only)

Toilet with Shower Facility for Services Users
(For SWD information only)

Toilet for staff (Female)
(For SWD information only)

DISTRICT OPEN SPACE

DISTRICT OPEN SPACE

ROAD L4

1/F

TUNG CHUNG AREA 99

NON-BUILDING AREA

TUNG CHUNG AREA 99

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K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

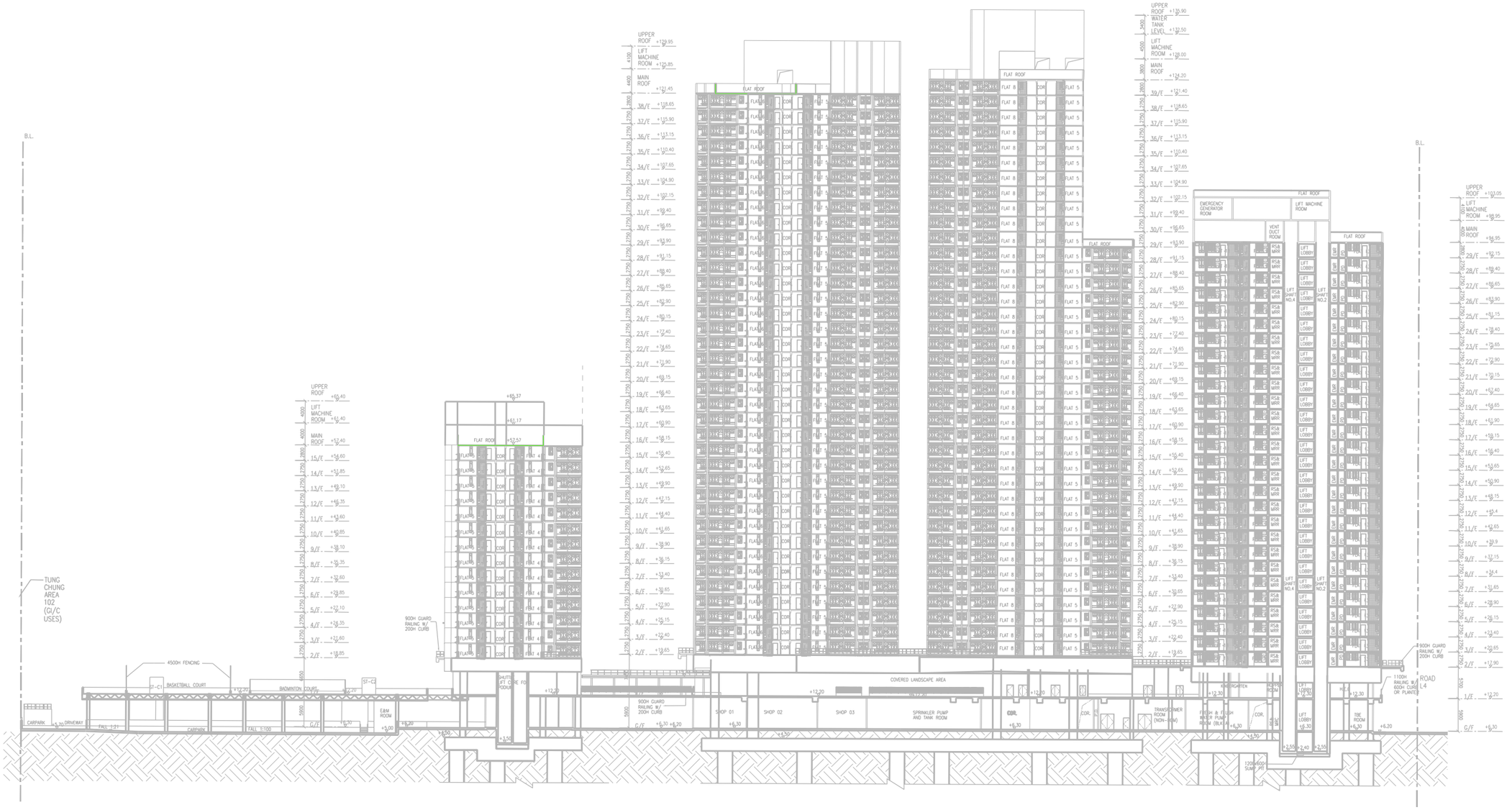
Title

Proposed Non-Residential Facilities (First Floor) at Tung Chung Area 103

Scale at A3	Date	Figure No.
NTS	Jun 2022	1.4

PRINTED BY: LAWR6189 27/06/2022 12:42:38 AM
FILENAME: C:\DATA\AREA 103 & 109\AREA 103\FEB 2022 SCHEME\V2\FIGURE\WORKING\FIGURE 1.4 MAR 2022 SCHEME.DGN
MODEL NAME: DEFAULT

KEY PLAN



TC103
BLK A SEC A-A
14 Domestic storeys

TC103
BLK B SEC A-A
37 Domestic storeys

TC103
BLK C SEC A-A
38 Domestic storeys

TC103
BLK D SEC A-A
28 Domestic storeys

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K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title

Block Section for Area 103

Scale at A3	Date	Figure No.
NTS	Mar 2022	1.5

PRINTED BY: LAWR6189 01/04/2022 00:24 PM
FILENAME: C:\DATA\AREA 103 & 109\AREA 103\FEB 2022 SCHEME\V0\FIGURE\WORKING\FIGURE 1.5_RECEIVE ON 31MAR.DGN
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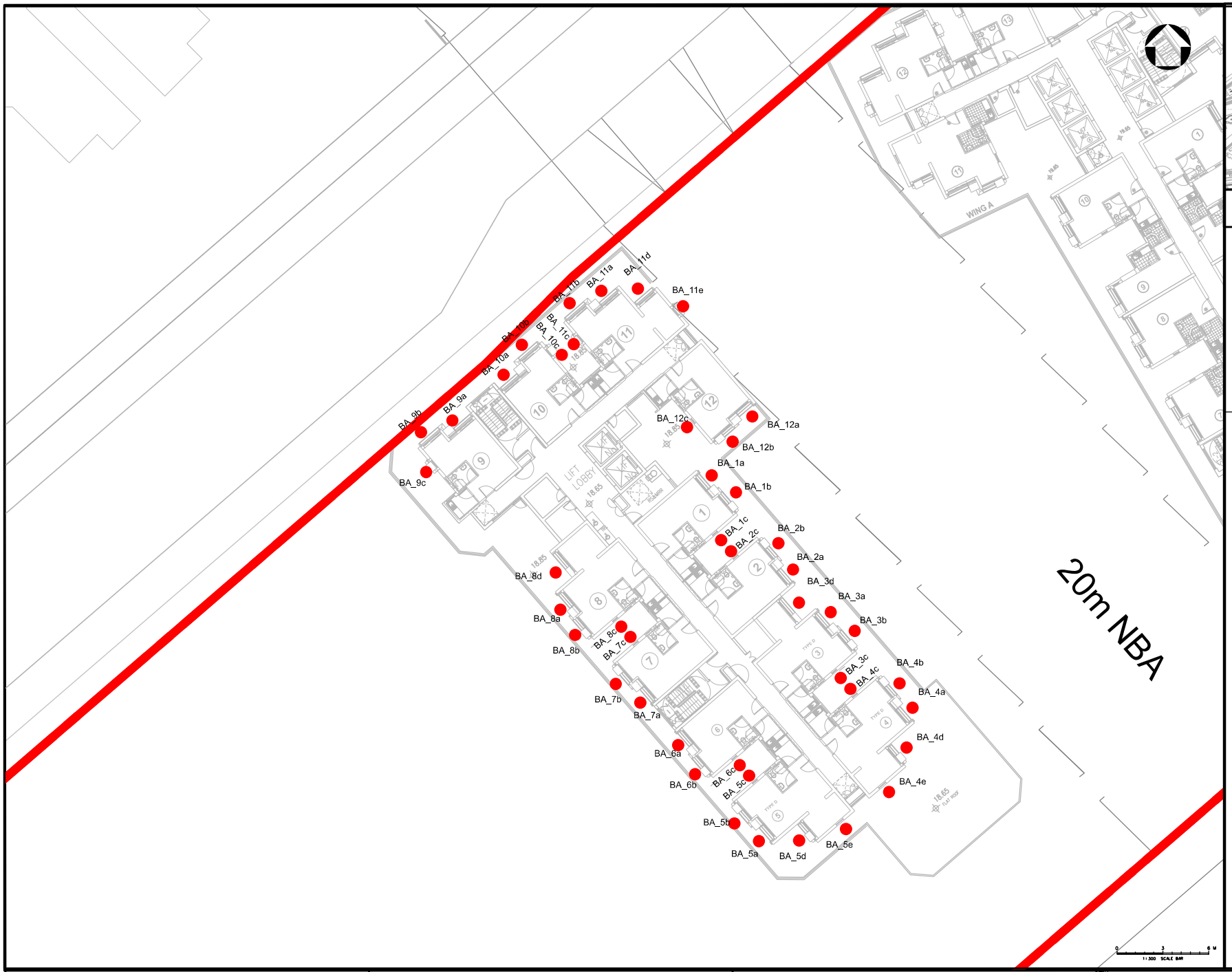

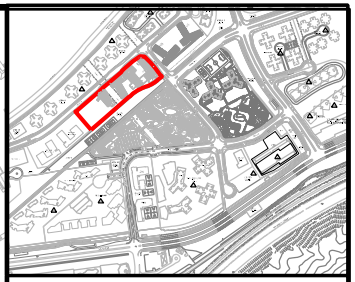

Key Plan

Legend:

- Noise Assessment Point
- Site Boundary

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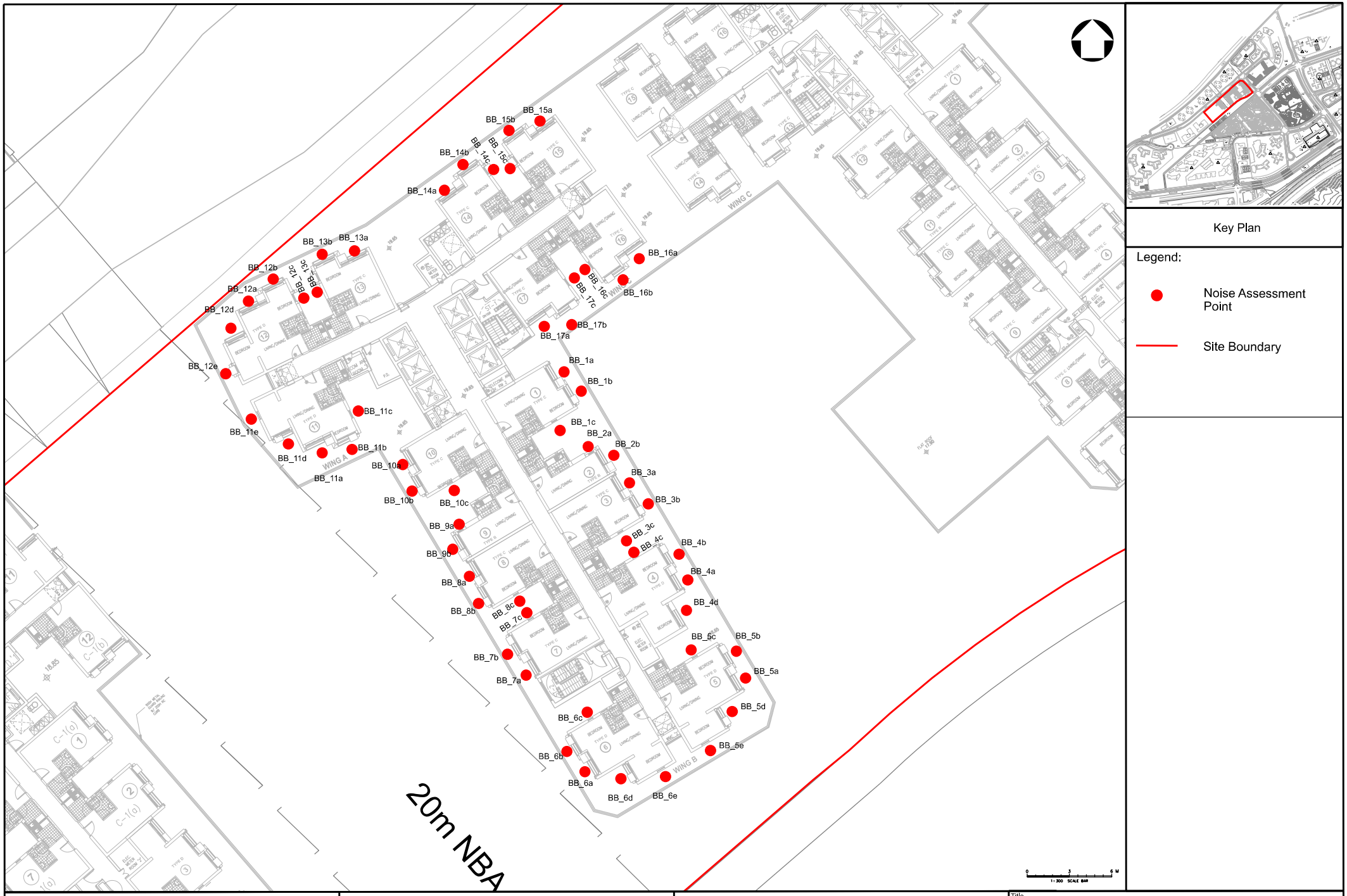
K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title: Noise Assessment Points in Tung Chung Area 103 (Block A)

Scale at A3	Date	Figure No.
1:300	Mar 2022	2.1

PRINTED BY: LAWRENCE 03/05/2022 04:17 PM
FILENAME: C:\DATA\AREA 103 & 109\AREA 103\FEB 2022 SCHEME\V8\FIGURE\WORKING\FIGURE 2.1 MAR 2022 SCHEME - BLOCK A.DGN
MODEL NAME: DEFAULT



Key Plan

Legend:

- Noise Assessment Point
- Site Boundary

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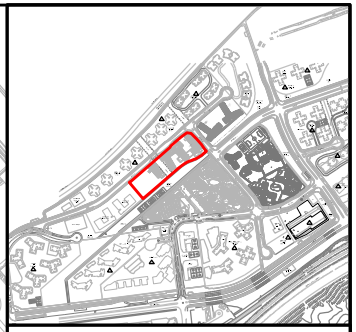
K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title
Noiose Assessment Points in Tung Chung Area (Block B)

Scale at A3	Date	Figure No.
1 : 300	Mar 2022	2.2

PRINTED BY: LWR61 09/03/2022 02:46:29 PM
FILE NAME: K:\103\AREA 103 & 107\ARCH\03-FEB 2022 SCHEME\V0\FIGURE\WORKING\V\FIGURE 2.1 MAR 2022 SCHEME - BLOCK B.DGN
MODEL NAME: DEFAULT



Key Plan

Legend:

- Noise Assessment Point
- Site Boundary

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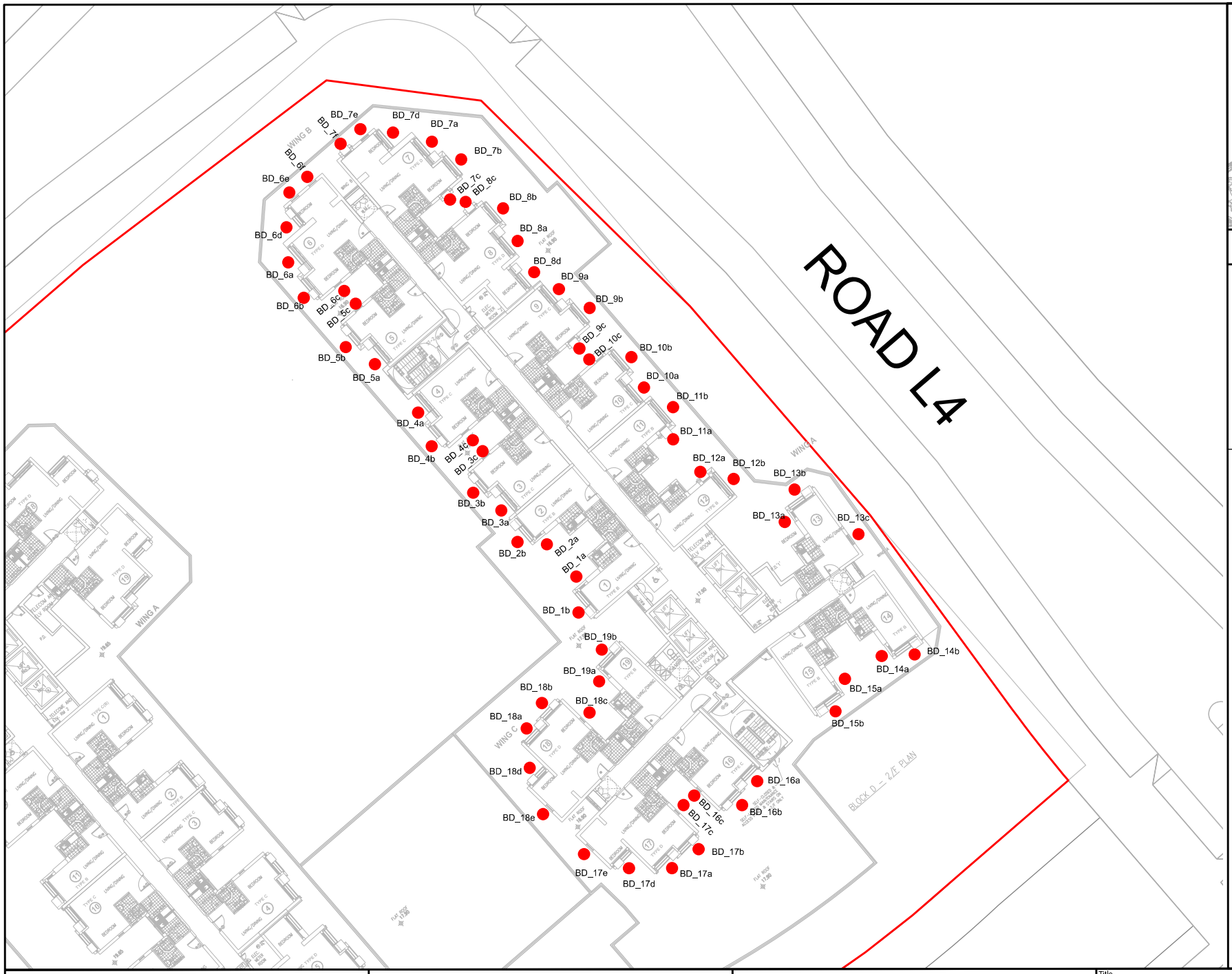
K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

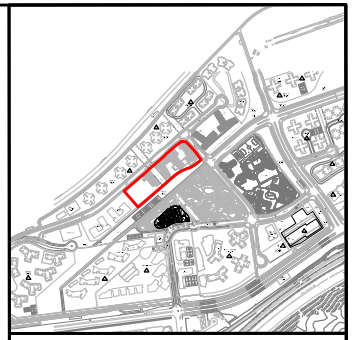
Title

Noise Assessment Points in Tung Chung Area 103 (Block C)

Scale at A3	Date	Figure No.
1 : 300	Mar 2022	2.3

PRINTED BY: LWR61193/05/2022 5:26 PM
FILENAME: K:\K03\AREA 103 & 107\AREA 103\FEB 2022 SCHEME\V0\FIGURE\WORKING\FIGURE 2.1 MAR 2022 SCHEME - BLOCK C.DGN
MODEL NAME: DEFAULT





Key Plan

Legend:

- Noise Assessment Point
- Site Boundary

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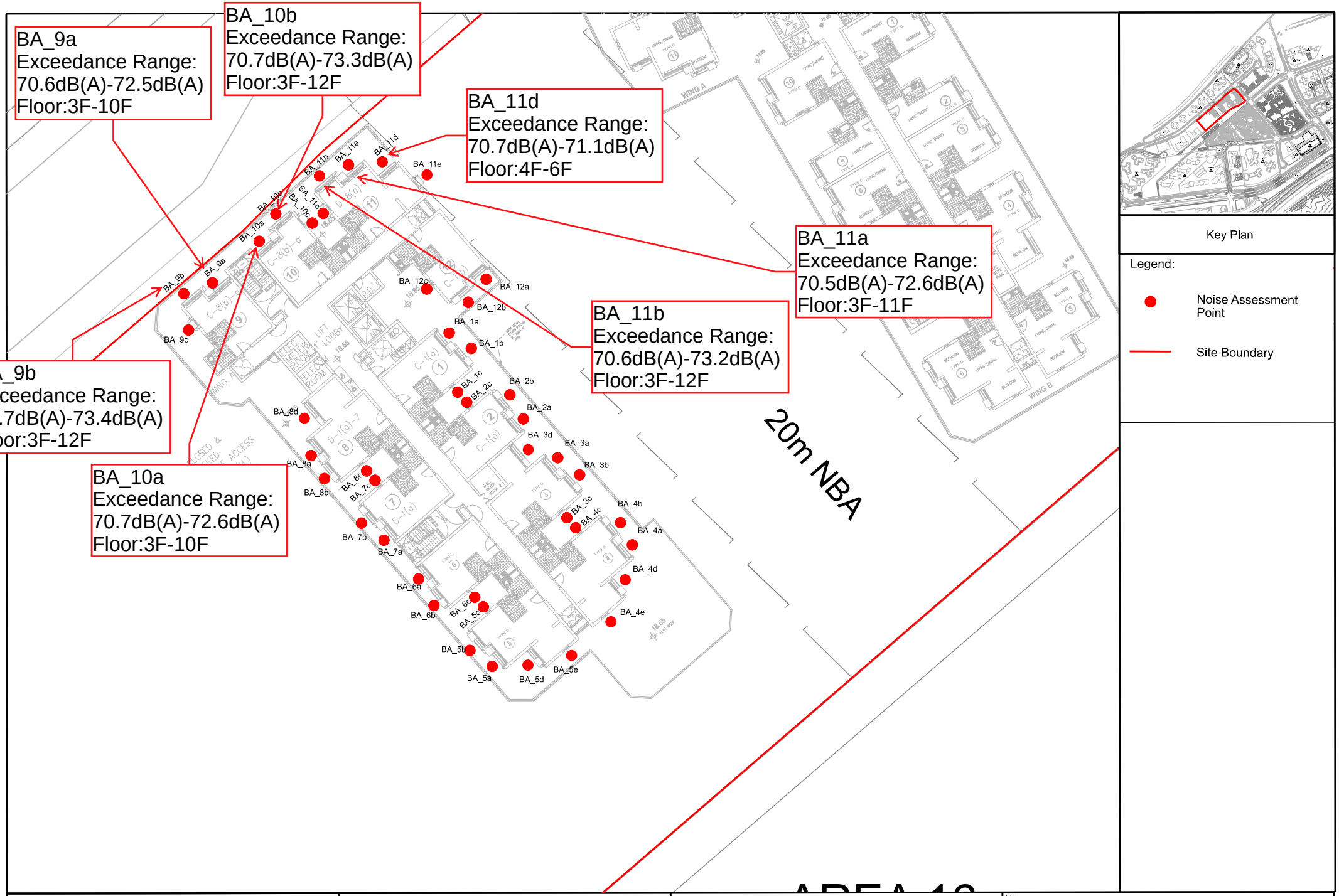
K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title: Noise Assessment Points in Tung Chung Area 103 (Block D)

Scale at A3	Date	Figure No.
1 : 300	Mar 2022	2.4

PRINTED BY: LWR61P03/05/2022 08:18 PM
PLOT NAME: AREA 103 & 101-AREA 103-FEB 2022 SCHEME\V0\FIGURE\WORKING\FIGURE 2.1 MAR 2022 SCHEME - BLOCK D.DGN
MODEL NAME: DEFAULT



Key Plan

Legend:

- Noise Assessment Point
- Site Boundary

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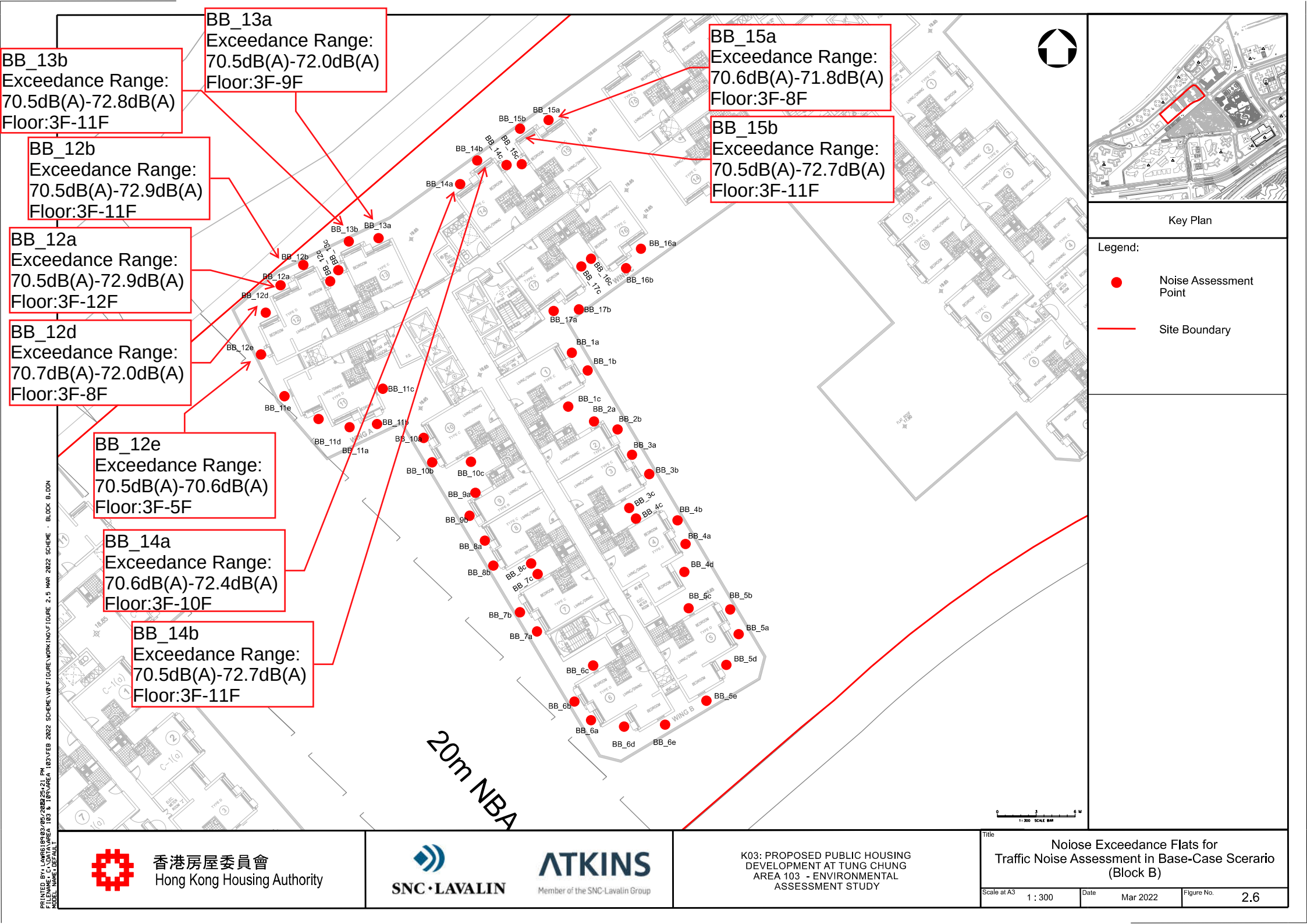
K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title
Noise Exceedance Flats for Traffic Noise Assessment in Base-case Scenario (Block A)

Scale at A3	Date	Figure No.
1 : 300	Mar 2022	2.5

PRINTED BY: LWR61 ON 03/05/2022 12:28 PM
PLOTTING NAME: A3.CTB
MODEL NAME: DEFAULT
K:\K03 - AREA 103 & 101\AREA 103\FEB 2022 SCHEME\V8\FIGURE\WORKING\FIGURE 2.5 MAR 2022 SCHEME - BLOCK A.DGN


BB_13a
Exceedance Range:
70.5dB(A)-72.0dB(A)
Floor:3F-9F
BB_13b
Exceedance Range:
70.5dB(A)-72.8dB(A)
Floor:3F-11F
BB_12b
Exceedance Range:
70.5dB(A)-72.9dB(A)
Floor:3F-11F
BB_12a
Exceedance Range:
70.5dB(A)-72.9dB(A)
Floor:3F-12F
BB_12d
Exceedance Range:
70.7dB(A)-72.0dB(A)
Floor:3F-8F
BB_12e
Exceedance Range:
70.5dB(A)-70.6dB(A)
Floor:3F-5F
BB_14a
Exceedance Range:
70.6dB(A)-72.4dB(A)
Floor:3F-10F
BB_14b
Exceedance Range:
70.5dB(A)-72.7dB(A)
Floor:3F-11F
BB_15a
Exceedance Range:
70.6dB(A)-71.8dB(A)
Floor:3F-8F
BB_15b
Exceedance Range:
70.5dB(A)-72.7dB(A)
Floor:3F-11F
20m NBA
WING A
WING B
Key Plan
Legend:
Noise Assessment Point
Site Boundary
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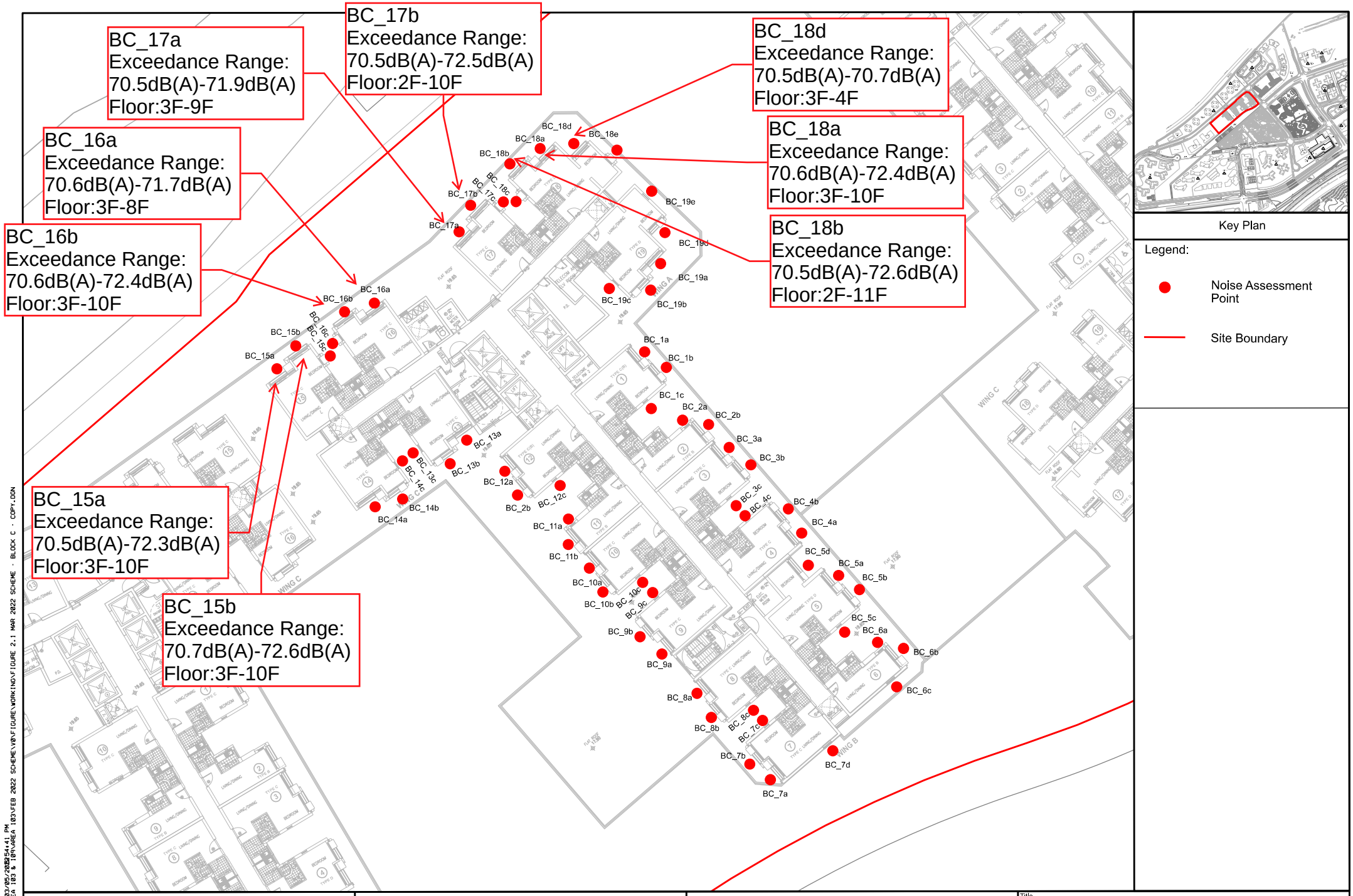
K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY
Title
Noiose Exceedance Flats for Traffic Noise Assessment in Base-Case Scerario (Block B)
Scale at A3 1 : 300
Date Mar 2022
Figure No. 2.6



Key Plan

Legend:

- Noise Assessment Point
- Site Boundary

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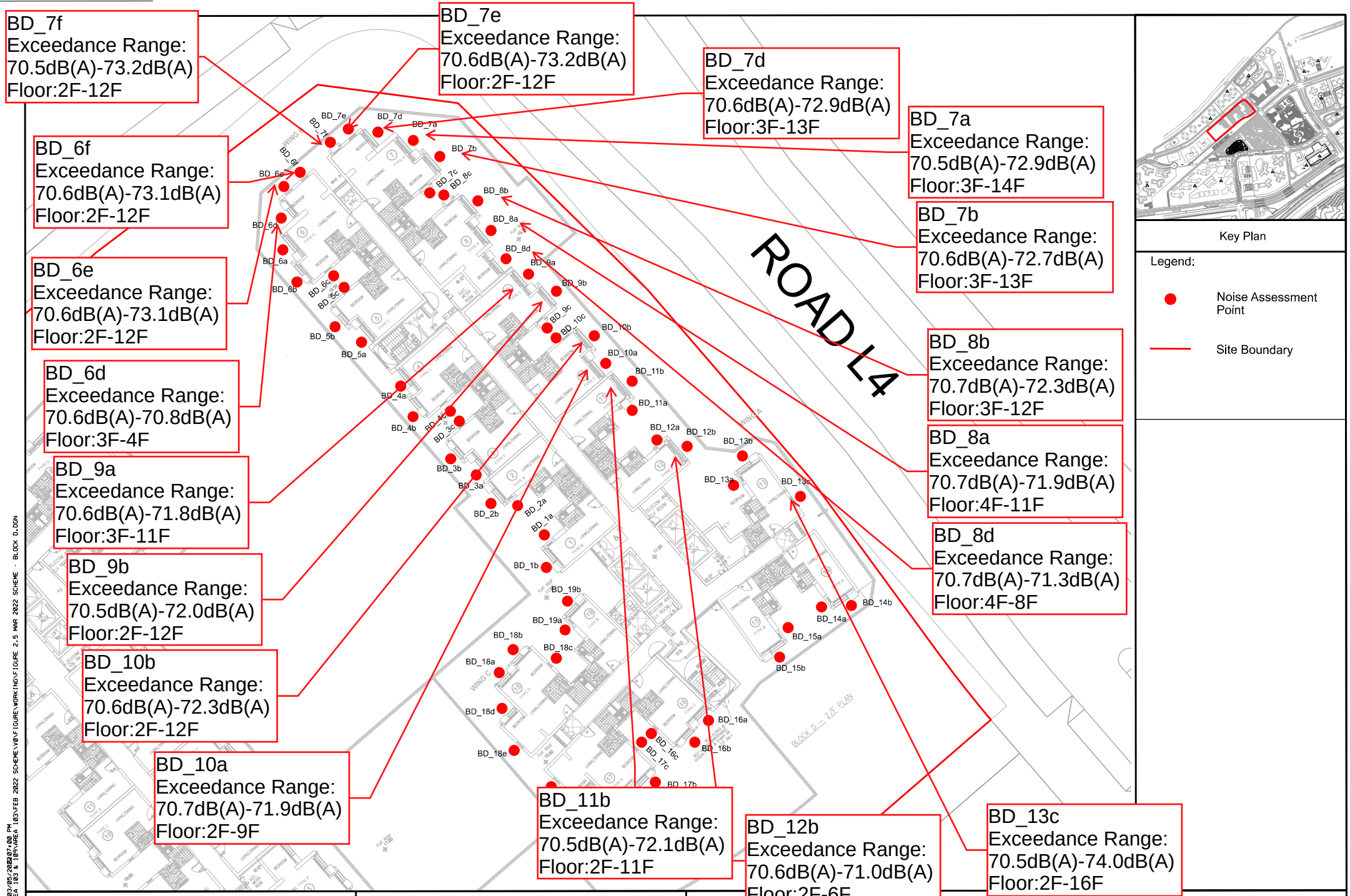
K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title

Noise Exceedance Flats for Traffic
Noise Assessment in Base-Case Scenario (Block C)

Scale at A3	Date	Figure No.
1 : 300	Mar 2022	2.7

PRINTED BY: LWR61P03/05/2022 5:44:41 PM
CAD FILE: K:\K03\AREA 103 & 107\AREA 103\FEB 2022 SCHEME\V0\FIGURE\WORKING\FIGURE 2.1 MAR 2022 SCHEME - BLOCK C - COPY.DGN
MODEL NAME: DEFAULT



Key Plan

Legend:

- Noise Assessment Point
- Site Boundary

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K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Noise Exceedance Flats for Traffic Noise Assessment in Base-Case Scenario (Block D)

Scale at A3	Date	Figure No.
1 : 300	Mar 2022	2.8

PRINTED BY: LWR61195 03/05/2022 07:08 PM
DGN FILE: C:\USERS\LWR61195\DESKTOP\K03 AREA 103 & 109\AREA 103\FEB 2022 SCHEME\V8\FIGURE\WORKING\FIGURE 2.5 MAR 2022 SCHEME - BLOCK D.DGN
MODEL NAME: DEFAULT

Proposed Acoustic Window (without absorptive lining) at BA_10a and 10b Floor:3F-12F

Proposed Acoustic Window (without absorptive lining) at BA_11a and 11b Floor:3F-12F

Proposed Acoustic Window (without absorptive lining) at BA_9a and 9b Floor:3F-12F

Proposed Acoustic Window (without absorptive lining) at BA_11d Floor:4F-6F

BA_9b BA_9a BA_9c BA_10b BA_10a BA_10c BA_11b BA_11c BA_11a BA_11d BA_11e BA_12c BA_12a BA_12b BA_1a BA_1b BA_1c BA_2c BA_2b BA_2a BA_3d BA_3a BA_3b BA_4b BA_4a BA_4d BA_4e BA_3c BA_4c BA_5e BA_5d BA_5a BA_5b BA_6c BA_5c BA_6a BA_6b BA_7b BA_7a BA_8d BA_8a BA_8c BA_7c BA_8b

WING A WING B

20m NBA

AREA 10

Key Plan

Legend:

- Noise Assessment Point
- Site Boundary
- Fixed Window

Acoustic Window:

- Fixed Glazing
- Openable Window

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K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title: Recommended Mitigation Measures for Traffic Noise Adopt in Area 103 (Block A)

Scale at A3	Date	Figure No.
1 : 300	Mar 2022	2.9

PRINTED BY: LAWR6199 10/04/2022 3:30:44 PM
FILENAME: C:\DATA\AREA 103 & 10?\AREA 103\FEB 2022 SCHEME\V0\FIGURE\WORKING\FIGURE 2.9 MAR 2022 SCHEME - BLOCK A.DGN
MODEL NAME: DEFAULT

Proposed Acoustic Window (without absorptive lining) at BB_13a and 13b Floor:3F-11F

Proposed Acoustic Window (without absorptive lining) at BB_14a and 14b Floor:3F-11F

Proposed Acoustic Window (without absorptive lining) at BB_12a and 12b Floor:3F-12F

Proposed Acoustic Window (without absorptive lining) at BB_12d Floor:3F-8F

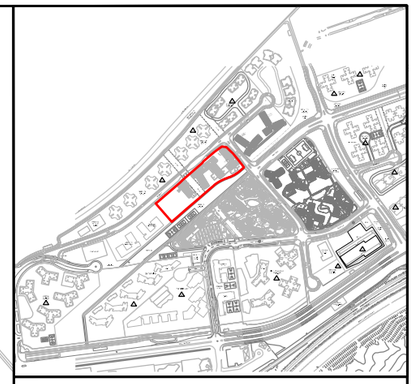
Proposed Fixed Window at BB_12e Floor:3F-5F

Proposed Acoustic Window (without absorptive lining) at BB_15a and 15b Floor:3F-11F

BB_15a
BB_15b
BB_15c
BB_14a
BB_14b
BB_14c
BB_13a
BB_13b
BB_13c
BB_12a
BB_12b
BB_12c
BB_12d
BB_12e
BB_16a
BB_16b
BB_16c
BB_17a
BB_17b
BB_17c
BB_1a
BB_1b
BB_1c
BB_2a
BB_2b
BB_3a
BB_3b
BB_3c
BB_4a
BB_4b
BB_4c
BB_4d
BB_5a
BB_5b
BB_5c
BB_5d
BB_5e
BB_6a
BB_6b
BB_6c
BB_6d
BB_6e
BB_7a
BB_7b
BB_7c
BB_8a
BB_8b
BB_8c
BB_9a
BB_9b
BB_10a
BB_10b
BB_10c
BB_11a
BB_11b
BB_11c
BB_11d
BB_11e

WING A
WING B
WING C

20m NBA



Key Plan

Legend:

- Noise Assessment Point
- Site Boundary
- Fixed Window

Acoustic Window:

- Fixed Glazing
- Openable Window

0 3 6 M
1:300 SCALE BAR

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K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title: Recommended Mitigation Measures for Traffic Noise Adopt in Area 103 (Block B)

Scale at A3	Date	Figure No.
1 : 300	Mar 2022	2.10

PRINTED BY: LAWRG189 10/04/2022 11:45 PM
FILENAME: C:\DATA\AREA 103 & 109\AREA 103\FEB 2022 SCHEME\V0\FIGURE\WORKING\FIGURE 2.10 MAR 2022 SCHEME - BLOCK B.DGN
MODEL NAME: DEFAULT

Proposed Acoustic Window (without absorptive lining) at BC_16a and 16b Floor:3F-10F

Proposed Acoustic Window (without absorptive lining) at BC_17a and 17b Floor:2F-10F

Proposed Acoustic Window (without absorptive lining) at BC_18a and 18b Floor:2F-11F

Proposed Acoustic Window (without absorptive lining) at BC_15a and 15b Floor:3F-10F

Proposed Acoustic Window (without absorptive lining) at BC_18d Floor:3F-4F

BC_18a BC_18d BC_18e BC_18b BC_18c BC_17b BC_17c BC_17a BC_19e BC_19d BC_19a BC_19c BC_19b BC_16a BC_16b BC_16c BC_15b BC_15c BC_15a BC_1a BC_1b BC_1c BC_2a BC_2b BC_3a BC_3b BC_13a BC_13b BC_13c BC_14c BC_14b BC_14a BC_12a BC_2b BC_12c BC_11a BC_11b BC_10a BC_10b BC_10c BC_9c BC_9b BC_9a BC_3c BC_4c BC_4b BC_4a BC_5d BC_5a BC_5b BC_5c BC_6a BC_6b BC_6c BC_8a BC_8b BC_8c BC_7c BC_7b BC_7d BC_7a

WING A WING B WING C

Key Plan

Legend:

- Noise Assessment Point
- Site Boundary
- Fixed Window

Acoustic Window:

- Fixed Glazing
- Openable Window

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K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title: Recommended Mitigation Measures for Traffic Noise Adopt in Area 103 (Block C)

Scale at A3	Date	Figure No.
1 : 300	Mar 2022	2.11

PRINTED BY: LAWRG189 10/04/2022 05:27 PM
FILENAME: C:\DATA\AREA 103 & 109\AREA 103\FEB 2022 SCHEME\V0\FIGURE\WORKING\FIGURE 2.11 MAR 2022 SCHEME - BLOCK C.DGN
MODEL NAME: DEFAULT

Proposed Fixed Window at BD_7f Floor:2F-12F

Proposed Fixed Window at BD_7e Floor:2F-12F

Proposed Acoustic Window (without absorptive lining) at BD_7d Floor:3F-13F

Proposed Acoustic Window (without absorptive lining) at BD_7a and 7b Floor:3F-14F

Proposed Acoustic Window (without absorptive lining) at BD_8a and 8b Floor:3F-12F

Proposed Fixed Window at BD_6f Floor:2F-12F

Proposed Fixed Window at BD_6e Floor:2F-12F

Proposed Acoustic Window (without absorptive lining) at BD_6d Floor:3F-4F

Proposed Acoustic Window (without absorptive lining) at BD_8d Floor:4F-8F

Proposed Acoustic Window (without absorptive lining) at BD_9a and 9b Floor:2F-12F

Proposed Acoustic Window (without absorptive lining) at BD_10a and 10b Floor:2F-12F

Proposed Acoustic Window (without absorptive lining) at BD_11b Floor:2F-11F

Proposed Acoustic Window (without absorptive lining) at BD_12b Floor:2F-6F

Proposed Fixed Window at BD_13c Floor:2F-16F

ROAD L4

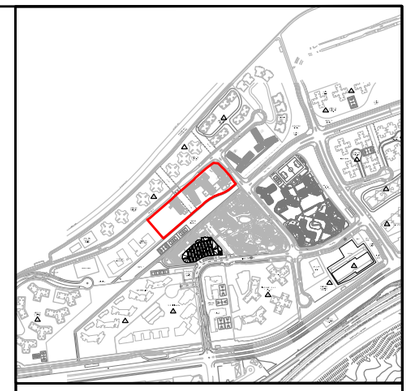
WING A

WING B

WING C

BD_1a BD_1b BD_2a BD_2b BD_3a BD_3b BD_3c BD_4a BD_4b BD_4c BD_5a BD_5b BD_5c BD_6a BD_6b BD_6c BD_6d BD_6e BD_6f BD_7a BD_7b BD_7c BD_7d BD_7e BD_7f BD_8a BD_8b BD_8c BD_8d BD_9a BD_9b BD_9c BD_10a BD_10b BD_10c BD_11a BD_11b BD_12a BD_12b BD_13a BD_13b BD_13c BD_14a BD_14b BD_15a BD_15b BD_16a BD_16b BD_16c BD_17a BD_17b BD_17c BD_17d BD_17e BD_18a BD_18b BD_18c BD_18d BD_18e BD_19a BD_19b

BLOCK D – 2/F PLAN



Key Plan

Legend:

- Noise Assessment Point
- Site Boundary
- 300m Study Area
- Fixed Window

Acoustic Window:

- Fixed Glazing
- Openable Window

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K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

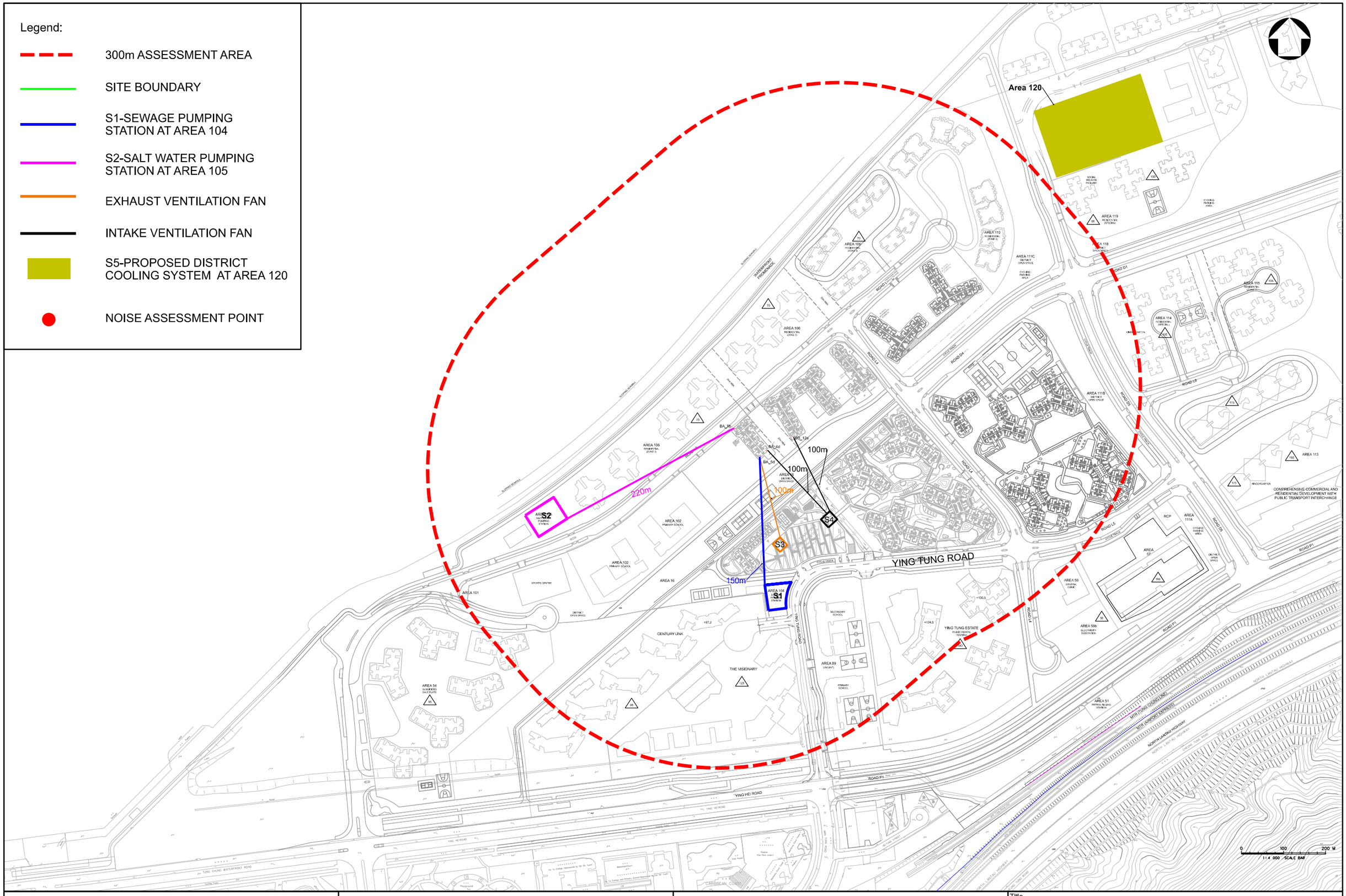
Title
Recommended Mitigation Measures for Traffic Noise Adopt in Area 103 (Block D)

Scale at A3	Date	Figure No.
1 : 300	Mar 2022	2.12

PRINTED BY: LAWR6189 30/04/2022 52:16 AM
FILENAME: C:\DATA\AREA 103 & 109\AREA 103\FEB 2022 SCHEME\V0\FIGURE\WORKING\FIGURE 2.12 MAR 2022 SCHEME - BLOCK D.DGN
MODEL NAME: DEFAULT

Legend:

- 300m ASSESSMENT AREA
- SITE BOUNDARY
- S1-SEWAGE PUMPING STATION AT AREA 104
- S2-SALT WATER PUMPING STATION AT AREA 105
- EXHAUST VENTILATION FAN
- INTAKE VENTILATION FAN
- S5-PROPOSED DISTRICT COOLING SYSTEM AT AREA 120
- NOISE ASSESSMENT POINT



PRINTED BY: LAW86189.01/05/2022 11:22 AM
FILENAME: C:\DATA\AREA 103 & 109\AREA 103\FEB 2022 SCHEME\V0\FIGURE\WORKING\FIGURE 3.1 SCHEME 4.DGN
MODEL NAME: BLK A

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K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title

Location of Identified Fixed Noise Sources

Scale at A3	Date	Figure No.
1:4000	Mar 2022	3.1

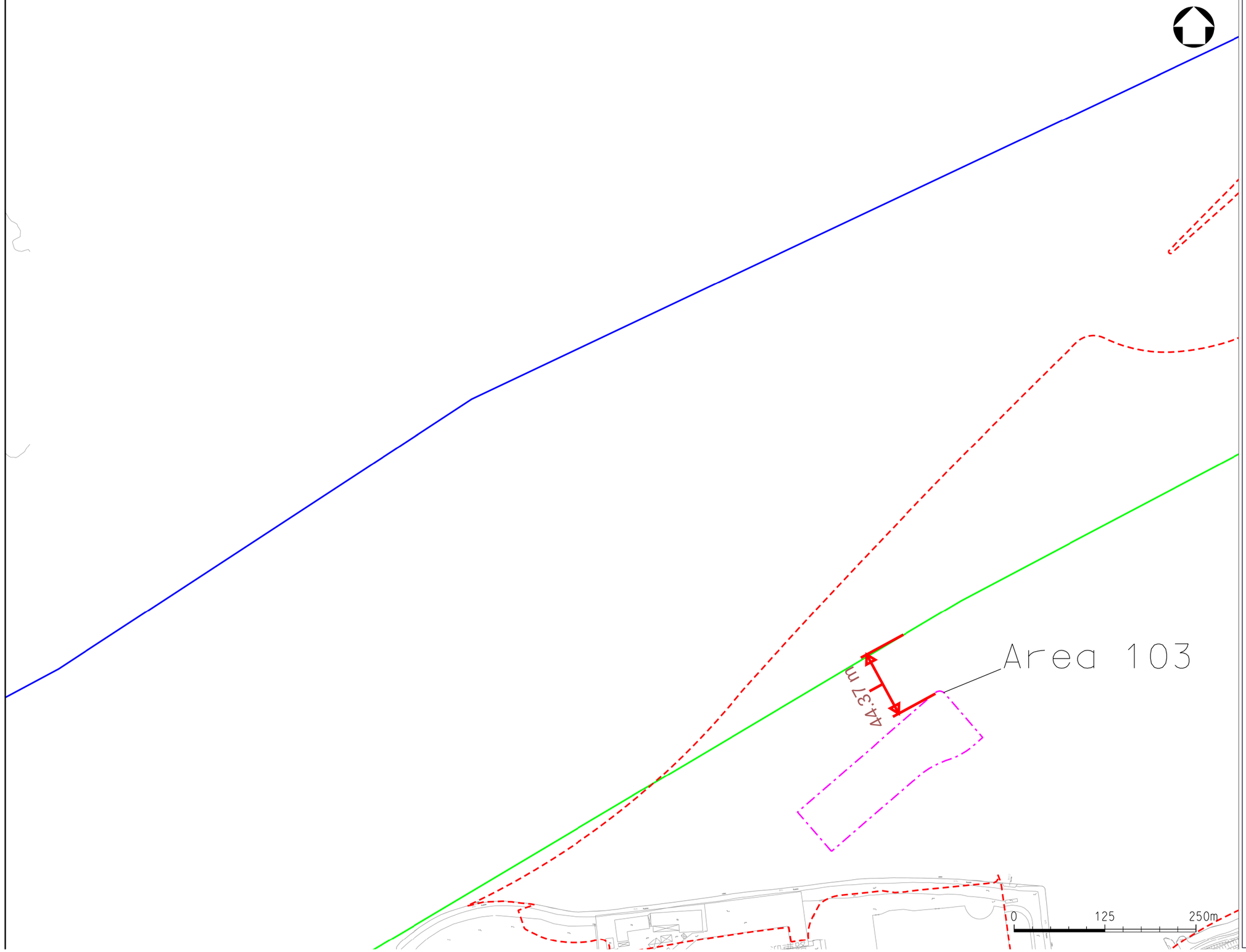
The NEF 25 contour plot in Year 2021 is extracted from Figure 4.3d-1of the approved TCNTE EIA report

Legend:

BOUNDARY OF AREA 103

NEF 25

NEF 30



香港房屋委員會
Hong Kong Housing Authority

SNC·LAVALIN

ATKINS
Member of the SNC-Lavalin Group

K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title

NEF Contours Assessment at Year 2021

Scale at A3	Date	Figure No.
1 : 5000	Mar 2021	4.1

PRINTED BY: LAWR6189 3/20/2021 1:06:48 PM
FILENAME: C:\DATA\AREA 103 & 109\AREA 103\2ND SCHEME\DRAFT REPORT_2ND SCHEME\FIGURE\WORKING\NEF2021_V0.DGN
MODEL NAME: DEFAULT

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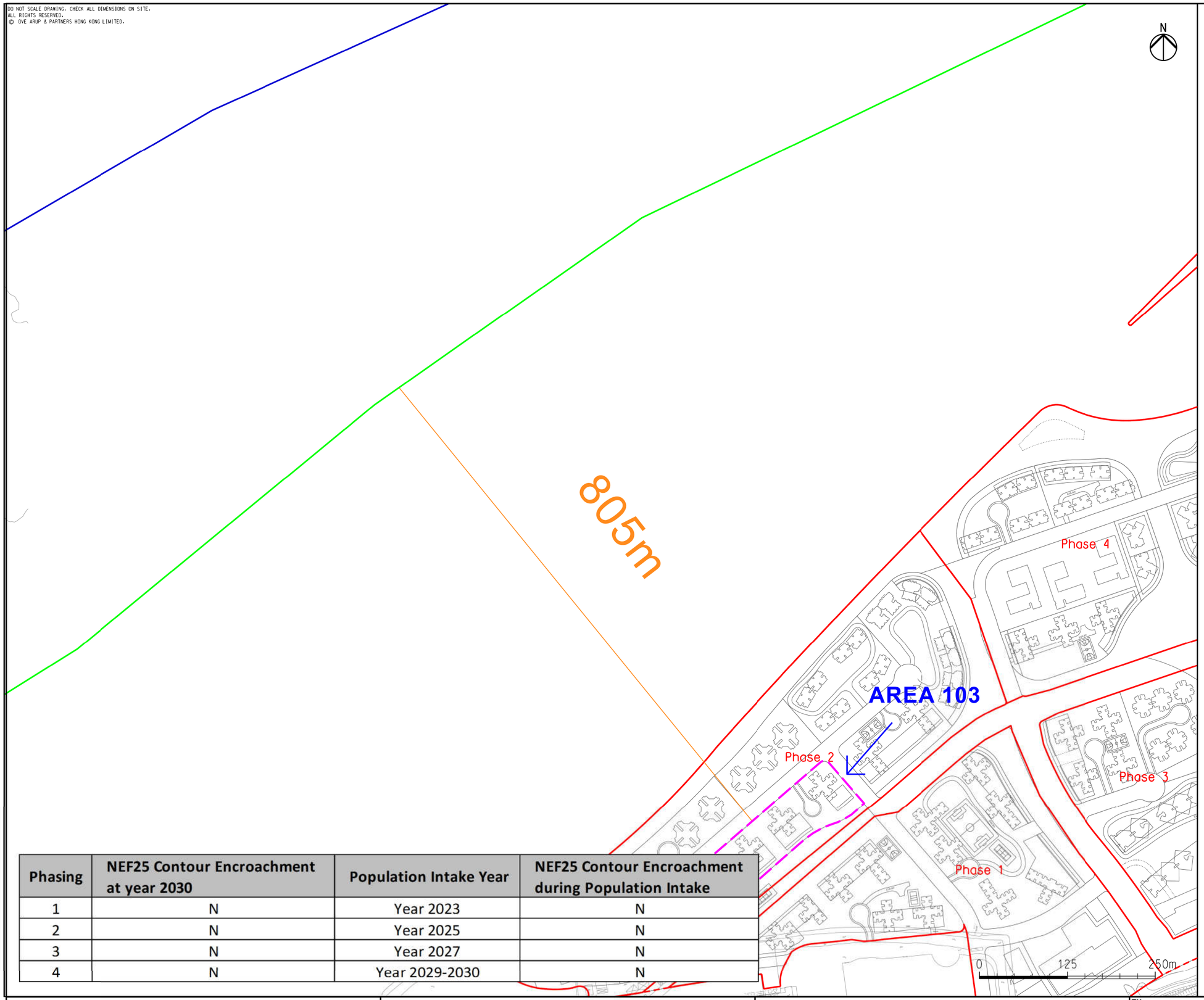
The NEF 25 contour plot in Year 2030 is extracted from Figure 4.3 f-1 of the approved TCNTE EIA report.

Legend:

- Site Boundary
- NEF 25
- NEF 30



Phasing	NEF25 Contour Encroachment at year 2030	Population Intake Year	NEF25 Contour Encroachment during Population Intake
1	N	Year 2023	N
2	N	Year 2025	N
3	N	Year 2027	N
4	N	Year 2029-2030	N

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K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title: NEF Contours Assessment at Year 2030

Scale at A3	Date	Figure No.
NTS	SEP 2020	4.2

PRINTED BY: LAWR6189 10/8/2020 11:29:09 AM
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MODEL NAME: DEFAULT

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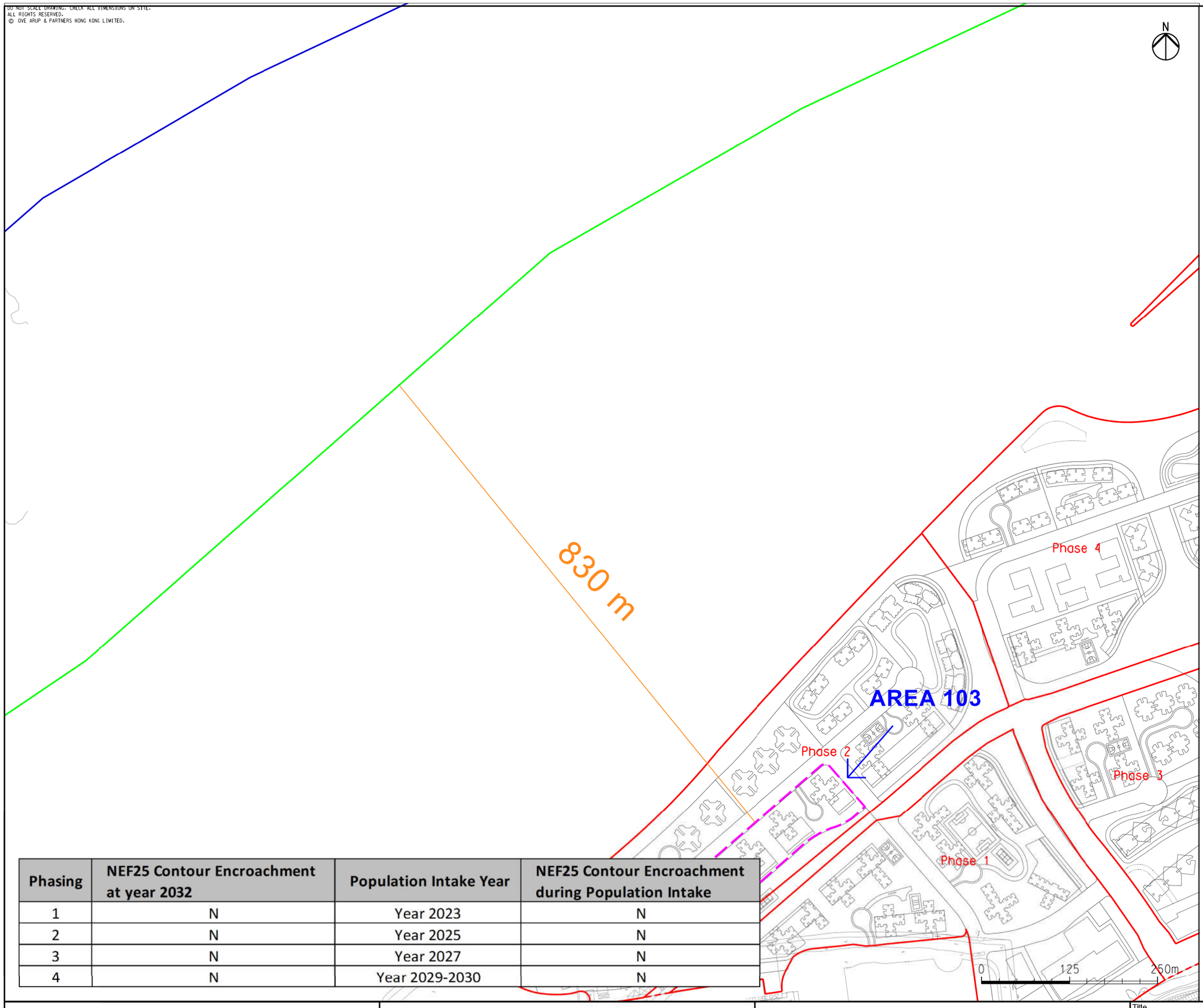
N

The NEF 25 contour plot in Year 2032 is extracted from Figure 4.3 h-1 of the approved TCNTE EIA report.

Legend:

- Site Boundary
- NEF 25
- NEF 30



Phasing	NEF25 Contour Encroachment at year 2032	Population Intake Year	NEF25 Contour Encroachment during Population Intake
1	N	Year 2023	N
2	N	Year 2025	N
3	N	Year 2027	N
4	N	Year 2029-2030	N

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K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title: NEF Contours Assessment at Year 2032

Scale at A3	Date	Figure No.
NTS	SEP 2020	4.3

PRINTED BY: LAWRG189 10/9/2020 11:43 AM
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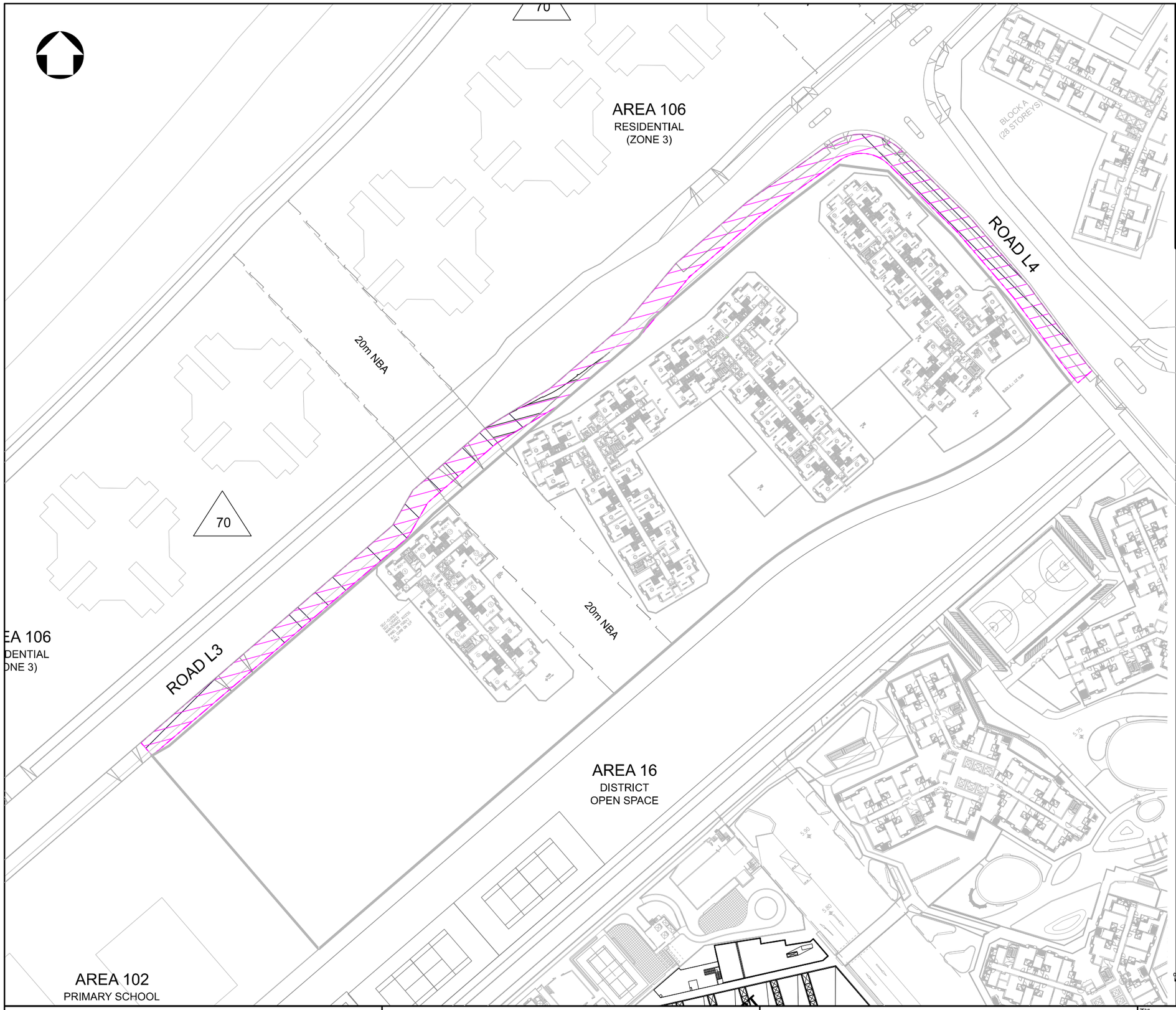

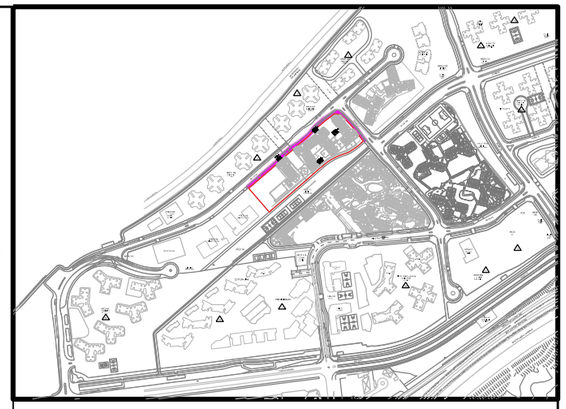

Key Plan

Legend

Site Boundary

Buffer Distance for Road L3, L4 (5m)

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K03 PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title

Distance between the Proposed Residential Blocks and The Surrounding Road Kerb

Scale at A3	Date	Figure No.
1 : 1000	Mar 2022	5.1

PRINTED BY: LAWR6189 30/04/2022 18:33 PM
FILENAME: C:\DATA\AREA 103\FEB 2022 SCHEME\V0\FIGURE\WORKING\FIGURE 5.1_SCHEME 4.DGN
MODEL NAME: DEFAULT

Legend:

- 300m ASSESSMENT AREA
- SITE BOUNDARY
- SEWAGE PUMPING STATION AT AREA 104
- NOISE ASSESSMENT POINT

BA_5d

151m

YING TUNG ROAD

0 50 100 M

1:4 000 SCALE BAR

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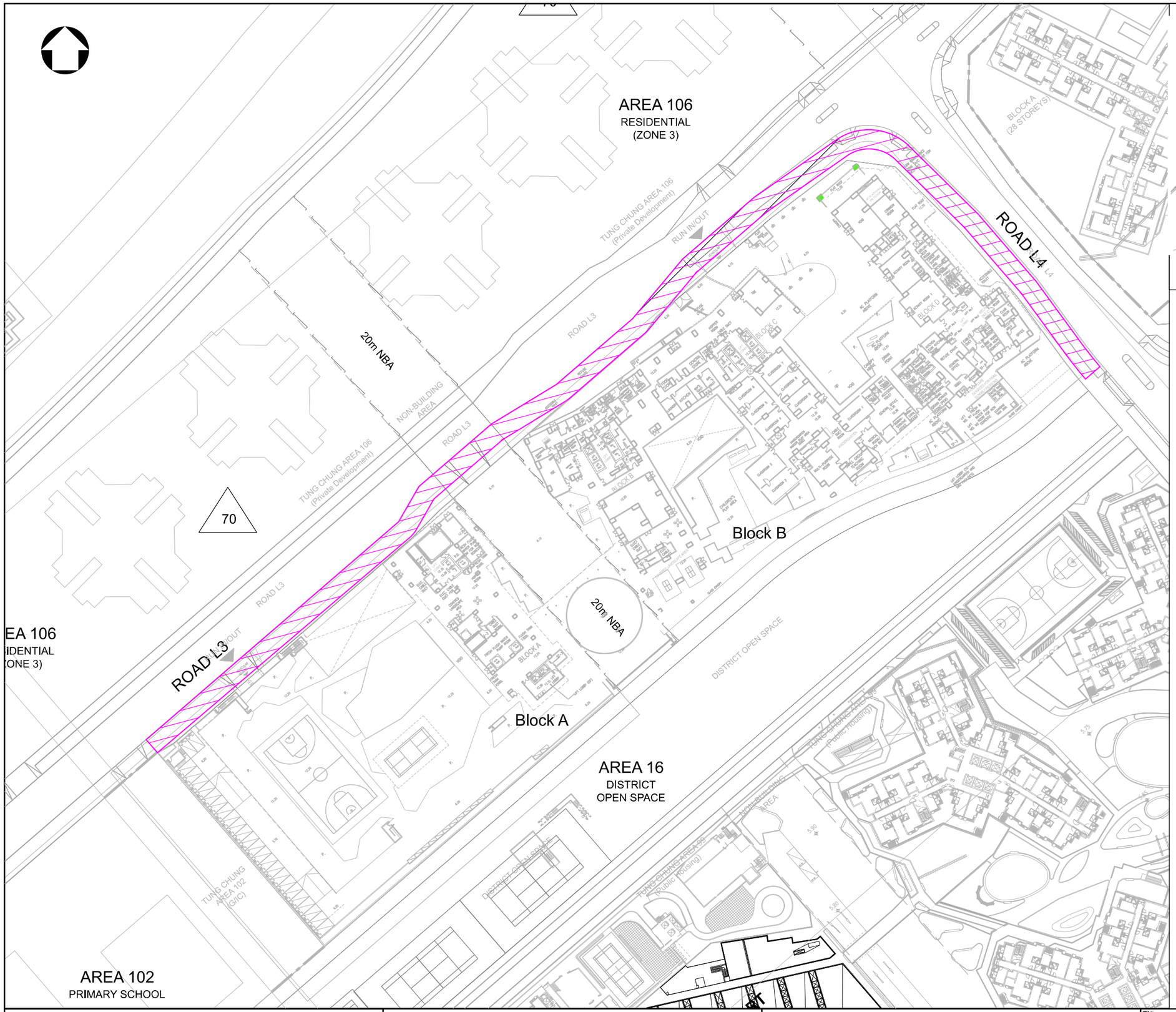
K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

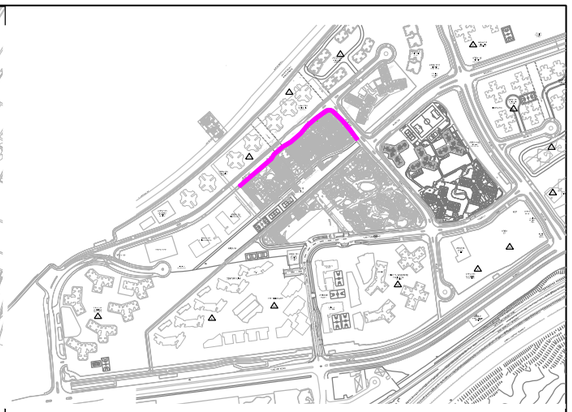
Title

Location of Sewage Pumping Station at Area 104

Scale at A3	Date	Figure No.
1 : 4000	Mar 2022	5.2

PRINTED BY: LAW86189 23/04/2022 10:52 PM
FILENAME: C:\DATA\AREA 103 & 109\AREA 103\FEB 2022 SCHEME\V0\FIGURE\WORKING\FIGURE 5.2 LOCATION OF PLANNED SEWAGE PUMPING STATION_V1.DGN
MODEL NAME: BLK A





Key Plan

Legend

Site Boundary

Buffer Distance for Road L3, L4 (5m)

0 10 20 30 40 50 M
1:1000 SCALE BAR

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K03 PROPOSED PUBLIC HOUSING
DEVELOPMENT AT TUNG CHUNG
AREA 103 - ENVIRONMENTAL
ASSESSMENT STUDY

Title

Distance between Proposed Non-Residential (Ground Floor) and the Surrounding Road Kerb

Scale at A3	Date	Figure No.
1 : 1000	Mar 2022	5.3

PRINTED BY: LAWR6189 30/04/2022 12:48:12 PM
FILENAME: C:\DATA\AREA 103 & 109\AREA 103\FEB 2022 SCHEME\V0\FIGURE\WORKING\FIGURE 5.3_SCHEME 3.DGN
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Appendix A

Traffic Forecast in Year 2045 and TD endorsement

Year 2045 Forecasted Traffic Flow for Housing Development at Tung Chung Area 103

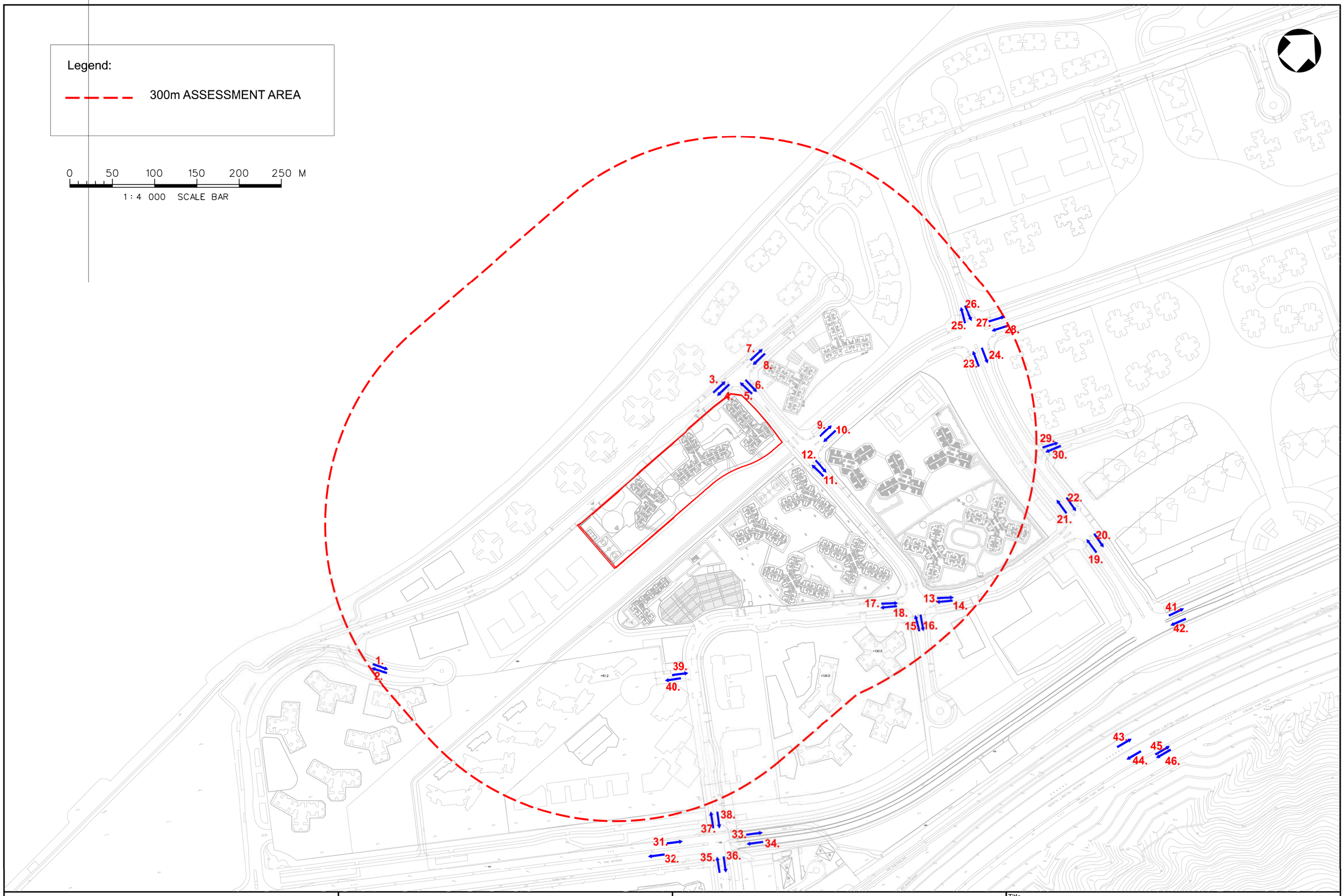
ID	Road	Traffic Direction	Road Type	Speed Limit	AM peak		PM peak	
					Total Traffic Flow (veh/hr)	HV%	Total Traffic Flow (veh/hr)	HV%
1	Road L3	EB	LD	50	20	100%	20	100%
2	Road L3	WB	LD	50	20	100%	20	100%
3	Road L3	EB	LD	50	600	25%	500	24%
4	Road L3	WB	LD	50	250	33%	200	37%
5	Road L4	NB	LD	50	200	37%	200	37%
6	Road L4	SB	LD	50	650	21%	450	26%
7	Road L3	EB	LD	50	100	19%	150	18%
8	Road L3	WB	LD	50	200	16%	100	20%
9	Road D4	EB	DD	50	550	26%	350	38%
10	Road D4	WB	DD	50	200	29%	150	42%
11	Road L4	NB	LD	50	50	100%	50	100%
12	Road L4	SB	LD	50	150	38%	100	50%
13	Road L5	EB	LD	50	250	32%	200	35%
14	Road L5	WB	LD	50	150	36%	200	35%
15	Road L4	NB	LD	50	4	0%	6	17%
16	Road L4	SB	LD	50	8	13%	4	25%
17	Ying Tung Road	EB	LD	50	300	23%	250	22%
18	Ying Tung Road	WB	LD	50	200	16%	200	20%
19	Road D5	NB	DD	50	550	26%	650	36%
20	Road D5	SB	DD	50	800	22%	500	36%
21	Road D5	NB	DD	50	200	30%	250	39%
22	Road D5	SB	DD	50	300	25%	150	41%
23	Road D5	NB	DD	50	200	30%	250	39%
24	Road D5	SB	DD	50	250	26%	200	40%
25	Road D5	NB	DD	50	400	34%	400	43%
26	Road D5	SB	DD	50	350	30%	250	46%
27	Road D1	EB	DD	50	350	23%	150	34%
28	Road D1	WB	DD	50	100	30%	50	44%
29	Road L8	EB	LD	50	100	19%	100	17%
30	Road L8	WB	LD	50	150	17%	100	19%
31	Ying Hei Road	EB	PD	50	800	28%	750	37%
32	Ying Hei Road	WB	PD	50	800	24%	700	37%
33	Road P1	EB	PD	50	700	23%	750	34%
34	Road P1	WB	PD	50	700	20%	650	34%
35	Man Tung Road	NB	LD	50	400	32%	550	27%
36	Man Tung Road	SB	LD	50	600	21%	500	24%
37	Ying Tung Road	NB	LD	50	500	24%	450	23%
38	Ying Tung Road	SB	LD	50	700	18%	450	22%
39	Ying Hong Street	EB	LD	50	150	20%	50	18%
40	Ying Hong Street	WB	LD	50	50	16%	100	20%
41	Road P1	EB	PD	50	1150	25%	900	35%
42	Road P1	WB	PD	50	900	22%	950	35%
43	North Lantau Highway	EB	EX	110	2950	30%	3750	33%
44	North Lantau Highway	WB	EX	110	5100	30%	3900	32%
45	Cheung Tung Road	EB	LD	50	250	27%	150	61%
46	Cheung Tung Road	WB	LD	50	150	31%	200	30%

Legend:

300m ASSESSMENT AREA

0 50 100 150 200 250 M

1 : 4 000 SCALE BAR



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香港房屋委員會
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K03 : PROPOSED PUBLICHOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title: TRAFFIC FLOW INDEX

Scale at A3	Date	Figure No.
1 : 4000	Mar 2021	Appendix A

By Fax

運輸署
Transport Department

本署檔案 Our Ref. :
來函檔號 Your Ref. :
電 話 Tel. :
圖文傳真 Fax :
電 郵 Email :

21 September 2021

Atkins China Ltd.
13/F, Wharf T&T Centre,
Harbour City, Tsim Sha Tsui,
Kowloon, Hong Kong

Dear Sir,

Agreement No. CB20180686
Term Traffic and Environmental Consultancy Services 2019-2021 for Kowloon Central and West and Islands Region

Instruction No. K03 & K04
Proposed Public Housing Development at Tung Chung Area 103 & 109
Traffic Forecasting for Environmental Assessment- Draft Report

I refer to your captioned letter dated 6 August 2021. Please find our comments as follow:

1. Please note that the Environmental 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 study.

2. Notwithstanding the above, we have no comments on the methodology of the traffic forecast, provided that you have made reference to the TIA reports under the proposed housing development at Tung Chung Area 103 & 109 and TCNTE(TCE) projects and the traffic data of the technical note shall tally with those for the TIA reports. In case there is any discrepancy in the traffic data between the TIA reports and the EIA report, please highlight it for our consideration.

Yours faithfully,

for Commissioner for Transport

Appendix B

Gazette Plan of Tung Chung New Town Extension (East) and HyD Standard Drawing of Street Furniture

道路（工程、使用及補償）條例（第370章）
ROADS (WORKS, USE AND COMPENSATION) ORDINANCE (CHAPTER 370)

工務計劃項目第7786CL號
東涌新市鎮擴展
（東涌東及P1路（東涌東至大蠔段）道路工程）

PWP ITEM NO. 7786CL
TUNG CHUNG NEW TOWN EXTENSION
(TUNG CHUNG EAST AND ROAD P1 (TUNG CHUNG EAST TO TAI HO SECTION) ROAD WORKS)

圖則編號 PLAN NO.	頁次 SHEET NO.	圖則名稱 PLAN TITLE
60507694/C11/100	索引圖 KEY PLAN	
60507694/C11/110	圖例 LEGEND	
60507694/C11/111	十張之第一張 SHEET 1 OF 10	
60507694/C11/112	十張之第二張 SHEET 2 OF 10	
60507694/C11/113	十張之第三張 SHEET 3 OF 10	
60507694/C11/114	十張之第四張 SHEET 4 OF 10	
60507694/C11/115	十張之第五張 SHEET 5 OF 10	
60507694/C11/116	十張之第六張 SHEET 6 OF 10	
60507694/C11/117	十張之第七張 SHEET 7 OF 10	
60507694/C11/118	十張之第八張 SHEET 8 OF 10	
60507694/C11/119	十張之第九張 SHEET 9 OF 10	
60507694/C11/120	十張之第十張 SHEET 10 OF 10	

根據《道路（工程、使用及補償）條例》（第370章）而在憲報公布之圖則

PLAN FOR GAZETTING UNDER ROADS (WORKS, USE AND COMPENSATION) ORDINANCE (CHAPTER 370)

批簽 ENDORSED BY

黎以德 JOSEPH Y T LAI
運輸及房屋局
常任秘書長(運輸)
PERMANENT SECRETARY FOR TRANSPORT AND HOUSING (TRANSPORT)
日期 DATE : _____

核准 APPROVED BY

黃國輝 ALFRED K F WONG
總工程師/大嶼山1
可持續大嶼辦事處
土木工程拓展署
CHIEF ENGINEER / LANTAU 1
SUSTAINABLE LANTAU OFFICE
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
日期 DATE : _____

812000 E
814000 E
816000 E
818000 E
820000 N
818000 N
816000 N

N

60507694/C11/111
十張之第一張
SHEET 1 OF 10

60507694/C11/112
十張之第二張
SHEET 2 OF 10

60507694/C11/113
十張之第三張
SHEET 3 OF 10

60507694/C11/114
十張之第四張
SHEET 4 OF 10

60507694/C11/115
十張之第五張
SHEET 5 OF 10

60507694/C11/116
十張之第六張
SHEET 6 OF 10

60507694/C11/117
十張之第七張
SHEET 7 OF 10

60507694/C11/118
十張之第八張
SHEET 8 OF 10

60507694/C11/119
十張之第九張
SHEET 9 OF 10

60507694/C11/120
十張之第十張
SHEET 10 OF 10

插圖 A
INSET A

東涌
TUNG CHUNG

白芒
PAK MONG

大蠔灣
TAI HO WAN

小蠔灣
SIU HO WAN

小蠔灣車廠
SIU HO WAN DEPOT

梅窩
MUI WO

工程名稱 PROJECT TITLE

工務計劃項目第7786CL號
東涌新市鎮擴展
（東涌東及P1路（東涌東至大蠔段）道路工程）

PWP ITEM NO. 7786CL
TUNG CHUNG NEW TOWN EXTENSION
(TUNG CHUNG EAST AND ROAD P1
(TUNG CHUNG EAST TO TAI HO SECTION)
ROAD WORKS)

圖則名稱 PLAN TITLE

根據≪道路（工程、使用及補償）條例≫
（第370章）而在憲報公布之圖則

PLAN FOR GAZETTING UNDER ROADS
(WORKS, USE AND COMPENSATION)
ORDINANCE (CHAPTER 370)

索引圖
KEY PLAN

圖則編號 PLAN NO.
60507694/C11/100

比例 SCALE
A1 1:10000

辦事處 OFFICE
可持續大嶼辦事處
SUSTAINABLE LANTAU OFFICE

土木工程拓展署
CIVIL ENGINEERING
AND DEVELOPMENT
DEPARTMENT

A1 841MM X 594MM

Plot File by: Tsuiwy 4/27/2018
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圖例:
LEGEND:

施工區界限
LIMIT OF WORKS AREA

擬建行車隧道
PROPOSED VEHICULAR UNDERPASS

擬建低於地面行車道
PROPOSED DEPRESSED CARRIAGEWAY

擬建地面行車道
PROPOSED AT GRADE CARRIAGEWAY

擬建高架行車道
PROPOSED ELEVATED CARRIAGEWAY

擬建行人隧道
PROPOSED SUBWAY

擬建低於地面行人路
PROPOSED DEPRESSED FOOTPATH

擬建地面行人路
PROPOSED AT GRADE FOOTPATH

擬建高架行人路
PROPOSED ELEVATED FOOTPATH

擬建低於地面單車徑
PROPOSED DEPRESSED CYCLE TRACK

擬建地面單車徑
PROPOSED AT GRADE CYCLE TRACK

擬建高架單車徑
PROPOSED ELEVATED CYCLE TRACK

CP
擬建單車停放處
PROPOSED CYCLE PARKING AREA

擬建地面美化市容地帶
PROPOSED AT GRADE AMENITY AREA

擬建高架美化市容地帶
PROPOSED ELEVATED AMENITY AREA

擬建路中預留帶/安全島
PROPOSED CENTRAL
RESERVE/REFUGE ISLAND

擬建車輛進出口通道
PROPOSED RUN-IN/RUN-OUT

擬建行人過路處
PROPOSED PEDESTRIAN CROSSING

擬建斜坡
PROPOSED SLOPE

擬建直立式隔音屏障
PROPOSED VERTICAL NOISE BARRIER

擬建懸臂式隔音屏障
PROPOSED CANTILEVER NOISE BARRIER

擬建護土牆
PROPOSED RETAINING WALL

擬建建築物
PROPOSED BUILDING

現有地面行車道將永久封閉及
改建為地面行人路
EXISTING AT GRADE CARRIAGEWAY TO BE
PERMANENTLY CLOSED AND CONVERTED
INTO AT GRADE FOOTPATH

現有地面行車道將永久封閉及
改建為地面單車徑
EXISTING AT GRADE CARRIAGEWAY TO BE
PERMANENTLY CLOSED AND CONVERTED
INTO AT GRADE CYCLE TRACK

現有地面行車道將永久封閉及
改建為地面美化市容地帶
EXISTING AT GRADE CARRIAGEWAY TO BE
PERMANENTLY CLOSED AND CONVERTED
INTO AT GRADE AMENITY AREA

現有地面行車道將永久封閉及
改建為路中預留帶/安全島
EXISTING AT GRADE CARRIAGEWAY TO BE
PERMANENTLY CLOSED AND CONVERTED INTO
CENTRAL RESERVE/REFUGE ISLAND

現有高架行車道將永久封閉及
改建為路中預留帶/安全島
EXISTING ELEVATED CARRIAGEWAY TO BE
PERMANENTLY CLOSED AND CONVERTED INTO
CENTRAL RESERVE/REFUGE ISLAND

現有行人隧道將永久封閉及改建為地面美化市容地帶
EXISTING SUBWAY TO BE PERMANENTLY CLOSED
AND CONVERTED INTO AT GRADE AMENITY AREA

現有地面行人路將永久封閉及
改建為地面行車道
EXISTING AT GRADE FOOTPATH TO BE
PERMANENTLY CLOSED AND CONVERTED
INTO AT GRADE CARRIAGEWAY

現有地面行人路將永久封閉及
改建為地面單車徑
EXISTING AT GRADE FOOTPATH TO BE
PERMANENTLY CLOSED AND CONVERTED
INTO AT GRADE CYCLE TRACK

現有地面行人路將永久封閉
及改建為地面美化市容地帶
EXISTING AT GRADE FOOTPATH TO BE PERMANENTLY
CLOSED AND CONVERTED INTO AT GRADE AMENITY AREA

現有地面行人路將永久封閉及
改建為路中預留帶/安全島
EXISTING AT GRADE FOOTPATH TO BE
PERMANENTLY CLOSED AND CONVERTED
INTO CENTRAL RESERVE/REFUGE ISLAND

現有地面美化市容地帶將永久封閉
及改建為地面行車道
EXISTING AT GRADE AMENITY AREA TO BE
PERMANENTLY CLOSED AND CONVERTED
INTO AT GRADE CARRIAGEWAY

現有地面美化市容地帶將永久封閉及
改建為地面行人路
EXISTING AT GRADE AMENITY AREA TO BE
PERMANENTLY CLOSED AND CONVERTED
INTO AT GRADE FOOTPATH

現有地面美化市容地帶將永久封閉及
改建為路中預留帶/安全島
EXISTING AT GRADE AMENITY AREA TO BE
PERMANENTLY CLOSED AND CONVERTED INTO
CENTRAL RESERVE/REFUGE ISLAND

現有高架美化市容地帶將永久封閉及
改建為高架行車道
EXISTING ELEVATED AMENITY AREA TO BE
PERMANENTLY CLOSED AND CONVERTED
INTO ELEVATED CARRIAGEWAY

現有高架美化市容地帶將永久封閉及
改建為路中預留帶/安全島
EXISTING ELEVATED AMENITY AREA TO BE
PERMANENTLY CLOSED AND CONVERTED INTO
CENTRAL RESERVE/REFUGE ISLAND

現有地面行車道將永久封閉及拆卸
EXISTING AT GRADE CARRIAGEWAY TO
BE PERMANENTLY CLOSED AND DEMOLISHED

現有高架行車道將永久封閉及拆卸
EXISTING ELEVATED CARRIAGEWAY
TO BE PERMANENTLY CLOSED AND DEMOLISHED

現有地面行人路將永久封閉及拆卸
EXISTING AT GRADE FOOTPATH TO BE
PERMANENTLY CLOSED AND DEMOLISHED

現有地面行車道將暫時封閉及重建
EXISTING AT GRADE CARRIAGEWAY TO BE
TEMPORARILY CLOSED AND RECONSTRUCTED

現有高架行車道將暫時封閉及重建
EXISTING ELEVATED CARRIAGEWAY TO BE
TEMPORARILY CLOSED AND RECONSTRUCTED

現有行人隧道將暫時封閉及重建
EXISTING SUBWAY TO BE TEMPORARILY CLOSED
AND RECONSTRUCTED

現有地面行人路將暫時封閉及重建
EXISTING AT GRADE FOOTPATH TO BE
TEMPORARILY CLOSED AND RECONSTRUCTED

現有地面單車徑將暫時封閉及重建
EXISTING AT GRADE CYCLE TRACK TO BE
TEMPORARILY CLOSED AND RECONSTRUCTED

現有地面美化市容地帶將暫時封閉及重建
EXISTING AT GRADE AMENITY AREA TO BE
TEMPORARILY CLOSED AND RECONSTRUCTED

現有高架美化市容地帶將暫時封閉及重建
EXISTING ELEVATED AMENITY AREA TO BE
TEMPORARILY CLOSED AND RECONSTRUCTED

現有路中預留帶/安全島將暫時封閉及重建
EXISTING CENTRAL RESERVE/REFUGE ISLAND
TO BE TEMPORARILY CLOSED AND RECONSTRUCTED

+8.3
低於地面/地面/高架行車道之
建議路面水平(約數)
PROPOSED ROAD LEVEL OF DEPRESSED/AT
GRADE/ELEVATED CARRIAGEWAY (APPROXIMATE)

行車線(每一箭咀代表一條行車線)
TRAFFIC LANE
(ONE ARROW REPRESENTS ONE LANE)

工程名稱 PROJECT TITLE

工務計劃項目第7786CL號
東涌新市鎮擴展
(東涌東及P1路(東涌東至大蠔段)道路工程)

PWP ITEM NO. 7786CL
TUNG CHUNG NEW TOWN EXTENSION
(TUNG CHUNG EAST AND ROAD P1
(TUNG CHUNG EAST TO TAI HO SECTION)
ROAD WORKS)

圖則名稱 PLAN TITLE

根據《道路(工程、使用及補償)條例》
(第370章)而在憲報公布之圖則

PLAN FOR GAZETTING UNDER ROADS
(WORKS, USE AND COMPENSATION)
ORDINANCE (CHAPTER 370)

圖例
LEGEND

圖則編號 PLAN NO.
60507694/C11/110

比例 SCALE
N/A

辦事處
OFFICE
可持續大嶼辦事處
SUSTAINABLE LANTAU OFFICE

土木工程拓展署
CIVIL ENGINEERING
AND DEVELOPMENT
DEPARTMENT

A1 841MM X 594MM

Plot File by: Tsuiwy 4/27/2018
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818200 N

818000 N

817800 N

812800 E

813200 E

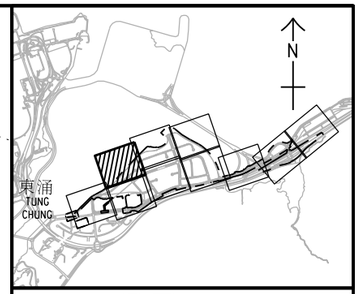
連接線 2-2
CUT LINE 2-2
連接圖則編號 60507694/C11/112
CONTINUED ON PLAN NO. 60507694/C11/112

CP

D5 路 ROAD D5

L3 路 ROAD L3

連接線 1-1
CUT LINE 1-1
連接圖則編號 60507694/C11/115
CONTINUED ON PLAN NO. 60507694/C11/115



索引圖 KEY PLAN

比例 SCALE 1 : 50000

註釋:
NOTES:

1. 除在其他方面指定外，所有量度以米為單位。
   ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
2. 所有水平均為約數，以米為單位，並在香港主水平基準以上(+)或以下(-)。
   ALL LEVELS ARE APPROXIMATE VALUES AND IN METRES ABOVE (+) OR BELOW (-) HONG KONG PRINCIPAL DATUM.
3. 如有需要，施工區界限內部分現有地面行車道、行人隧道、地面行人路、地面單車徑、地面美化市容地帶、高架美化市容地帶和路中預留帶/安全島或會分階段暫時封閉。
   SECTIONS OF THE EXISTING AT GRADE CARRIAGEWAYS, SUBWAY, AT GRADE FOOTPATHS, AT GRADE CYCLE TRACK, AT GRADE AMENITY AREAS, ELEVATED AMENITY AREAS AND CENTRAL RESERVES/REFUGE ISLANDS WITHIN THE LIMIT OF WORKS AREA MAY BE TEMPORARILY CLOSED IN PHASES AS AND WHEN REQUIRED.
4. 如有需要，土力、斜坡穩固、渠務、污水收集系統、水務、公用設施和環境美化工程或會在施工區界限內進行。
   GEOTECHNICAL, SLOPE STABILIZATION, DRAINAGE, SEWERAGE, WATER, UTILITIES AND LANDSCAPING WORKS MAY BE CARRIED OUT WITHIN THE LIMIT OF WORKS AREA AS AND WHEN REQUIRED.
5. 圖例的詳細資料請參照圖則編號 60507694/C11/110。
   DETAILS OF LEGENDS ARE SHOWN ON PLAN NO. 60507694/C11/110.

工程名稱 PROJECT TITLE

工務計劃項目第7786CL號
東涌新市鎮擴展
（東涌東及P1路（東涌東至大蠔段）道路工程）

PWP ITEM NO. 7786CL
TUNG CHUNG NEW TOWN EXTENSION
(TUNG CHUNG EAST AND ROAD P1
(TUNG CHUNG EAST TO TAI HO SECTION)
ROAD WORKS)

圖則名稱 PLAN TITLE

根據《道路（工程、使用及補償）條例》（第370章）而在憲報公布之圖則

PLAN FOR GAZETTING UNDER ROADS (WORKS, USE AND COMPENSATION) ORDINANCE (CHAPTER 370)

十張之第一張
SHEET 1 OF 10

圖則編號 PLAN NO. 60507694/C11/111

比例 SCALE A1 1:1000

辦事處 OFFICE 可持續大嶼辦事處 SUSTAINABLE LANTAU OFFICE

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

A1 841MM X 594MM

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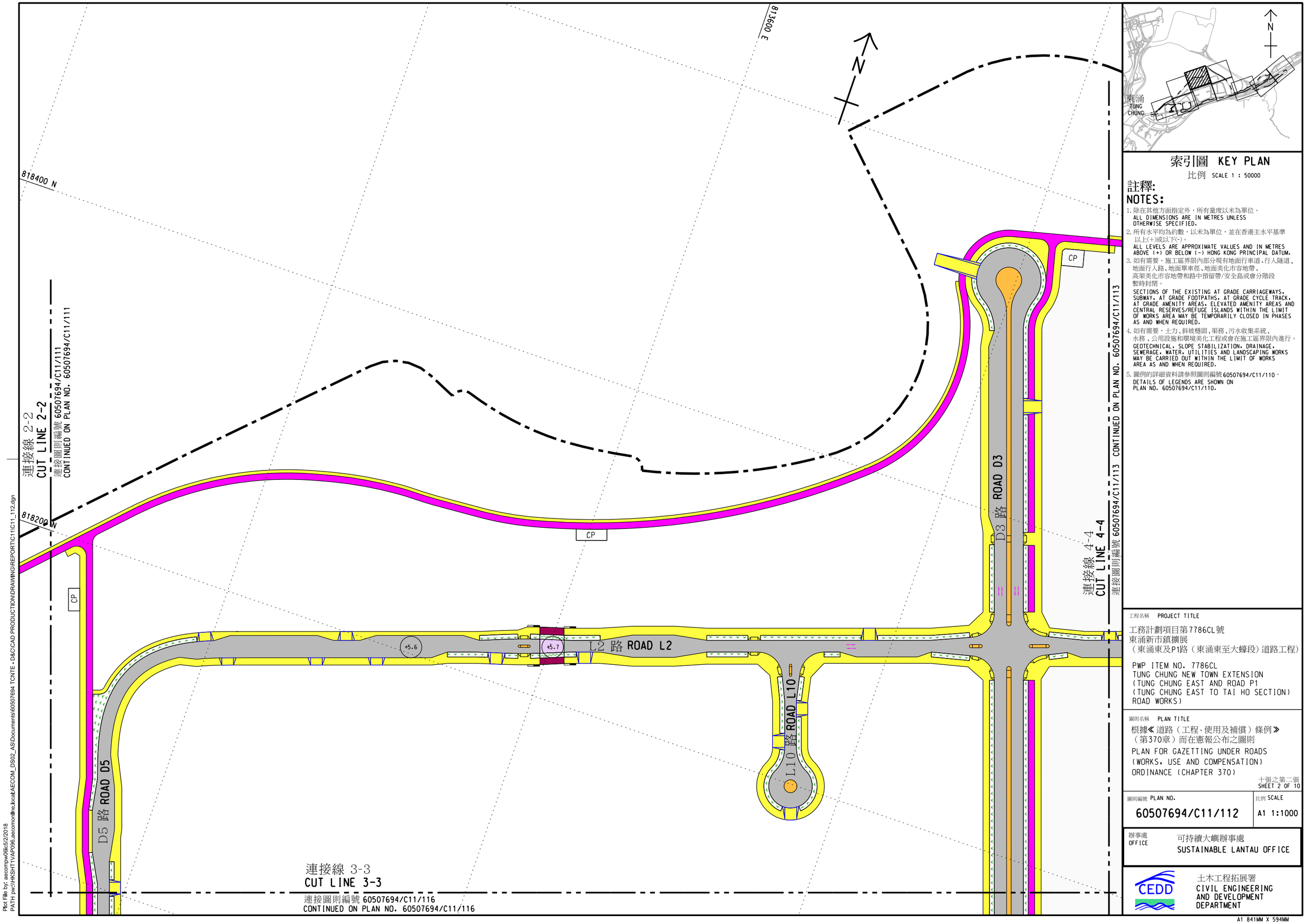

索引圖 KEY PLAN

比例 SCALE 1 : 50000

註釋: NOTES:

1. 除在其他方面指定外，所有量度以米為單位。
   ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
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   GEOTECHNICAL, SLOPE STABILIZATION, DRAINAGE, SEWERAGE, WATER, UTILITIES AND LANDSCAPING WORKS MAY BE CARRIED OUT WITHIN THE LIMIT OF WORKS AREA AS AND WHEN REQUIRED.
5. 圖例的詳細資料請參照圖則編號60507694/C11/110。
   DETAILS OF LEGENDS ARE SHOWN ON PLAN NO. 60507694/C11/110.

工程名稱 PROJECT TITLE

工務計劃項目第7786CL號
東涌新市鎮擴展
（東涌東及P1路（東涌東至大蠔段）道路工程）

PWP ITEM NO. 7786CL
TUNG CHUNG NEW TOWN EXTENSION
(TUNG CHUNG EAST AND ROAD P1
(TUNG CHUNG EAST TO TAI HO SECTION)
ROAD WORKS)

圖則名稱 PLAN TITLE

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

十張之第二張
SHEET 2 OF 10

圖則編號 PLAN NO.	比例 SCALE
60507694/C11/112	A1 1:1000

辦事處 OFFICE: 可持續大嶼辦事處 SUSTAINABLE LANTAU OFFICE

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

A1 841MM X 594MM

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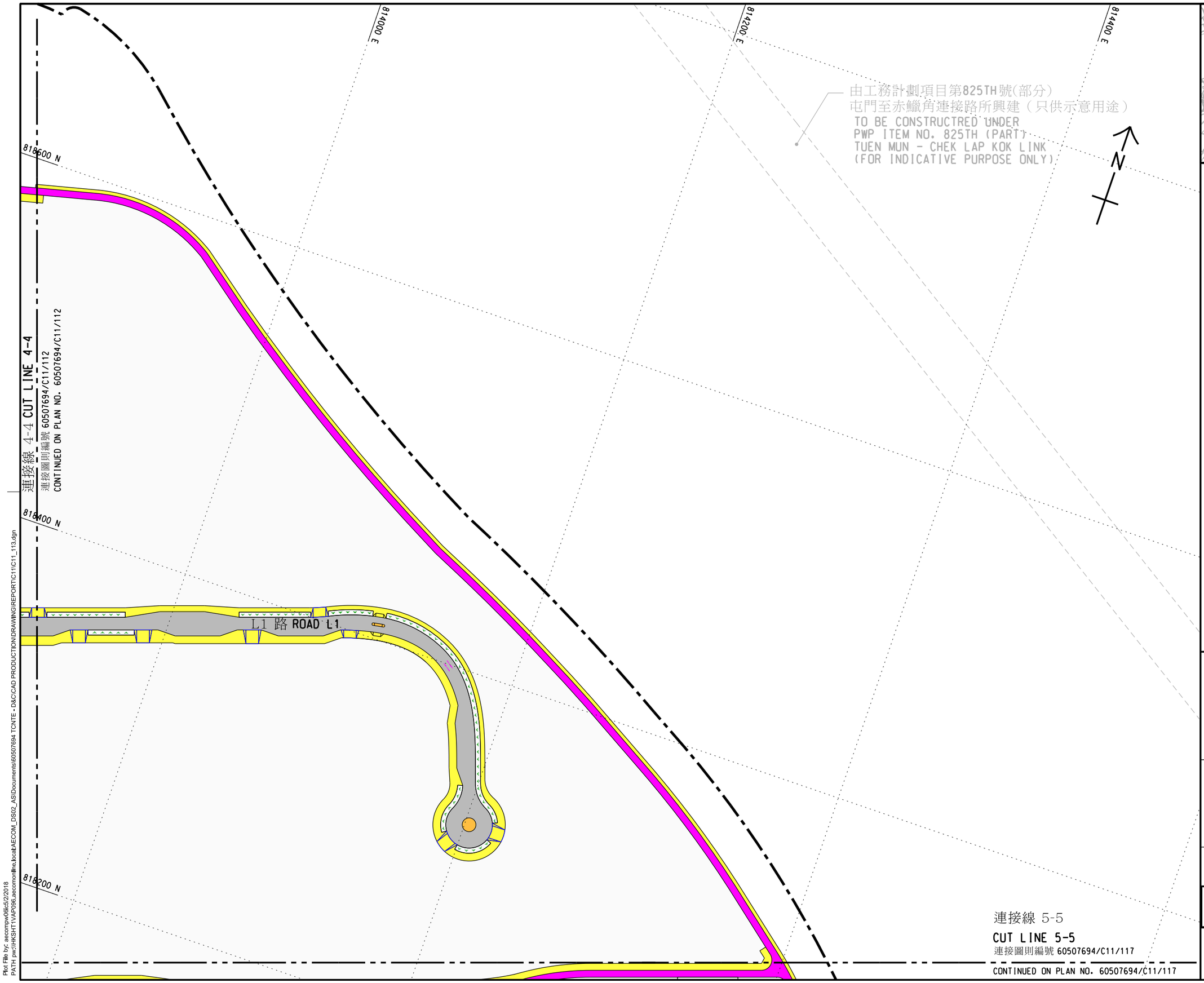

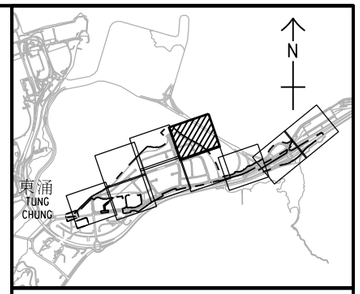

索引圖 KEY PLAN

比例 SCALE 1 : 50000

註釋: NOTES:

1. 除在其他方面指定外，所有量度以米為單位。
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5. 圖例的詳細資料請參照圖則編號60507694/C11/110。
   DETAILS OF LEGENDS ARE SHOWN ON PLAN NO. 60507694/C11/110.

工程名稱 PROJECT TITLE

工務計劃項目第7786CL號
東涌新市鎮擴展
（東涌東及P1路（東涌東至大蠔段）道路工程）

PWP ITEM NO. 7786CL
TUNG CHUNG NEW TOWN EXTENSION
(TUNG CHUNG EAST AND ROAD P1
(TUNG CHUNG EAST TO TAI HO SECTION)
ROAD WORKS)

圖則名稱 PLAN TITLE

根據《道路（工程、使用及補償）條例》（第370章）而在憲報公布之圖則

PLAN FOR GAZETTING UNDER ROADS (WORKS, USE AND COMPENSATION) ORDINANCE (CHAPTER 370)

十張之第三張
SHEET 3 OF 10

圖則編號 PLAN NO.	比例 SCALE
60507694/C11/113	A1 1:1000

辦事處 OFFICE: 可持續大嶼辦事處 SUSTAINABLE LANTAU OFFICE

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

A1 841MM X 594MM

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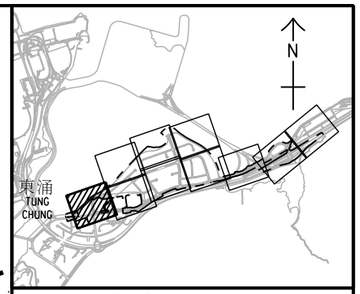
812200 E

812400 E

812600 E

N



索引圖 KEY PLAN

比例 SCALE 1 : 50000

註釋: NOTES:

1. 除在其他方面指定外，所有量度以米為單位。
   ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
2. 所有水平均為約數，以米為單位，並在香港主水平基準以上(+)或以下(-)。
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   GEOTECHNICAL, SLOPE STABILIZATION, DRAINAGE, SEWERAGE, WATER, UTILITIES AND LANDSCAPING WORKS MAY BE CARRIED OUT WITHIN THE LIMIT OF WORKS AREA AS AND WHEN REQUIRED.
5. 圖例的詳細資料請參照圖則編號 60507694/C11/110。
   DETAILS OF LEGENDS ARE SHOWN ON PLAN NO. 60507694/C11/110.

CP

L3 路 ROAD L3

參見插圖 B
SEE INSET B

連接線 6-6
CUT LINE 6-6

817200 N

參見插圖 A
SEE INSET A

東涌海濱路
TUNG CHUNG WATERFRONT ROAD

連接線 7-7
CUT LINE 7-7

連接圖則編號 60507694/C11/115
CONTINUED ON PLAN NO. 60507694/C11/115

迎禧路
YING HEI ROAD

插圖 A
INSET A
比例 SCALE A1 1 : 1000

插圖 B
INSET B
比例 SCALE A1 1 : 200

工程名稱 PROJECT TITLE

工務計劃項目第7786CL號
東涌新市鎮擴展
（東涌東及P1路（東涌東至大蠔段）道路工程）

PWP ITEM NO. 7786CL
TUNG CHUNG NEW TOWN EXTENSION
(TUNG CHUNG EAST AND ROAD P1
(TUNG CHUNG EAST TO TAI HO SECTION)
ROAD WORKS)

圖則名稱 PLAN TITLE

根據《道路（工程、使用及補償）條例》（第370章）而在憲報公布之圖則

PLAN FOR GAZETTING UNDER ROADS (WORKS, USE AND COMPENSATION) ORDINANCE (CHAPTER 370)

十張之第四張
SHEET 4 OF 10

圖則編號 PLAN NO.	比例 SCALE
60507694/C11/114	A1 1:1000

辦事處 OFFICE: 可持續大嶼辦事處 SUSTAINABLE LANTAU OFFICE

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

A1 841MM X 594MM

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連接線 1-1 CUT LINE 1-1
連接圖則編號 60507694/C11/111
CONTINUED ON PLAN NO. 60507694/C11/111

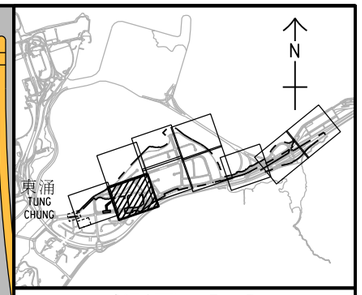
813200 E
813400 E
817600 N

L3 路 ROAD L3
L4 路 ROAD L4
P1 路 ROAD P1

連接線 8-8
CUT LINE 8-8
連接圖則編號 60507694/C11/116
CONTINUED ON PLAN NO. 60507694/C11/116

連接線 7-7
CUT LINE 7-7
連接圖則編號 60507694/C11/114
CONTINUED ON PLAN NO. 60507694/C11/114

迎東路 YING TUNG ROAD
迎東邨
YING TUNG ESTATE
迎禧路
YING HEI ROAD
CP
+5.5



索引圖 KEY PLAN
比例 SCALE 1 : 50000

註釋: NOTES:

1. 除在其他方面指定外，所有量度以米為單位。
   ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE SPECIFIED.
2. 所有水平均為約數，以米為單位，並在香港主水平基準以上(+)或以下(-)。
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   SECTIONS OF THE EXISTING AT GRADE CARRIAGEWAYS, SUBWAY, AT GRADE FOOTPATHS, AT GRADE CYCLE TRACK, AT GRADE AMENITY AREAS, ELEVATED AMENITY AREAS AND CENTRAL RESERVES/REFUGE ISLANDS WITHIN THE LIMIT OF WORKS AREA MAY BE TEMPORARILY CLOSED IN PHASES AS AND WHEN REQUIRED.
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5. 圖例的詳細資料請參照圖則編號 60507694/C11/110。
   DETAILS OF LEGENDS ARE SHOWN ON PLAN NO. 60507694/C11/110.

工程名稱 PROJECT TITLE
工務計劃項目第7786CL號
東涌新市鎮擴展
（東涌東及P1路（東涌東至大蠔段）道路工程）
PWP ITEM NO. 7786CL
TUNG CHUNG NEW TOWN EXTENSION
(TUNG CHUNG EAST AND ROAD P1
(TUNG CHUNG EAST TO TAI HO SECTION)
ROAD WORKS)

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

十張之第五張
SHEET 5 OF 10

圖則編號 PLAN NO.
60507694/C11/115

比例 SCALE
A1 1:1000

辦事處 OFFICE
可持續大嶼辦事處
SUSTAINABLE LANTAU OFFICE

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

A1 841MM X 594MM

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連接線 3-3
CUT LINE 3-3
連接圖則編號 60507694/C11/112
CONTINUED ON PLAN NO. 60507694/C11/112

813400 E
813600 E
813800 E

擬建地下泵房
PROPOSED UNDERGROUND PUMPHOUSE

CP

D1 路 ROAD D1

817800 N

L8 路 ROAD L8

L9 路 ROAD L9

連接線 8-8
CUT LINE 8-8
連接圖則編號 60507694/C11/115
CONTINUED ON PLAN NO. 60507694/C11/115

CP

D5 路 ROAD D5

817600 N

D3 路 ROAD D3

連接線 9-9
CUT LINE 9-9
連接圖則編號 60507694/C11/117
CONTINUED ON PLAN NO. 60507694/C11/117

P1 路 ROAD P1

+6.4

N

東涌
TUNG CHUNG

索引圖 KEY PLAN

比例 SCALE 1 : 50000

註釋: NOTES:

1. 除在其他方面指定外，所有量度以米為單位。
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工程名稱 PROJECT TITLE

工務計劃項目第7786CL號
東涌新市鎮擴展
（東涌東及P1路（東涌東至大蠔段）道路工程）

PWP ITEM NO. 7786CL
TUNG CHUNG NEW TOWN EXTENSION
(TUNG CHUNG EAST AND ROAD P1
(TUNG CHUNG EAST TO TAI HO SECTION)
ROAD WORKS)

圖則名稱 PLAN TITLE

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

十張之第六張
SHEET 6 OF 10

圖則編號 PLAN NO. 60507694/C11/116

比例 SCALE A1 1:1000

辦事處 OFFICE
可持續大嶼辦事處
SUSTAINABLE LANTAU OFFICE

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

A1 841MM X 594MM

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連接線 5-5 CUT LINE 5-5

連接圖則編號 60507694/C11/113
CONTINUED ON PLAN NO. 60507694/C11/113

818600 E

CP

D1 路 ROAD D1

L6 路 ROAD L6

D2 路 ROAD D2

L7 路 ROAD L7

P1 路 ROAD P1

818000 N

817800 N

連接線 9-9 CUT LINE 9-9

連接圖則編號 60507694/C11/116
CONTINUED ON PLAN NO. 60507694/C11/116

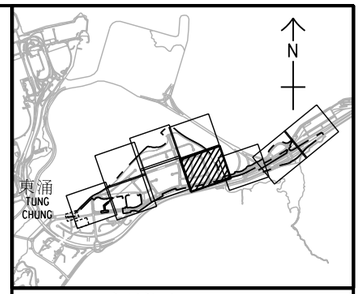
擬建白芒行人隧道延伸
PROPOSED EXTENSION
OF PAK MONG SUBWAY

連接線 10-10
CUT LINE 10-10

連接圖則編號 60507694/C11/118
CONTINUED ON PLAN NO. 60507694/C11/118

+8.3

+8.3



索引圖 KEY PLAN

比例 SCALE 1 : 50000

註釋: NOTES:

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工程名稱 PROJECT TITLE

工務計劃項目第7786CL號
東涌新市鎮擴展
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PWP ITEM NO. 7786CL
TUNG CHUNG NEW TOWN EXTENSION
(TUNG CHUNG EAST AND ROAD P1
(TUNG CHUNG EAST TO TAI HO SECTION)
ROAD WORKS)

圖則名稱 PLAN TITLE

根據《道路（工程、使用及補償）條例》（第370章）而在憲報公布之圖則

PLAN FOR GAZETTING UNDER ROADS (WORKS, USE AND COMPENSATION) ORDINANCE (CHAPTER 370)

十張之第七張
SHEET 7 OF 10

圖則編號 PLAN NO.	比例 SCALE
60507694/C11/117	A1 1:1000

辦事處 OFFICE: 可持續大嶼辦事處 SUSTAINABLE LANTAU OFFICE

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

A1 841MM X 594MM

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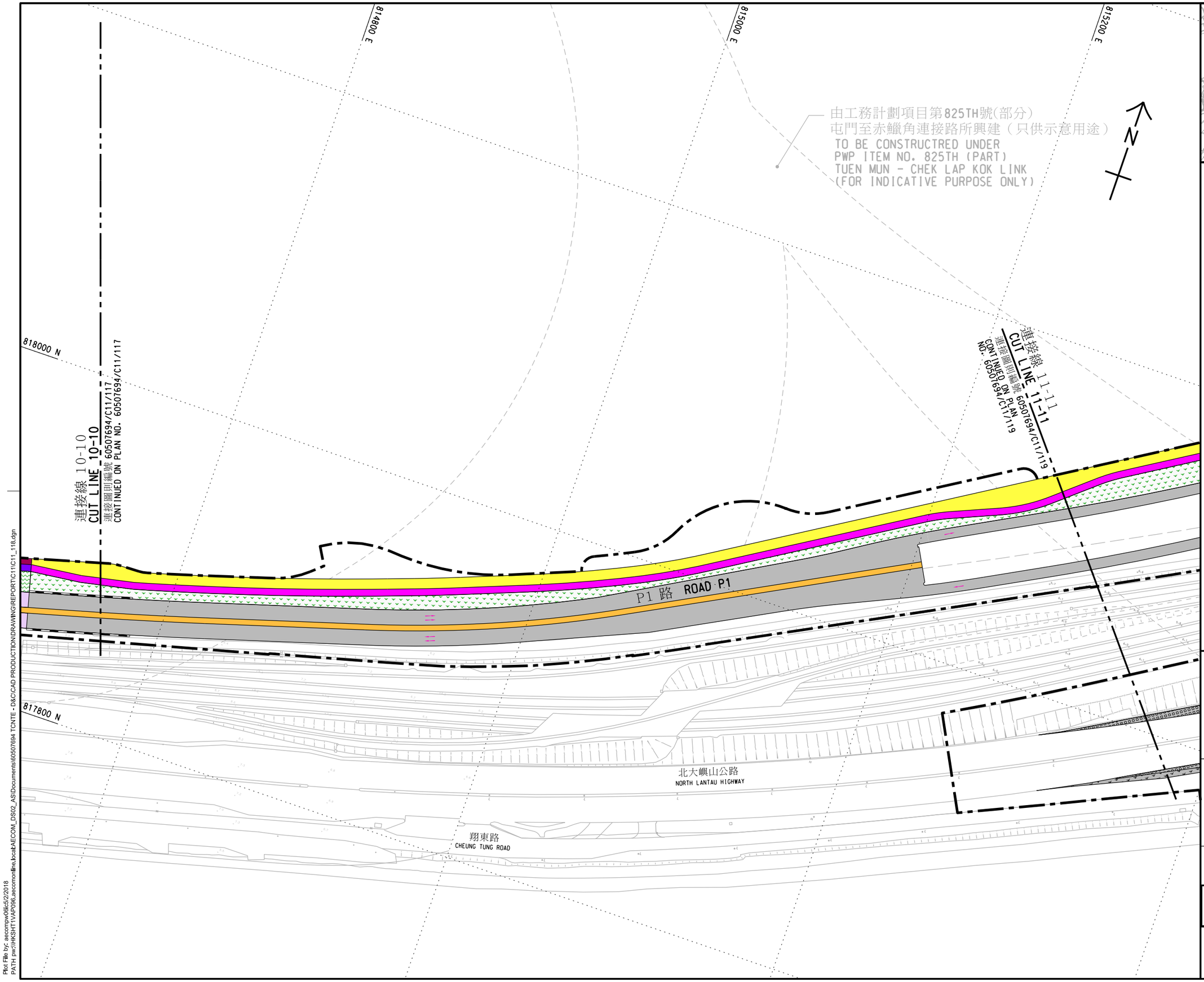

索引圖 KEY PLAN

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十張之第八張
SHEET 8 OF 10

圖則編號 PLAN NO.	比例 SCALE
60507694/C11/118	A1 1:1000

辦事處 OFFICE: 可持續大嶼辦事處 SUSTAINABLE LANTAU OFFICE

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

A1 841MM X 594MM

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連接線 11-11
CUT LINE 11-11
連接圖則編號 60507694/C11/118
CONTINUED ON PLAN NO. 60507694/C11/118

815400 E

SR6連接路
SLIP ROAD SR6

SR2連接路
SLIP ROAD SR2

SR3連接路
SLIP ROAD SR3

+5.90

+5.80

+15.3

連接線 12-12
CUT LINE 12-12
連接圖則編號 60507694/C11/120
CONTINUED ON PLAN NO. 60507694/C11/120

815600 E

818000 N

港鐵（東涌綫） MTR (TUNG CHUNG LINE)
港鐵（機場快綫） MTR (AIRPORT EXPRESS)

北大嶼山公路
NORTH LANTAU ROAD

參見插圖 C
SEE INSET C

SRA1連接路
SLIP ROAD SRA1

SRA2連接路
SLIP ROAD SRA2

擬建大蠔交匯處
PROPOSED TAI HO INTERCHANGE

+15.3

+15.3

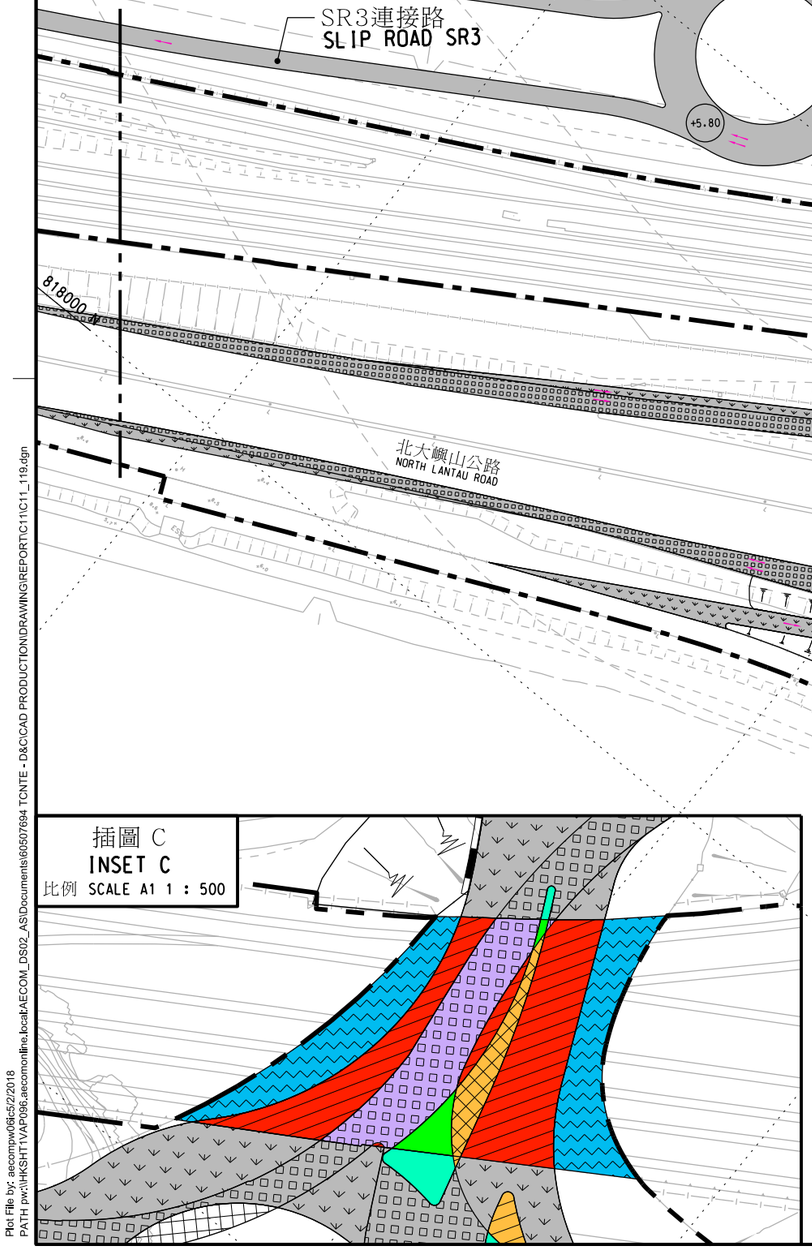
SRA4連接路
SLIP ROAD SRA4

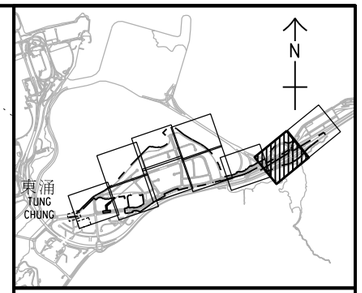
SRA5連接路
SLIP ROAD SRA5

SRA3連接路
SLIP ROAD SRA3

翔東路 CHEUNG TUNG ROAD

插圖 C
INSET C
比例 SCALE A1 1 : 500





索引圖 KEY PLAN
比例 SCALE 1 : 50000

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十張之第九張
SHEET 9 OF 10

圖則編號 PLAN NO. 60507694/C11/119
比例 SCALE A1 1:1000

辦事處 OFFICE 可持續大嶼辦事處
SUSTAINABLE LANTAU OFFICE

CEDD 土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

A1 841MM X 594MM

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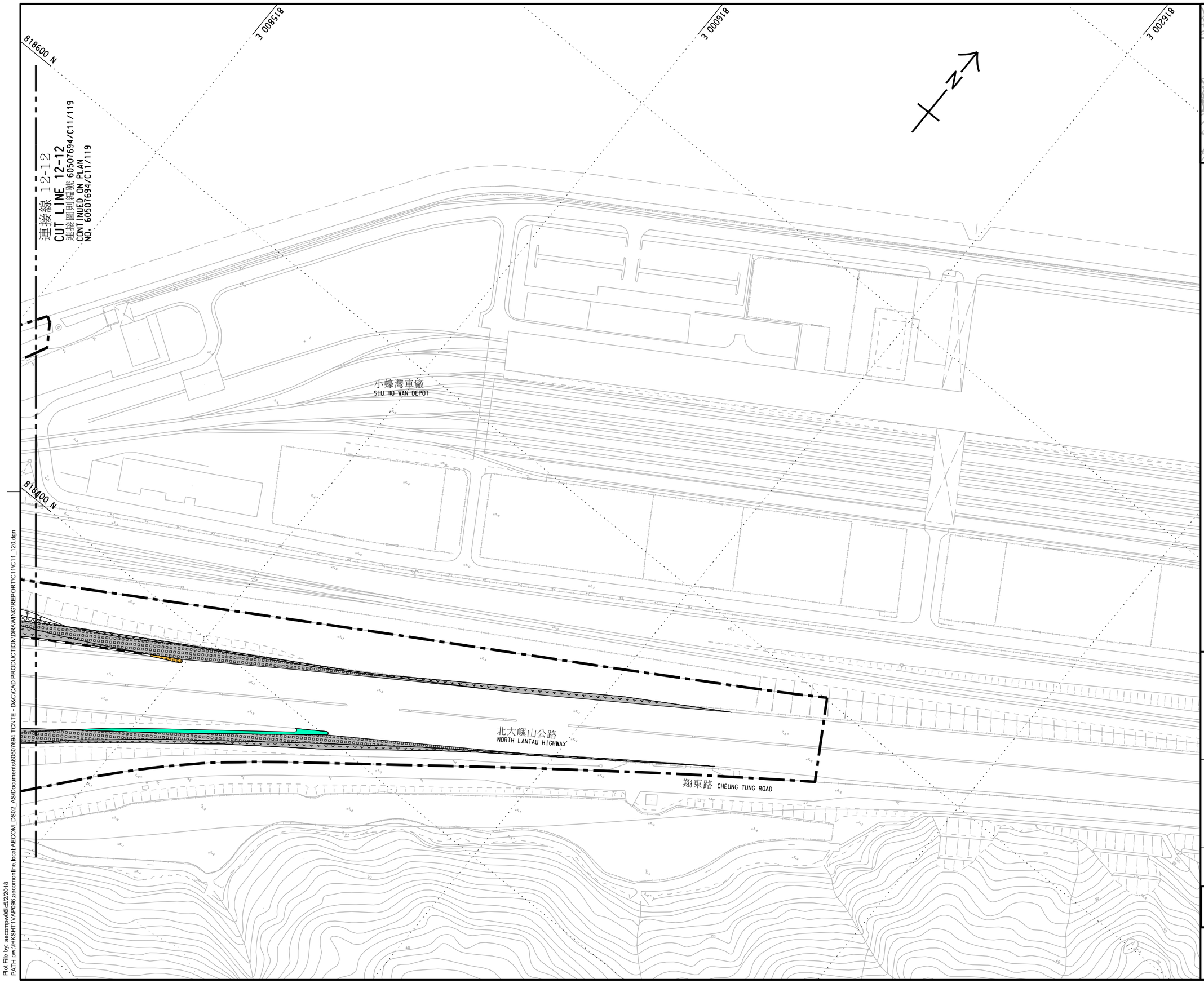

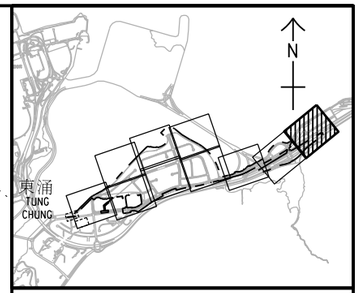

索引圖 KEY PLAN

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十張之第十張
SHEET 10 OF 10

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60507694/C11/120	A1 1:1000

辦事處 OFFICE
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SUSTAINABLE LANTAU OFFICE

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

A1 841MM X 594MM

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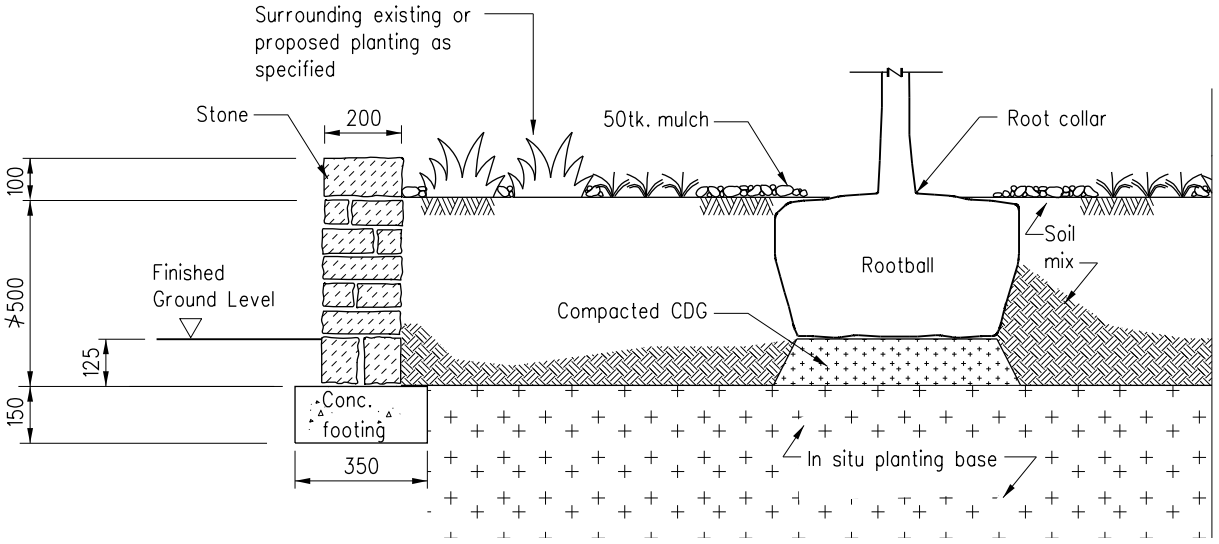
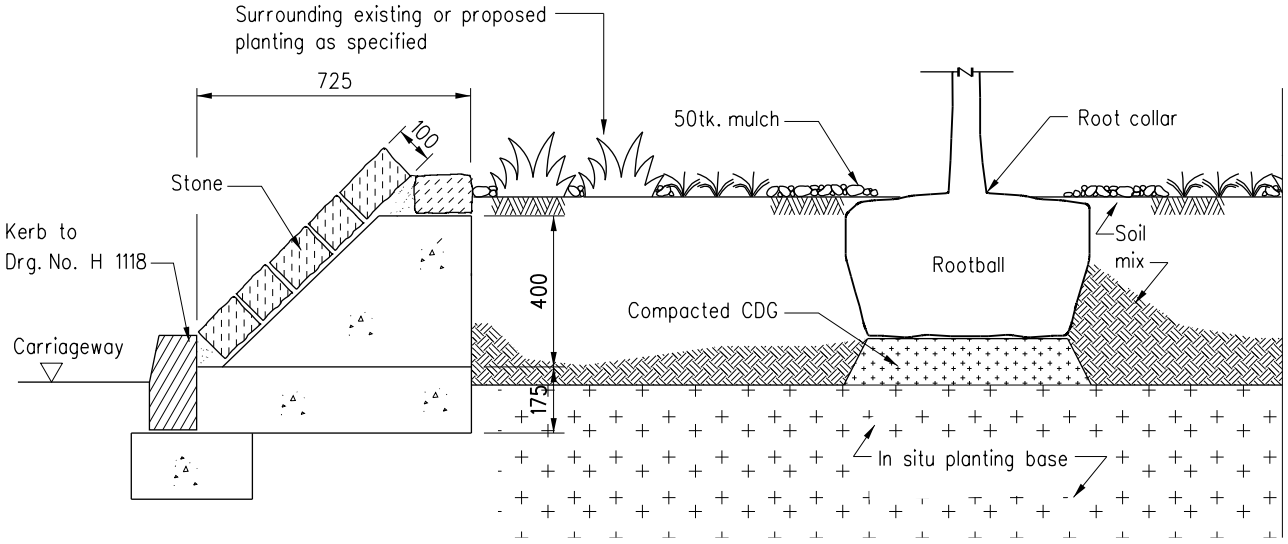


VERTICAL WALL



SLOPING WALL

Notes:

1. All dimensions are in millimetres.
2. Stones to be specified in accordance with G.S. clause 24.192.
3. Landscape Unit/HyD should be consulted on stone facing pattern & planting species.
4. Where dwarf walls are dedicated for toe wall planting adjoining slopes, Landscape Unit/HyD should be consulted on the interface details.
5. As an alternative to dwarf wall planter, kerb planter (H5138) should also be considered to suit site condition.
6. All concrete to be grade 30/20.

REF.	REVISION	SIGNATURE	DATE
C	Soft landscape graphic and planting detail revised	Original signed	Aug 17
B	Note 2 reference to the G.S. updated	—	Apr 10
A	General revision	—	May 97
	Former Drg. No. H5002/1 with general revision	—	Jun 94

DWARF WALLS - STONE

HIGHWAYS DEPARTMENT

REFERENCE

SCALE 1 : 20

DRAWING No. H 5103C

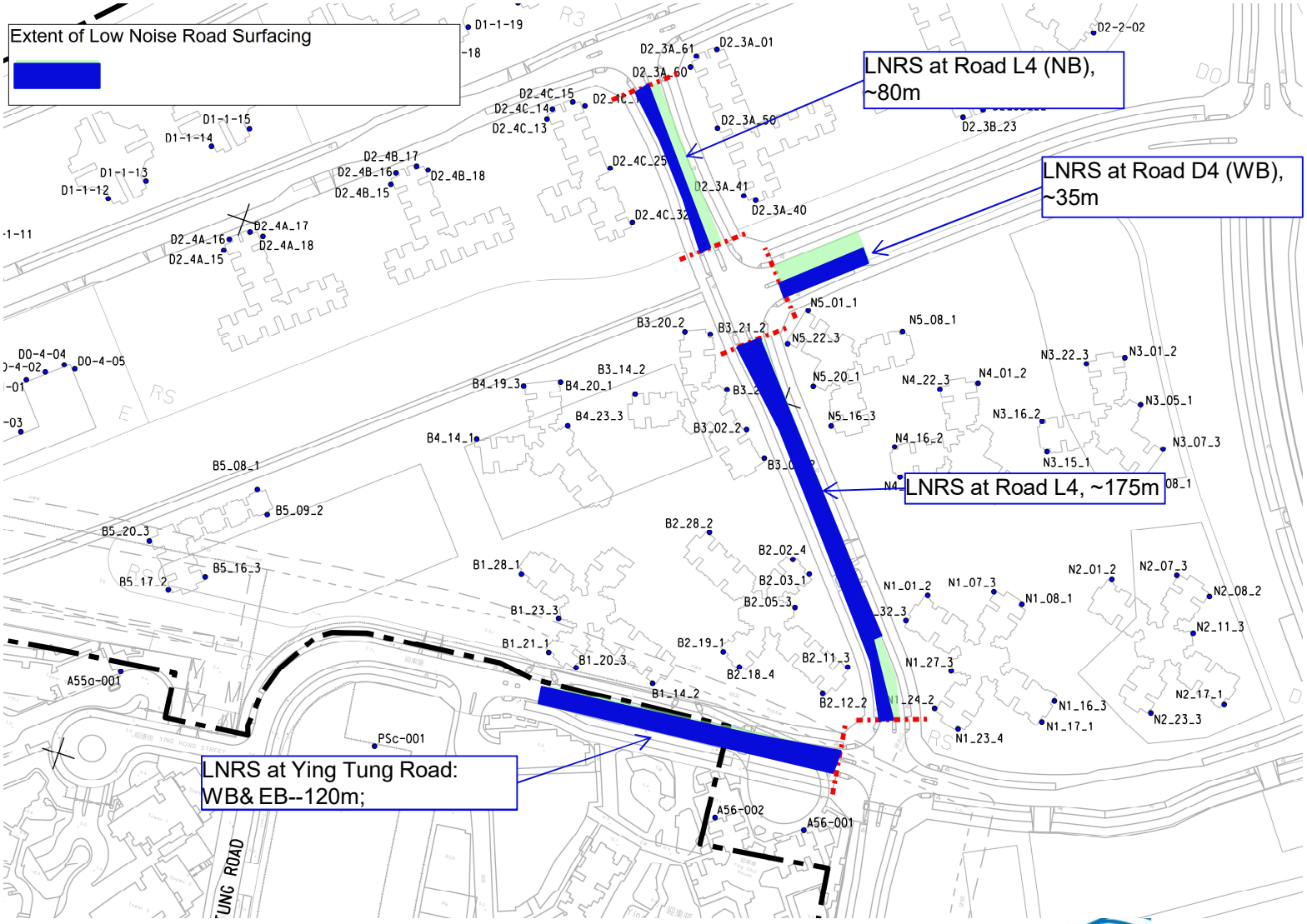
CAD

Appendix C

The Extent of the Proposed Low Noise Road Surfacing

The extent of the proposed Low Noise Road Surface along Road L4, Road D4 and Ying Tung Road

Implementation of LNRS on Separate Road Direction as per discussion in the meeting on 17 July 2020



Traffic Flow adopted: Case 2 Scenario 2

Appendix D

Predicted Road Traffic Noise Results (Base-case Scenario)

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Area 103

Block A - Base-case Scenario

Block A	BA_1a	BA_1b	BA_1c	**Max**	BA_2a	BA_2b	**Max**	BA_3a	BA_3b	BA_3c	**Max**	BA_4a	BA_4b	BA_4c	BA_4d	**Max**	BA_5a	BA_5b	BA_5c	BA_5d	**Max**
G/F																					
1/F																					
2/F	43.5	44.5	31.5	44.5	51.9	51.4	51.9	52.6	53.7	33.0	53.7	52.6	54.0	32.9	48.0	54.0	60.1	61.0	54.3	54.7	61.0
3/F	46.0	47.1	31.5	47.1	58.7	57.5	58.7	59.7	60.2	34.2	60.2	59.9	60.2	32.9	52.3	60.2	65.4	65.8	60.2	59.2	65.8
4/F	47.8	48.8	31.4	48.8	59.2	59.1	59.2	59.9	60.3	36.5	60.3	60.0	60.3	32.8	54.3	60.3	65.6	65.8	60.1	59.5	65.8
5/F	48.4	49.4	31.4	49.4	59.9	59.6	59.9	60.1	60.3	38.2	60.3	60.1	60.4	32.8	54.9	60.4	65.5	65.8	60.0	59.6	65.8
6/F	48.5	49.6	31.4	49.6	60.0	59.4	60.0	60.2	60.4	38.7	60.4	60.1	60.4	32.7	55.0	60.4	65.5	65.7	59.9	59.6	65.7
7/F	48.5	49.9	31.4	49.9	59.8	59.4	59.8	60.2	60.5	38.8	60.5	60.1	60.4	32.7	55.0	60.4	65.4	65.7	59.8	59.6	65.7
8/F	48.5	50.2	31.3	50.2	59.8	59.2	59.8	60.1	60.4	38.9	60.4	60.1	60.4	32.6	55.0	60.4	65.3	65.6	59.7	59.6	65.6
9/F	48.5	50.7	31.3	50.7	59.6	59.1	59.6	60.1	60.3	38.9	60.3	60.1	60.3	32.5	54.9	60.3	65.2	65.5	59.6	59.5	65.5
10/F	48.5	51.5	31.2	51.5	59.5	59.0	59.5	60.0	60.2	38.9	60.2	60.0	60.3	32.4	54.9	60.3	65.2	65.4	59.5	59.5	65.4
11/F	48.5	52.2	31.2	52.2	59.4	59.0	59.4	59.9	60.1	38.9	60.1	60.0	60.2	32.4	54.9	60.2	65.1	65.3	59.3	59.4	65.3
12/F	48.5	53.2	31.2	53.2	59.3	59.0	59.3	59.7	60.0	38.8	60.0	59.9	60.1	32.3	54.9	60.1	65.0	65.2	59.2	59.4	65.2
13/F	48.5	53.7	31.1	53.7	59.4	59.0	59.4	59.6	59.9	38.8	59.9	59.8	60.1	32.2	54.8	60.1	64.9	65.1	59.1	59.3	65.1
14/F	48.4	53.9	31.1	53.9	59.3	59.0	59.3	59.6	59.9	38.9	59.9	59.7	60.0	32.2	54.8	60.0	64.8	65.0	59.0	59.3	65.0
15/F	48.4	54.0	31.1	54.0	59.3	59.1	59.3	59.4	59.8	38.9	59.8	59.6	59.8	32.1	55.1	59.8	64.7	65.0	58.9	59.2	65.0

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Block A - Base-case Scenario

Block A	BA_6a	BA_6b	BA_6c	**Max**	BA_7a	BA_7b	BA_7b	**Max**	BA_8a	BA_8b	BA_8c	BA_8d	**Max**	BA_9a	BA_9b	BA_9c	**Max**	BA_10a	BA_10b	BA_10c	**Max**
G/F																					
1/F																					
2/F	60.5	61.2	48.9	61.2	60.0	61.6	61.6	61.6	60.7	61.8	53.1	58.7	61.8	61.1	64.5	61.1	64.5	61.2	63.6	52.7	63.6
3/F	66.0	66.1	53.7	66.1	66.2	66.7	66.7	66.7	66.8	67.0	59.5	65.9	67.0	71.1	73.3	68.4	73.3	71.3	73.2	58.8	73.2
4/F	66.2	66.1	53.6	66.2	66.3	66.7	66.7	66.7	66.9	67.0	59.3	66.3	67.0	72.5	73.4	69.9	73.4	72.6	73.3	65.2	73.3
5/F	66.1	66.0	53.5	66.1	66.2	66.7	66.7	66.7	66.9	66.9	59.2	66.4	66.9	72.3	73.0	69.8	73.0	72.4	72.9	66.5	72.9
6/F	66.0	66.0	53.4	66.0	66.1	66.5	66.5	66.5	66.9	66.9	59.0	66.3	66.9	72.0	72.6	69.5	72.6	72.0	72.6	66.3	72.6
7/F	65.9	65.9	53.2	65.9	66.0	66.5	66.5	66.5	66.8	66.8	58.8	66.1	66.8	71.6	72.2	69.2	72.2	71.7	72.2	66.1	72.2
8/F	65.8	65.8	53.1	65.8	65.9	66.4	66.4	66.4	66.6	66.7	58.7	65.9	66.7	71.3	71.9	68.9	71.9	71.3	71.9	65.8	71.9
9/F	65.7	65.7	53.0	65.7	65.8	66.3	66.3	66.3	66.4	66.6	58.5	65.6	66.6	71.0	71.6	68.6	71.6	71.0	71.5	65.5	71.5
10/F	65.6	65.6	52.9	65.6	65.6	66.1	66.1	66.1	66.3	66.4	58.4	65.4	66.4	70.6	71.3	68.3	71.3	70.7	71.2	65.2	71.2
11/F	65.6	65.5	52.8	65.6	65.5	66.1	66.1	66.1	66.1	66.2	58.2	65.2	66.2	70.3	71.0	68.1	71.0	70.4	71.0	64.9	71.0
12/F	65.4	65.4	52.6	65.4	65.3	65.9	65.9	65.9	65.9	66.1	58.0	65.0	66.1	70.1	70.7	67.8	70.7	70.2	70.7	64.7	70.7
13/F	65.4	65.3	52.5	65.4	65.2	65.8	65.8	65.8	65.7	65.9	57.9	64.8	65.9	69.8	70.4	67.5	70.4	69.9	70.4	64.4	70.4
14/F	65.2	65.2	52.4	65.2	65.0	65.6	65.6	65.6	65.5	65.7	57.7	64.6	65.7	69.6	70.2	67.3	70.2	69.7	70.2	64.2	70.2
15/F	65.1	65.1	52.3	65.1	64.9	65.5	65.5	65.5	65.4	65.6	57.6	64.5	65.6	69.3	70.0	67.1	70.0	69.4	70.0	64.0	70.0

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Block A - Base-case Scenario

Block A	BA_11a	BA_11b	BA_11c	BA_11d	BA_11e	**Max**	BA_12a	BA_12b	BA_12c	**Max**
G/F										
1/F										
2/F	62.1	63.5	52.6	64.7	69.4	69.4	47.1	46.3	42.6	47.1
3/F	71.4	73.0	58.7	69.8	69.1	73.0	49.3	48.3	46.1	49.3
4/F	72.6	73.2	65.1	71.1	68.8	73.2	50.7	49.7	47.9	50.7
5/F	72.4	72.8	66.4	71.0	68.6	72.8	51.3	50.3	48.5	51.3
6/F	72.1	72.4	66.3	70.7	68.4	72.4	51.6	50.6	48.7	51.6
7/F	71.7	72.1	66.1	70.4	68.2	72.1	51.7	50.7	48.8	51.7
8/F	71.4	71.7	65.8	70.1	67.9	71.7	51.8	50.7	48.9	51.8
9/F	71.1	71.4	65.5	69.8	67.7	71.4	51.9	50.8	48.9	51.9
10/F	70.8	71.1	65.2	69.5	67.4	71.1	51.9	50.8	48.9	51.9
11/F	70.5	70.8	64.9	69.2	67.2	70.8	51.9	50.8	48.9	51.9
12/F	70.2	70.6	64.7	69.0	66.9	70.6	51.8	0.0	48.9	51.8
13/F	70.0	70.3	64.4	0.0	66.7	70.3	51.8	50.7	48.9	51.8
14/F	69.8	70.1	64.2	68.5	66.5	70.1	51.8	50.7	48.9	51.8
15/F	69.5	69.8	64.0	68.3	66.3	69.8	51.8	50.7	48.9	51.8

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Area 103

Block B - Base-case Scenario

Block B	BB_1a	BB_1b	BB_1c	**Max**	BB_2a	BB_2b	**Max**	BB_3a	BB_3b	BB_3c	**Max**	BB_4a	BB_4b	BB_4c	BB_4d	**Max**	BB_5a	BB_5b	BB_5c	BB_5d	BB_5e	**Max**	BB_6a	BB_6b	BB_6c	BB_6d	BB_6e	**Max**
G/F																												
1/F																												
2/F	46.5	46.7	44.4	46.7	47.7	47.6	47.7	47.9	45.4	39.5	47.9	49.1	46.7	32.8	51.8	51.8	58.4	57.6	52.8	60.7	60.9	60.9	57.4	57.0	31.2	56.2	60.4	60.4
3/F	46.5	46.9	44.4	46.9	47.7	47.7	47.7	47.9	45.9	43.2	47.9	50.6	49.2	32.8	52.5	52.5	58.6	57.8	54.1	61.5	61.6	61.6	60.6	60.8	31.1	57.1	61.3	61.3
4/F	46.6	47.1	44.3	47.1	47.7	47.8	47.8	47.9	46.1	44.4	47.9	50.9	49.8	32.8	52.5	52.5	58.7	57.9	54.2	61.7	61.7	61.7	61.0	61.1	31.1	57.3	61.5	61.5
5/F	46.6	47.2	44.3	47.2	47.7	47.9	47.9	48.0	46.2	44.8	48.0	51.0	50.0	32.7	52.6	52.6	58.8	57.9	54.3	61.8	61.8	61.8	61.0	61.1	31.0	57.5	61.6	61.6
6/F	46.6	47.2	44.3	47.2	47.7	47.9	47.9	48.0	46.3	44.8	48.0	51.0	50.1	32.7	52.6	52.6	58.8	57.8	54.3	61.8	61.8	61.8	61.0	61.1	31.0	57.5	61.5	61.5
7/F	46.6	47.2	44.3	47.2	47.7	47.9	47.9	48.0	46.3	44.9	48.0	51.0	50.1	32.7	52.6	52.6	58.8	57.7	54.3	61.8	61.8	61.8	60.9	61.0	30.9	57.5	61.5	61.5
8/F	46.6	47.2	44.3	47.2	47.7	47.9	47.9	48.0	46.3	44.9	48.0	51.0	50.1	32.7	52.6	52.6	58.7	57.7	54.2	61.7	61.7	61.7	60.9	61.0	30.8	57.4	61.5	61.5
9/F	46.6	47.2	44.3	47.2	47.7	47.9	47.9	48.0	46.3	44.8	48.0	51.0	50.0	32.6	52.6	52.6	58.7	57.6	54.2	61.6	61.7	61.7	60.9	61.0	30.8	57.4	61.4	61.4
10/F	46.6	47.2	44.3	47.2	47.7	47.9	47.9	48.0	46.3	44.8	48.0	51.0	50.0	32.6	52.6	52.6	58.6	57.5	54.1	61.6	61.6	61.6	60.8	61.0	30.8	57.4	61.3	61.3
11/F	46.6	47.2	44.3	47.2	47.7	47.9	47.9	48.0	46.3	44.8	48.0	50.9	50.0	32.5	52.6	52.6	58.6	57.5	54.1	61.6	61.6	61.6	60.8	60.9	30.7	57.3	61.3	61.3
12/F	46.6	47.2	44.3	47.2	47.6	47.9	47.9	48.0	46.3	44.9	48.0	50.9	50.0	32.5	52.6	52.6	58.5	57.4	54.1	61.5	61.5	61.5	60.7	60.9	31.2	57.3	61.3	61.3
13/F	46.6	47.2	44.3	47.2	47.6	47.9	47.9	48.0	46.3	44.8	48.0	50.9	50.0	32.4	52.5	52.5	58.5	57.3	54.1	61.5	61.5	61.5	60.7	60.9	32.1	57.3	61.2	61.2
14/F	46.6	47.2	44.3	47.2	47.6	47.9	47.9	47.9	46.3	44.9	47.9	50.8	50.0	32.4	52.5	52.5	58.4	57.3	54.0	61.4	61.5	61.5	60.7	60.8	33.3	57.3	61.2	61.2
15/F	46.6	47.2	44.3	47.2	47.6	47.8	47.8	47.9	46.3	44.8	47.9	50.9	50.0	32.3	52.6	52.6	58.4	57.2	54.0	61.4	61.4	61.4	60.7	60.7	34.8	57.3	61.2	61.2
16/F	46.6	47.2	44.3	47.2	47.6	47.8	47.8	47.9	46.3	44.9	47.9	50.8	50.0	32.3	52.5	52.5	58.3	57.2	54.0	61.4	61.4	61.4	60.6	60.7	36.5	57.3	61.2	61.2
17/F	46.6	47.2	44.3	47.2	47.6	47.8	47.8	47.9	46.3	44.9	47.9	50.8	50.0	32.3	52.5	52.5	58.2	57.1	53.9	61.3	61.4	61.4	60.6	60.7	38.7	57.3	61.2	61.2
18/F	46.6	47.2	44.3	47.2	47.6	47.8	47.8	47.9	46.3	44.9	47.9	50.8	50.0	32.2	52.5	52.5	58.2	57.1	53.9	61.3	61.4	61.4	60.6	60.6	41.5	57.3	61.1	61.1
19/F	46.6	47.2	44.9	47.2	47.6	47.8	47.8	47.9	46.4	45.0	47.9	50.8	49.9	32.2	52.6	52.6	58.2	57.1	53.9	61.2	61.3	61.3	60.6	60.6	43.7	57.3	61.1	61.1
20/F	46.6	47.2	45.2	47.2	47.6	47.8	47.8	47.9	46.4	45.0	47.9	50.9	50.0	32.4	52.6	52.6	58.1	57.0	53.9	61.2	61.3	61.3	60.6	60.6	45.3	57.5	61.1	61.1
21/F	46.6	47.2	45.2	47.2	47.6	47.8	47.8	47.9	46.4	45.0	47.9	50.8	50.0	32.4	52.6	52.6	58.0	57.0	53.8	61.1	61.2	61.2	60.6	60.7	47.3	57.7	61.1	61.1
22/F	46.6	47.2	45.2	47.2	47.6	47.8	47.8	47.9	46.4	45.0	47.9	50.8	50.0	32.4	52.5	52.5	58.0	56.9	53.8	61.1	61.2	61.2	60.8	60.9	49.6	58.0	61.2	61.2
23/F	46.6	47.2	45.2	47.2	47.6	47.8	47.8	47.9	46.4	45.0	47.9	50.8	50.0	32.3	52.5	52.5	57.9	56.8	53.7	61.0	61.2	61.2	60.9	61.1	51.3	58.3	61.3	61.3
24/F	46.6	47.2	45.2	47.2	47.6	47.8	47.8	47.9	46.4	45.0	47.9	50.8	49.9	32.3	52.5	52.5	57.8	56.8	53.7	61.0	61.1	61.1	61.0	61.2	52.5	58.5	61.4	61.4
25/F	50.8	51.2	45.0	51.2	54.3	54.5	54.5	52.0	51.4	45.1	52.0	50.8	50.0	32.3	52.5	52.5	57.8	56.8	53.7	60.9	61.1	61.1	61.2	61.3	53.2	58.8	61.5	61.5
26/F	46.7	47.3	44.9	47.3	47.6	47.9	47.9	47.9	49.1	45.0	49.1	55.2	52.8	32.2	54.3	55.2	57.7	56.7	53.6	60.9	61.1	61.1	61.3	61.4	53.9	59.0	61.6	61.6
27/F	46.8	47.2	44.9	47.2	47.6	47.8	47.8	47.9	46.5	45.1	47.9	50.8	49.9	32.1	52.4	52.4	57.7	56.7	53.6	60.9	61.0	61.0	61.3	61.4	54.5	59.2	61.6	61.6
28/F	46.5	47.2	44.2	47.2	47.8	48.0	48.0	47.9	46.7	45.0	47.9	50.8	50.0	32.1	52.4	52.4	57.6	56.6	53.5	60.8	61.0	61.0	61.4	61.5	54.8	59.3	61.6	61.6
29/F	46.9	47.2	44.2	47.2	47.6	47.8	47.8	47.9	46.5	45.0	47.9	50.7	49.9	32.1	52.4	52.4	57.5	56.5	53.5	60.8	60.9	60.9	61.4	61.5	55.1	59.5	61.6	61.6
30/F	47.3	47.7	44.2	47.7	47.6	47.8	47.8	47.9	46.5	45.0	47.9	50.7	49.9	32.1	52.3	52.3	57.5	56.5	53.4	60.7	60.9	60.9	61.5	61.5	55.3	59.5	61.6	61.6
31/F	47.3	48.0	44.2	48.0	47.6	47.8	47.8	47.9	46.5	45.0	47.9	50.6	49.8	32.0	52.3	52.3	57.4	56.4	53.4	60.7	60.9	60.9	61.5	61.5	55.5	59.6	61.5	61.5
32/F	47.4	48.0	44.2	48.0	47.6	48.0	48.0	47.9	46.5	44.9	47.9	50.6	49.8	32.1	52.3	52.3	57.3	56.4	53.3	60.6	60.8	60.8	61.5	61.5	55.6	59.7	61.5	61.5
33/F	47.4	48.0	44.2	48.0	47.6	48.0	48.0	47.9	46.9	44.9	47.9	51.1	49.8	32.2	52.3	52.3	57.3	56.3	53.3	60.6	60.8	60.8	61.5	61.5	55.7	59.7	61.5	61.5
34/F	47.4	48.0	44.2	48.0	47.8	48.0	48.0	47.9	46.7	44.9	47.9	51.1	49.8	32.4	52.2	52.2	57.2	56.3	53.2	60.6	60.7	60.7	61.5	61.6	55.8	59.8	61.4	61.6
35/F	47.4	48.0	44.4	48.0	47.6	48.0	48.0	48.2	46.9	44.8	48.2	51.1	49.7	32.7	52.2	52.2	57.2	56.3	53.2	60.5	60.7	60.7	61.5	61.6	55.8	59.8	61.4	61.6
36/F	47.4	48.0	44.2	48.0	47.8	48.1	48.1	48.2	47.0	44.8	48.2	51.1	49.7	33.1	52.2	52.2	57.1	56.2	53.1	60.5	60.7	60.7	61.6	55.9	55.9	59.8	61.4	61.6
37/F	47.4	48.0	44.3	48.0	47.9	48.1	48.1	48.3	47.0	44.8	48.3	51.1	49.8	33.7	52.2	52.2	57.1	56.2	53.1	60.4	60.6	60.6	61.5	61.5	55.9	59.9	61.3	61.5
38/F	47.4	48.1	44.3	48.1	47.9	48.4	48.4	48.3	47.1	44.8	48.3	51.1	49.9	34.5	52.2	52.2	57.0	56.1	53.1	60.4	60.6	60.6	61.5	55.9	55.9	59.9	61.3	61.5

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Block B - Base-case Scenario

Block B	BB_7a	BB_7b	BB_7c	**Max**	BB_8a	BB_8b	BB_8c	**Max**	BB_9a	BB_9b	**Max**	BB_10a	BB_10b	BB_10c	**Max**	BB_11a	BB_11b	BB_11c	BB_11d	BB_11e	**Max**	BB_12a	BB_12b	BB_12c	BB_12d	BB_12e	**Max**
G/F																											
1/F																											
2/F	58.0	59.1	32.5	59.1	58.4	58.3	30.8	58.4	53.6	58.4	58.4	50.2	53.1	38.9	53.1	50.5	50.0	48.9	59.9	68.3	68.3	66.1	68.2	56.1	65.4	68.9	68.9
3/F	60.8	61.0	32.4	61.0	60.7	60.8	30.8	60.8	57.6	60.3	60.3	55.5	56.3	40.8	56.3	51.9	51.5	50.5	62.4	69.2	69.2	72.7	72.9	64.1	71.4	70.5	72.9
4/F	60.8	61.1	32.3	61.1	60.8	60.8	30.7	60.8	58.5	60.6	60.6	58.1	60.0	41.6	60.0	53.2	52.8	52.1	62.3	69.1	69.1	72.9	72.8	66.9	72.0	70.6	72.9
5/F	60.9	61.1	32.2	61.1	61.1	61.0	30.6	61.1	59.9	61.2	61.2	58.4	60.6	42.2	60.6	53.8	53.5	52.9	62.3	69.0	69.0	72.6	72.4	66.9	71.7	70.5	72.6
6/F	61.0	61.2	32.1	61.2	61.4	61.2	30.5	61.4	60.2	61.6	61.6	58.5	60.6	42.4	60.6	54.2	53.9	53.3	62.3	69.0	69.0	72.2	72.1	66.7	71.4	70.1	72.2
7/F	61.0	61.3	32.1	61.3	61.6	61.5	30.4	61.6	60.2	61.6	61.6	58.4	60.6	42.6	60.6	54.4	54.1	53.6	62.4	68.9	68.9	71.9	71.7	66.3	71.0	69.8	71.9
8/F	61.0	61.4	32.0	61.4	61.5	61.5	30.3	61.5	60.1	61.5	61.5	58.4	60.5	42.6	60.5	54.5	54.2	53.7	62.5	68.7	68.7	71.6	71.4	66.0	70.7	69.5	71.6
9/F	61.0	61.3	31.9	61.3	61.4	61.4	30.3	61.4	60.0	61.4	61.4	58.5	60.5	42.7	60.5	54.6	54.3	53.8	62.5	68.5	68.5	71.3	71.1	65.7	70.4	69.2	71.3
10/F	61.0	61.3	31.8	61.3	61.3	61.3	30.2	61.3	59.9	61.4	61.4	58.6	60.4	42.7	60.4	54.7	54.4	53.8	62.5	68.3	68.3	71.0	70.8	65.5	70.1	68.9	71.0
11/F	60.9	61.2	31.8	61.2	61.3	61.3	30.2	61.3	59.8	61.3	61.3	58.7	60.4	42.7	60.4	54.7	54.4	53.9	62.4	68.1	68.1	70.7	70.5	65.2	69.8	68.7	70.7
12/F	60.8	61.2	31.9	61.2	61.2	61.2	30.4	61.2	59.8	61.2	61.2	58.8	60.5	42.7	60.5	54.7	54.4	53.9	62.2	67.9	67.9	70.5	70.3	65.0	69.6	68.4	70.5
13/F	60.8	61.1	32.5	61.1	61.1	61.1	31.3	61.1	59.7	61.1	61.1	58.9	60.5	42.6	60.5	54.7	54.4	53.9	62.1	67.7	67.7	70.2	70.0	64.7	69.3	68.2	70.2
14/F	60.7	61.1	33.4	61.1	61.1	61.1	32.4	61.1	59.7	61.2	61.2	58.9	60.5	42.6	60.5	54.7	54.4	53.9	61.9	67.5	67.5	70.0	69.8	64.5	69.2	68.0	70.0
15/F	60.6	61.0	34.7	61.0	61.1	61.0	34.0	61.1	59.7	61.1	61.1	58.8	60.4	42.6	60.4	54.8	54.5	54.0	61.8	67.3	67.3	69.8	69.6	64.3	68.9	67.8	69.8
16/F	60.6	60.9	36.3	60.9	61.0	61.0	35.8	61.0	59.6	61.1	61.1	58.8	60.4	42.7	60.4	54.8	54.5	54.0	61.6	67.1	67.1	69.5	69.3	64.1	68.7	67.6	69.5
17/F	60.5	60.9	38.4	60.9	61.0	61.0	38.1	61.0	59.6	61.1	61.1	58.7	60.3	43.0	60.3	54.8	54.5	54.0	61.5	66.9	66.9	69.3	69.1	63.9	68.5	67.4	69.3
18/F	60.5	60.9	41.2	60.9	61.0	61.0	41.0	61.0	59.5	61.1	61.1	58.6	60.3	43.6	60.3	54.8	54.5	54.0	61.4	66.7	66.7	69.1	68.9	63.7	68.3	67.2	69.1
19/F	60.5	60.9	43.6	60.9	61.0	61.0	43.4	61.0	59.5	61.0	61.0	58.5	60.2	44.4	60.2	54.9	54.6	54.0	61.2	66.5	66.5	68.9	68.8	63.5	68.1	67.0	68.9
20/F	60.6	60.9	45.2	60.9	60.9	60.9	45.1	60.9	59.4	61.0	61.0	58.5	60.1	45.0	60.1	54.9	54.7	54.0	61.2	66.4	66.4	68.8	68.6	63.3	68.0	66.8	68.8
21/F	60.6	60.9	47.1	60.9	61.0	60.9	47.0	61.0	59.3	61.0	61.0	58.4	60.0	45.8	60.0	55.1	54.8	54.1	61.1	66.3	66.3	68.6	68.4	63.1	67.8	66.7	68.6
22/F	60.8	61.0	49.1	61.0	61.0	61.0	49.0	61.0	59.3	61.0	61.0	58.4	60.0	47.2	60.0	55.4	55.1	54.1	61.1	66.2	66.2	68.4	68.3	63.0	67.6	66.5	68.4
23/F	60.9	61.1	50.8	61.1	61.0	61.0	50.7	61.0	59.2	61.0	61.0	58.5	60.1	48.4	60.1	55.6	55.3	54.1	61.1	66.1	66.1	68.3	68.2	62.8	67.5	66.3	68.3
24/F	61.0	61.2	51.8	61.2	61.1	61.1	51.7	61.1	59.2	61.0	61.0	58.5	60.0	49.1	60.0	55.8	55.5	54.1	61.0	65.9	65.9	68.1	68.0	62.7	67.3	66.2	68.1
25/F	61.1	61.2	52.6	61.2	61.1	61.1	52.5	61.1	59.1	61.0	61.0	58.5	60.0	49.8	60.0	55.9	55.6	54.2	61.0	65.9	65.9	68.0	67.8	62.5	67.1	66.0	68.0
26/F	61.1	61.3	53.2	61.3	61.1	61.1	53.0	61.1	59.1	60.9	60.9	58.5	60.0	50.6	60.0	56.0	55.7	54.2	61.0	65.7	65.7	67.8	67.7	62.4	67.0	65.9	67.8
27/F	61.2	61.3	53.7	61.3	61.1	61.1	53.5	61.1	59.1	60.9	60.9	58.5	60.1	51.3	60.1	56.2	55.9	54.2	61.0	65.6	65.6	67.7	67.6	62.2	66.9	65.7	67.7
28/F	61.2	61.3	54.0	61.3	61.0	61.1	53.9	61.1	59.1	60.9	60.9	58.5	60.1	51.9	60.1	56.4	56.1	54.3	60.9	65.6	65.6	67.5	67.4	62.1	66.7	65.6	67.5
29/F	61.2	61.3	54.2	61.3	61.0	61.1	54.0	61.1	59.2	60.9	60.9	58.6	60.1	52.5	60.1	56.6	56.3	54.3	60.9	65.4	65.4	67.4	67.3	62.0	66.6	65.5	67.4
30/F	61.3	61.4	54.3	61.4	61.0	61.1	54.2	61.1	59.1	60.9	60.9	58.6	60.1	52.8	60.1	56.8	56.5	54.4	60.9	65.4	65.4	67.3	67.2	61.8	66.5	65.3	67.3
31/F	61.2	61.3	54.4	61.3	61.0	61.1	54.3	61.1	59.2	61.0	61.0	58.7	60.2	53.2	60.2	56.9	56.6	54.5	61.0	65.3	65.3	67.1	67.0	61.7	66.3	65.2	67.1
32/F	61.2	61.3	54.5	61.3	61.0	61.0	54.3	61.0	59.2	61.0	61.0	58.7	60.2	53.5	60.2	57.1	56.8	54.5	61.0	65.3	65.3	67.0	66.9	61.6	66.2	65.1	67.0
33/F	61.2	61.3	54.5	61.3	61.0	61.0	54.4	61.0	59.2	60.9	60.9	58.7	60.2	53.7	60.2	57.2	56.9	54.6	61.0	65.1	65.1	66.9	66.8	61.5	66.1	65.0	66.9
34/F	61.2	61.3	54.6	61.3	61.0	61.0	54.5	61.0	59.1	60.9	60.9	58.8	60.2	53.8	60.2	57.4	57.1	54.6	61.0	65.0	65.0	66.8	66.7	61.4	66.0	64.9	66.8
35/F	61.2	61.2	54.7	61.2	61.0	61.0	54.6	61.0	59.1	60.9	60.9	58.8	60.2	54.0	60.2	57.5	57.2	54.6	61.0	65.0	65.0	66.7	66.6	61.2	65.9	64.8	66.7
36/F	61.1	61.2	54.8	61.2	61.0	61.0	54.6	61.0	59.1	60.9	60.9	58.8	60.2	54.1	60.2	57.6	57.3	54.7	61.0	64.9	64.9	66.6	66.5	61.1	65.8	64.6	66.6
37/F	61.1	61.2	54.9	61.2	61.0	61.0	54.7	61.0	59.0	60.9	60.9	58.8	60.2	54.2	60.2	57.7	57.4	54.7	61.1	64.8	64.8	66.5	66.3	61.0	65.6	64.5	66.5
38/F	61.1	61.2	55.0	61.2	61.0	61.0	54.8	61.0	59.0	60.9	60.9	59.0	60.2	54.3	60.2	57.8	57.5	54.8	61.1	64.8	64.8	66.4	66.2	60.9	65.5	64.4	66.4

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Based on information from HKHA, Flat 10 is truncated from 28/F to 39/F

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Block B - Base-case Scenario

Block B	BB_13a	BB_13b	BB_13c	**Max**	BB_14a	BB_14b	BB_14c	**Max**	BB_15a	BB_15b	BB_15c	**Max**	BB_16a	BB_16b	BB_16c	**Max**	BB_17a	BB_17b	BB_17c	**Max**
G/F																				
1/F																				
2/F	66.2	69.4	54.0	69.4	66.6	69.4	56.6	69.4	66.3	70.1	55.8	70.1	47.9	48.7	42.9	48.7	49.4	49.0	49.6	49.6
3/F	72.0	72.8	60.8	72.8	72.4	72.7	65.3	72.7	71.8	72.7	64.1	72.7	48.9	49.3	44.6	49.3	49.6	49.4	50.0	50.0
4/F	72.0	72.7	65.4	72.7	72.3	72.5	67.0	72.5	71.8	72.4	66.6	72.4	49.6	49.9	46.1	49.9	49.8	49.9	50.5	50.5
5/F	71.7	72.3	65.8	72.3	72.1	72.2	66.9	72.2	71.5	72.2	66.6	72.2	50.0	50.2	46.8	50.2	50.0	50.1	50.7	50.7
6/F	71.3	71.9	65.7	71.9	71.8	71.9	66.6	71.9	71.2	71.9	66.3	71.9	50.1	50.3	47.0	50.3	50.0	50.2	50.8	50.8
7/F	71.0	71.6	65.4	71.6	71.5	71.6	66.3	71.6	70.9	71.6	66.0	71.6	50.2	50.3	47.1	50.3	50.0	50.2	50.8	50.8
8/F	70.7	71.3	65.1	71.3	71.2	71.3	66.1	71.3	70.6	71.3	65.7	71.3	50.2	50.3	47.1	50.3	50.1	50.2	50.8	50.8
9/F	70.5	71.0	64.8	71.0	70.9	71.0	65.8	71.0	70.4	71.0	65.5	71.0	50.2	50.3	47.0	50.3	50.1	50.2	50.8	50.8
10/F	70.2	70.7	64.5	70.7	70.6	70.7	65.5	70.7	70.1	70.7	65.2	70.7	50.2	50.3	47.0	50.3	50.0	50.2	50.8	50.8
11/F	69.9	70.5	64.3	70.5	70.4	70.5	65.3	70.5	69.8	70.5	65.0	70.5	50.2	50.3	47.0	50.3	50.0	50.2	50.8	50.8
12/F	69.7	70.2	64.0	70.2	70.1	70.2	65.1	70.2	69.6	70.2	64.7	70.2	50.2	50.3	47.0	50.3	50.0	50.2	50.8	50.8
13/F	69.4	70.0	63.8	70.0	69.9	70.0	64.8	70.0	69.4	70.0	64.5	70.0	50.2	50.3	47.0	50.3	50.0	50.2	50.8	50.8
14/F	69.2	69.7	63.6	69.7	69.7	69.8	64.6	69.8	69.2	69.8	64.3	69.8	50.2	50.3	47.0	50.3	50.0	50.2	50.8	50.8
15/F	69.0	69.5	63.4	69.5	69.5	69.6	64.4	69.6	69.0	69.6	64.1	69.6	50.3	50.3	47.0	50.3	50.0	50.2	50.7	50.7
16/F	68.8	69.3	63.2	69.3	69.3	69.4	64.2	69.4	68.8	69.4	63.9	69.4	50.3	50.3	47.0	50.3	50.0	50.2	50.7	50.7
17/F	68.6	69.1	63.0	69.1	69.1	69.2	64.0	69.2	68.6	69.2	63.7	69.2	50.3	50.3	47.0	50.3	50.0	50.2	50.7	50.7
18/F	68.4	68.9	62.8	68.9	68.9	69.0	63.8	69.0	68.4	69.0	63.5	69.0	50.3	50.3	46.9	50.3	50.0	50.2	50.7	50.7
19/F	68.2	68.7	62.6	68.7	68.7	68.8	63.6	68.8	68.3	68.8	63.3	68.8	50.3	50.2	46.9	50.3	50.0	50.2	50.7	50.7
20/F	68.0	68.5	62.4	68.5	68.5	68.6	63.5	68.6	68.1	68.7	63.2	68.7	50.3	50.2	46.9	50.3	50.0	50.2	50.7	50.7
21/F	67.9	68.4	62.2	68.4	68.4	68.5	63.3	68.5	67.9	68.5	63.0	68.5	50.3	50.2	46.9	50.3	50.0	50.2	50.7	50.7
22/F	67.7	68.2	62.1	68.2	68.2	68.4	63.1	68.4	67.7	68.4	62.8	68.4	50.3	50.2	46.9	50.3	50.0	50.2	50.7	50.7
23/F	67.5	68.0	61.9	68.0	68.1	68.2	63.0	68.2	67.6	68.2	62.7	68.2	50.3	50.3	46.9	50.3	50.0	50.1	50.7	50.7
24/F	67.4	67.9	61.8	67.9	68.0	68.1	62.8	68.1	67.4	68.1	62.5	68.1	50.2	50.3	47.7	50.3	50.0	50.1	50.8	50.8
25/F	67.2	67.7	61.6	67.7	67.8	67.9	62.7	67.9	67.3	67.9	62.4	67.9	52.8	51.9	50.6	52.8	50.2	51.4	51.6	51.6
26/F	67.1	67.6	61.5	67.6	67.7	67.8	62.5	67.8	67.2	67.8	62.2	67.8	52.7	52.4	49.2	52.7	50.2	50.6	51.5	51.5
27/F	66.9	67.5	61.3	67.5	67.5	67.6	62.4	67.6	67.0	67.6	62.1	67.6	53.6	53.0	49.0	53.6	50.3	50.8	52.0	52.0
28/F	66.8	67.3	61.2	67.3	67.4	67.5	62.3	67.5	66.9	67.5	62.0	67.5	52.3	52.1	46.9	52.3	50.0	50.1	51.1	51.1
29/F	66.7	67.2	61.1	67.2	67.3	67.4	62.1	67.4	66.7	67.4	61.8	67.4	52.1	52.3	47.8	52.3	50.1	50.2	51.4	51.4
30/F	66.6	67.1	60.9	67.1	67.1	67.2	62.0	67.2	66.6	67.2	61.7	67.2	52.1	52.4	47.9	52.4	50.1	50.3	51.4	51.4
31/F	66.5	66.9	60.8	66.9	67.0	67.1	61.9	67.1	66.5	67.1	61.6	67.1	52.1	52.4	48.2	52.4	50.1	50.2	51.9	51.9
32/F	66.4	66.8	60.7	66.8	66.9	67.0	61.8	67.0	66.4	67.0	61.5	67.0	52.5	52.5	48.0	52.5	50.1	50.3	51.8	51.8
33/F	66.3	66.7	60.6	66.7	66.8	66.9	61.7	66.9	66.3	66.9	61.3	66.9	52.5	52.9	47.9	52.9	50.1	50.3	51.8	51.8
34/F	66.2	66.6	60.5	66.6	66.7	66.8	61.5	66.8	66.1	66.8	61.2	66.8	53.1	52.8	47.9	53.1	50.1	50.4	51.8	51.8
35/F	66.1	66.5	60.3	66.5	66.5	66.6	61.4	66.6	66.0	66.6	61.1	66.6	53.2	52.8	47.9	53.2	50.1	50.4	51.8	51.8
36/F	65.9	66.4	60.2	66.4	66.4	66.5	61.3	66.5	65.9	66.5	61.0	66.5	53.1	52.8	48.3	53.1	50.0	50.4	51.8	51.8
37/F	65.8	66.3	60.1	66.3	66.3	66.4	61.2	66.4	65.8	66.4	60.9	66.4	53.1	52.8	48.4	53.1	50.0	50.4	51.8	51.8
38/F	65.7	66.2	60.0	66.2	66.2	66.3	61.1	66.3	65.7	66.3	60.8	66.3	53.1	52.8	48.7	53.1	50.1	50.5	51.9	51.9

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Area 103

Block C - Base-case Scenario

Block C	BC_1a	BC_1b	BC_1c	**Max**	BC_2a	BC_2b	**Max**	BC_3a	BC_3b	BC_3c	**Max**	BC_4a	BC_4b	BC_4c	**Max**	BC_5a	BC_5b	BC_5c	BC_5d	**Max**	BC_6a	BC_6b	BC_6c	**Max**
G/F																								
1/F																								
2/F	42.1	47.7	39.0	47.7	52.1	56.5	56.5	56.2	57.6	35.4	57.6	56.8	57.7	34.6	57.7	58.1	57.6	52.9	46.1	58.1	56.9	58.6	60.2	60.2
3/F	42.1	53.8	39.9	53.8	54.7	57.4	57.4	57.7	58.3	35.4	58.3	58.5	58.6	34.6	58.6	58.8	59.1	56.3	49.3	59.1	60.5	61.8	62.1	62.1
4/F	42.3	56.9	41.7	56.9	57.3	58.4	58.4	58.3	58.6	35.4	58.6	58.9	58.9	34.5	58.9	59.6	60.3	59.0	52.9	60.3	62.1	63.2	63.2	63.2
5/F	42.5	57.2	44.0	57.2	58.4	59.4	59.4	59.2	59.4	35.3	59.4	59.6	59.5	34.5	59.6	60.3	61.1	60.2	55.1	61.1	62.8	63.6	63.5	63.6
6/F	42.9	57.2	45.4	57.2	58.5	59.7	59.7	59.7	59.9	35.3	59.9	60.1	60.1	34.4	60.1	60.8	61.6	60.9	56.1	61.6	63.1	63.8	63.7	63.8
7/F	43.5	57.2	46.0	57.2	58.5	59.7	59.7	59.9	60.0	35.2	60.0	60.5	60.4	34.3	60.5	61.2	61.9	61.1	56.8	61.9	63.3	64.0	63.8	64.0
8/F	44.2	57.3	46.3	57.3	58.5	59.7	59.7	59.9	60.1	35.1	60.1	60.6	60.4	34.3	60.6	61.5	62.1	61.3	57.1	62.1	63.4	64.1	64.0	64.1
9/F	44.9	57.3	46.4	57.3	58.5	59.7	59.7	59.8	60.0	35.1	60.0	60.6	60.5	34.2	60.6	61.5	62.2	61.4	57.2	62.2	63.5	64.2	64.0	64.2
10/F	45.4	57.3	46.5	57.3	58.6	59.7	59.7	59.8	60.1	35.0	60.1	60.7	60.5	34.2	60.7	61.6	62.2	61.4	57.2	62.2	63.5	64.2	64.0	64.2
11/F	45.7	57.3	46.5	57.3	58.6	59.6	59.6	59.8	60.0	34.9	60.0	60.7	60.5	34.1	60.7	61.6	62.2	61.4	57.2	62.2	63.5	64.2	64.0	64.2
12/F	45.9	57.3	46.6	57.3	58.5	59.6	59.6	59.7	60.0	34.9	60.0	60.6	60.4	34.0	60.6	61.5	62.2	61.3	57.1	62.2	63.4	64.1	63.9	64.1
13/F	46.1	57.2	46.6	57.2	58.4	59.5	59.5	59.7	60.0	34.8	60.0	60.6	60.4	33.9	60.6	61.5	62.1	61.2	57.0	62.1	63.3	64.1	63.8	64.1
14/F	46.2	57.1	46.6	57.1	58.3	59.4	59.4	59.6	59.9	34.7	59.9	60.5	60.3	33.9	60.5	61.5	62.1	61.1	57.0	62.1	63.2	64.0	63.8	64.0
15/F	46.3	57.1	46.6	57.1	58.3	59.4	59.4	59.6	59.8	34.6	59.8	60.5	60.3	33.8	60.5	61.4	62.0	61.0	56.9	62.0	63.2	63.9	63.7	63.9
16/F	46.3	57.0	46.6	57.0	58.2	59.3	59.3	59.5	59.7	34.6	59.7	60.4	60.2	33.7	60.4	61.3	62.0	61.0	56.8	62.0	63.1	63.8	63.6	63.8
17/F	46.3	56.8	46.5	56.8	58.0	59.2	59.2	59.4	59.6	34.5	59.6	60.3	60.1	33.6	60.3	61.3	61.9	60.9	56.8	61.9	63.0	63.8	63.5	63.8
18/F	46.2	56.7	46.4	56.7	57.9	59.1	59.1	59.3	59.5	34.4	59.5	60.2	60.0	33.6	60.2	61.2	61.8	60.8	56.7	61.8	62.9	63.7	63.4	63.7
19/F	46.2	56.6	46.6	56.6	57.8	58.9	58.9	59.2	59.4	34.4	59.4	60.2	60.0	33.5	60.2	61.1	61.8	60.7	56.6	61.8	62.9	63.6	63.4	63.6
20/F	46.1	56.5	46.5	56.5	57.7	58.8	58.8	59.0	59.3	34.3	59.3	60.1	59.9	33.4	60.1	61.1	61.7	60.6	56.5	61.7	62.8	63.5	63.3	63.5
21/F	46.1	56.4	46.4	56.4	57.6	58.7	58.7	58.9	59.2	34.2	59.2	60.0	59.8	33.4	60.0	61.0	61.6	60.5	56.5	61.6	62.7	63.4	63.2	63.4
22/F	46.0	56.2	46.4	56.2	57.5	58.6	58.6	58.8	59.1	34.1	59.1	59.9	59.7	33.3	59.9	60.9	61.5	60.5	56.4	61.5	62.6	63.3	63.1	63.3
23/F	45.9	56.1	46.3	56.1	57.4	58.5	58.5	58.7	59.0	34.1	59.0	59.8	59.6	33.2	59.8	60.8	61.4	60.4	56.3	61.4	62.5	63.3	63.1	63.3
24/F	45.9	56.0	46.2	56.0	57.3	58.4	58.4	58.6	58.9	34.0	58.9	59.7	59.5	33.2	59.7	60.8	61.4	60.3	56.2	61.4	62.4	63.2	63.0	63.2
25/F	47.8	56.3	46.2	56.3	57.2	58.9	58.9	59.0	59.1	34.0	59.1	59.8	59.5	33.1	59.8	60.7	61.3	60.2	56.1	61.3	62.4	63.1	62.9	63.1
26/F	51.5	56.9	46.1	56.9	57.0	59.0	59.0	59.2	59.5	34.1	59.5	60.1	60.0	33.2	60.1	60.9	61.5	60.1	56.1	61.5	62.2	63.2	63.1	63.2
27/F	52.2	57.0	46.1	57.0	56.9	59.2	59.2	59.4	59.7	34.3	59.7	60.2	60.1	33.4	60.2	61.2	61.7	60.0	56.0	61.7	62.1	63.3	63.0	63.3
28/F	52.8	57.1	45.8	57.1	56.8	59.0	59.0	59.3	59.3	34.5	59.3	60.1	59.9	33.6	60.1	61.1	61.7	59.9	55.9	61.7	62.1	63.3	63.0	63.3
29/F	53.0	57.2	45.7	57.2	56.7	59.1	59.1	59.4	59.5	34.8	59.5	60.3	60.2	33.8	60.3	61.2	61.6	59.8	55.8	61.6	62.0	63.2	62.9	63.2
30/F	53.0	57.3	45.7	57.3	56.6	59.1	59.1	59.4	59.6	35.3	59.6	60.1	60.1	34.1	60.1	61.0	61.6	59.8	55.8	61.6	61.9	63.2	62.9	63.2
31/F	53.5	57.1	45.7	57.1	56.5	58.9	58.9	59.2	59.4	36.0	59.4	60.1	60.2	34.6	60.2	61.0	61.6	59.7	55.7	61.6	61.8	63.1	62.8	63.1
32/F	53.8	57.3	45.8	57.3	56.5	59.0	59.0	59.3	59.4	36.9	59.4	60.1	60.0	35.2	60.1	60.9	61.5	59.6	55.6	61.5	61.8	63.0	62.8	63.0
33/F	53.5	57.3	45.8	57.3	56.4	59.1	59.1	59.2	59.5	37.9	59.5	60.0	60.0	35.8	60.0	60.9	61.4	59.5	55.6	61.4	61.7	63.0	62.7	63.0
34/F	54.0	57.3	45.9	57.3	56.3	58.9	58.9	59.2	59.4	39.1	59.4	60.0	59.9	36.6	60.0	60.8	61.4	59.5	55.6	61.4	61.6	62.9	62.7	62.9
35/F	53.8	57.4	46.1	57.4	56.2	58.9	58.9	59.2	59.4	40.5	59.4	59.9	59.9	37.6	59.9	60.9	61.4	59.4	55.6	61.4	61.6	62.9	62.6	62.9
36/F	53.8	57.1	46.5	57.1	56.2	58.9	58.9	59.1	59.3	42.3	59.3	59.9	59.9	38.8	59.9	60.9	61.4	59.5	55.8	61.4	61.5	62.9	62.6	62.9
37/F	53.8	57.1	47.0	57.1	56.1	58.8	58.8	59.1	59.3	44.7	59.3	60.0	59.9	40.3	60.0	61.0	61.5	59.6	56.1	61.5	61.6	62.8	62.5	62.8
38/F	54.2	57.1	48.0	57.1	56.2	58.9	58.9	59.3	59.4	47.4	59.4	60.1	60.1	42.3	60.1	61.0	61.5	59.7	56.4	61.5	61.6	62.8	62.5	62.8
39/F	54.3	57.4	49.4	57.4	56.4	59.2	59.2	59.3	59.7	49.1	59.7	60.2	60.2	44.1	60.2	61.1	61.6	59.8	56.6	61.6	61.6	62.7	62.4	62.7

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Block C - Base-case Scenario

Block C	BC_7a	BC_7b	BC_7c	BC_7d	**Max**	BC_8a	BC_8b	BC_8c	**Max**	BC_9a	BC_9b	BC_9c	**Max**	BC_10a	BC_10b	BC_10c	**Max**	BC_11a	BC_11b	**Max**	BC_12a	BC_12b	BC_12c	**Max**
G/F																								
1/F																								
2/F	56.1	56.7	30.4	62.1	62.1	55.4	55.8	35.5	55.8	54.6	54.7	31.9	54.7	53.8	53.9	34.9	53.9	35.8	53.8	53.8	53.4	53.5	53.3	53.5
3/F	56.8	57.4	30.4	63.0	63.0	56.2	56.6	37.0	56.6	55.4	55.5	31.9	55.5	54.9	54.9	36.3	54.9	37.2	54.9	54.9	54.5	54.6	54.6	54.6
4/F	57.0	57.6	30.3	63.4	63.4	56.5	56.9	37.9	56.9	55.8	55.9	31.8	55.9	55.4	55.4	37.3	55.4	38.3	55.4	55.4	55.1	55.2	55.1	55.2
5/F	57.1	57.7	30.3	63.5	63.5	56.7	57.0	38.4	57.0	56.0	56.1	31.7	56.1	55.6	55.6	37.8	55.6	38.9	55.6	55.6	55.3	55.4	55.4	55.4
6/F	57.2	57.7	30.3	63.5	63.5	56.7	57.0	38.7	57.0	56.1	56.1	31.7	56.1	55.7	55.7	38.2	55.7	39.2	55.7	55.7	55.5	55.6	55.5	55.6
7/F	57.2	57.7	30.2	63.5	63.5	56.8	57.0	38.8	57.0	56.1	56.2	31.6	56.2	55.7	55.8	38.3	55.8	39.3	55.8	55.8	55.5	55.6	55.6	55.6
8/F	57.1	57.7	30.1	63.6	63.6	56.7	57.0	38.8	57.0	56.1	56.2	31.5	56.2	55.8	55.8	38.5	55.8	39.4	55.8	55.8	55.6	55.6	55.6	55.6
9/F	57.1	57.7	30.1	63.7	63.7	56.7	56.9	38.9	56.9	56.1	56.2	31.4	56.2	55.8	55.8	38.5	55.8	39.5	55.8	55.8	55.5	55.6	55.6	55.6
10/F	57.1	57.7	30.0	63.7	63.7	56.6	56.9	38.9	56.9	56.0	56.1	31.3	56.1	55.7	55.8	38.5	55.8	39.5	55.8	55.8	55.5	55.6	55.6	55.6
11/F	57.0	57.7	29.8	63.7	63.7	56.6	56.9	38.9	56.9	56.0	56.1	31.2	56.1	55.7	55.7	38.5	55.7	39.5	55.7	55.7	55.5	55.6	55.5	55.6
12/F	57.0	57.6	29.6	63.7	63.7	56.5	56.8	38.9	56.8	56.0	56.1	31.0	56.1	55.7	55.7	38.5	55.7	39.5	55.7	55.7	55.5	55.6	55.5	55.6
13/F	56.9	57.6	29.4	63.6	63.6	56.5	56.8	38.8	56.8	55.9	56.0	30.8	56.0	55.6	55.7	38.4	55.7	39.4	55.7	55.7	55.4	55.6	55.4	55.6
14/F	56.9	57.5	29.2	63.5	63.5	56.4	56.7	38.8	56.7	55.9	56.0	30.7	56.0	55.6	55.6	38.4	55.6	39.4	55.6	55.6	55.4	55.5	55.4	55.5
15/F	56.8	57.5	29.1	63.5	63.5	56.4	56.7	38.8	56.7	55.8	55.9	30.6	55.9	55.6	55.6	38.4	55.6	39.3	55.6	55.6	55.4	55.5	55.4	55.5
16/F	56.8	57.5	29.1	63.4	63.4	56.3	56.6	38.8	56.6	55.8	55.9	30.4	55.9	55.5	55.6	38.4	55.6	39.3	55.5	55.5	55.3	55.4	55.3	55.4
17/F	56.7	57.4	29.0	63.3	63.3	56.3	56.6	38.8	56.6	55.8	55.9	30.2	55.9	55.5	55.5	38.3	55.5	39.3	55.5	55.5	55.3	55.4	55.3	55.4
18/F	56.7	57.4	28.7	63.2	63.2	56.2	56.5	38.8	56.5	55.7	55.8	29.9	55.8	55.5	55.5	38.3	55.5	39.2	55.5	55.5	55.3	55.4	55.3	55.4
19/F	56.6	57.4	28.5	63.2	63.2	56.2	56.5	38.8	56.5	55.7	55.8	29.5	55.8	55.4	55.5	38.3	55.5	39.2	55.4	55.4	55.2	55.3	55.2	55.3
20/F	56.6	57.3	28.2	63.1	63.1	56.2	56.4	38.7	56.4	55.7	55.8	29.5	55.8	55.4	55.5	38.3	55.5	39.2	55.4	55.4	55.2	55.3	55.2	55.3
21/F	56.6	57.3	28.2	63.0	63.0	56.1	56.4	38.7	56.4	55.7	55.8	29.5	55.8	55.4	55.4	38.3	55.4	39.2	55.4	55.4	55.2	55.3	55.1	55.3
22/F	56.5	57.3	28.1	63.0	63.0	56.1	56.4	38.7	56.4	55.6	55.7	29.3	55.7	55.3	55.4	38.3	55.4	39.2	55.3	55.3	55.1	55.2	55.1	55.2
23/F	56.5	57.3	28.0	62.9	62.9	56.1	56.4	38.7	56.4	55.6	55.7	29.2	55.7	55.3	55.4	38.3	55.4	39.2	55.3	55.3	55.1	55.2	55.1	55.2
24/F	56.5	57.3	27.9	62.8	62.8	56.0	56.3	38.7	56.3	55.6	55.6	29.1	55.6	55.2	55.3	38.4	55.3	39.1	55.3	55.3	55.0	55.2	55.1	55.2
25/F	56.5	57.3	27.8	62.8	62.8	56.0	56.3	38.7	56.3	56.7	56.8	29.0	56.8	56.5	56.5	38.3	56.5	39.1	56.5	56.5	56.4	56.5	55.0	56.5
26/F	56.5	57.4	27.7	63.0	63.0	56.7	56.8	38.7	56.8	56.2	56.4	28.9	56.4	55.9	56.0	38.3	56.0	39.1	56.0	56.0	55.1	55.2	55.0	55.2
27/F	56.4	57.2	27.7	62.9	62.9	56.0	56.2	38.7	56.2	55.5	55.5	28.9	55.5	55.2	55.2	38.4	55.2	39.1	55.2	55.2	55.0	55.1	55.0	55.1
28/F	56.4	57.2	27.7	63.0	63.0	56.0	56.2	38.6	56.2	55.5	55.6	28.8	55.6	55.2	55.4	38.4	55.4	39.1	55.1	55.1	54.9	55.1	54.9	55.1
29/F	56.3	57.2	27.6	62.8	62.8	55.9	56.1	38.6	56.1	55.4	55.5	28.7	55.5	55.1	55.2	38.4	55.2	39.2	55.1	55.1	54.9	55.1	54.9	55.1
30/F	56.2	57.2	27.5	62.7	62.7	55.9	56.1	38.6	56.1	55.4	55.5	28.6	55.5	55.1	55.2	38.5	55.2	39.2	55.1	55.1	54.9	55.0	54.9	55.0
31/F	56.2	57.1	27.5	62.7	62.7	55.9	56.1	38.6	56.1	55.4	55.5	28.6	55.5	55.1	55.2	38.6	55.2	39.3	55.1	55.1	54.9	55.0	54.9	55.0
32/F	56.2	57.1	27.5	62.7	62.7	55.8	56.0	38.6	56.0	55.4	55.5	28.5	55.5	55.1	55.2	38.7	55.2	39.4	55.1	55.1	54.9	55.0	54.9	55.0
33/F	56.1	57.1	27.5	62.6	62.6	55.8	56.0	38.5	56.0	55.4	55.5	28.5	55.5	55.1	55.2	38.9	55.2	39.6	55.1	55.1	54.9	55.0	54.9	55.0
34/F	56.1	57.1	27.5	62.5	62.5	55.7	56.0	38.5	56.0	55.3	55.4	28.5	55.4	55.1	55.2	39.1	55.2	39.6	55.1	55.1	54.9	55.0	54.9	55.0
35/F	56.0	57.0	27.5	62.5	62.5	55.7	55.9	38.5	55.9	55.3	55.4	28.4	55.4	55.1	55.2	39.3	55.2	39.9	55.1	55.1	54.9	55.0	54.8	55.0
36/F	56.0	57.0	27.7	62.4	62.4	55.7	55.9	38.5	55.9	55.3	55.4	28.6	55.4	55.1	55.1	39.4	55.1	40.1	55.1	55.1	54.8	55.0	54.8	55.0
37/F	56.0	57.0	28.5	62.4	62.4	55.6	55.8	38.6	55.8	55.3	55.4	29.4	55.4	55.1	55.1	39.6	55.1	40.3	55.0	55.0	54.8	54.9	54.8	54.9
38/F	55.9	56.9	29.6	62.3	62.3	55.6	55.8	38.7	55.8	55.3	55.4	30.5	55.4	55.0	55.1	39.7	55.1	40.4	55.1	55.1	54.8	54.9	54.8	54.9
39/F	55.9	56.9	30.9	62.3	62.3	55.6	55.8	38.8	55.8	55.2	55.3	31.9	55.3	55.0	55.1	40.0	55.1	40.6	55.0	55.0	54.8	54.9	54.8	54.9

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Block C - Base-case Scenario

Block C	BC_13a	BC_13b	BC_13c	**Max**	BC_14a	BC_14b	BC_14c	**Max**	BC_15a	BC_15b	BC_15c	**Max**	BC_16a	BC_16b	BC_16c	**Max**
G/F																
1/F																
2/F	52.5	50.2	50.2	52.5	51.3	48.7	50.4	51.3	67.4	69.4	56.8	69.4	65.4	69.1	60.7	69.1
3/F	53.5	52.9	51.5	53.5	51.9	50.5	51.0	51.9	72.3	72.6	65.7	72.6	71.7	72.4	68.5	72.4
4/F	54.2	54.2	52.4	54.2	52.5	51.6	51.4	52.5	72.2	72.3	66.8	72.3	71.7	72.2	68.8	72.2
5/F	54.5	54.6	52.8	54.6	52.9	52.1	51.6	52.9	71.9	72.1	66.6	72.1	71.4	71.9	68.5	71.9
6/F	54.6	54.7	53.0	54.7	53.1	52.4	51.8	53.1	71.6	71.8	66.3	71.8	71.1	71.6	68.2	71.6
7/F	54.7	54.8	53.2	54.8	53.2	52.6	51.9	53.2	71.4	71.5	66.1	71.5	70.9	71.4	67.9	71.4
8/F	54.8	54.8	53.3	54.8	53.3	52.7	52.0	53.3	71.1	71.2	65.8	71.2	70.6	71.1	67.7	71.1
9/F	54.8	54.8	53.4	54.8	53.4	52.8	52.1	53.4	70.8	71.0	65.6	71.0	70.4	70.8	67.4	70.8
10/F	54.8	54.8	53.4	54.8	53.5	52.8	52.1	53.5	70.5	70.7	65.3	70.7	70.1	70.6	67.1	70.6
11/F	54.8	54.9	53.5	54.9	53.5	52.9	52.2	53.5	70.3	70.4	65.1	70.4	69.9	70.3	66.9	70.3
12/F	54.8	54.9	53.5	54.9	53.5	52.9	52.3	53.5	70.1	70.2	64.9	70.2	69.6	70.1	66.6	70.1
13/F	54.8	54.8	53.5	54.8	53.5	52.9	52.3	53.5	69.8	70.0	64.6	70.0	69.4	69.9	66.4	69.9
14/F	54.7	54.8	53.5	54.8	53.6	53.0	52.3	53.6	69.6	69.8	64.4	69.8	69.2	69.7	66.2	69.7
15/F	54.7	54.8	53.6	54.8	53.6	53.0	52.3	53.6	69.4	69.6	64.2	69.6	69.0	69.5	66.0	69.5
16/F	54.7	54.8	53.6	54.8	53.7	53.1	52.4	53.7	69.2	69.4	64.0	69.4	68.8	69.3	65.8	69.3
17/F	54.7	54.8	53.6	54.8	53.7	53.1	52.4	53.7	69.0	69.2	63.8	69.2	68.7	69.1	65.6	69.1
18/F	54.6	54.7	53.7	54.7	53.7	53.1	52.5	53.7	68.8	69.0	63.7	69.0	68.5	68.9	65.4	68.9
19/F	54.6	54.7	53.7	54.7	53.8	53.1	52.5	53.8	68.7	68.8	63.5	68.8	68.3	68.7	65.2	68.7
20/F	54.6	54.7	53.7	54.7	53.8	53.2	52.5	53.8	68.5	68.7	63.3	68.7	68.1	68.6	65.1	68.6
21/F	54.5	54.7	53.7	54.7	53.8	53.2	52.5	53.8	68.3	68.5	63.2	68.5	68.0	68.4	64.9	68.4
22/F	54.5	54.7	53.7	54.7	53.8	53.2	52.6	53.8	68.1	68.4	63.0	68.4	67.8	68.2	64.7	68.2
23/F	54.5	54.6	53.7	54.6	53.9	53.2	52.6	53.9	68.0	68.2	62.8	68.2	67.7	68.1	64.6	68.1
24/F	54.5	54.6	53.8	54.6	53.9	53.2	52.6	53.9	67.8	68.0	62.7	68.0	67.5	67.9	64.4	67.9
25/F	55.6	55.8	54.0	55.8	55.8	55.7	54.3	55.8	67.7	67.9	62.5	67.9	67.4	67.8	64.3	67.8
26/F	54.4	54.6	55.2	55.2	54.0	53.3	54.1	54.1	67.5	67.8	62.4	67.8	67.2	67.6	64.1	67.6
27/F	54.4	54.6	55.9	55.9	54.7	53.5	55.1	55.1	67.4	67.6	62.3	67.6	67.1	67.5	64.0	67.5
28/F	54.4	54.6	56.1	56.1	54.7	53.4	55.2	55.2	67.3	67.5	62.1	67.5	67.0	67.4	63.9	67.4
29/F	54.4	54.6	56.1	56.1	54.7	53.4	55.2	55.2	67.1	67.4	62.0	67.4	66.8	67.3	63.7	67.3
30/F	54.4	54.6	56.1	56.1	54.8	53.5	55.3	55.3	67.0	67.2	61.9	67.2	66.7	67.1	63.6	67.1
31/F	54.4	54.6	56.1	56.1	54.9	53.5	55.3	55.3	66.9	67.1	61.8	67.1	66.6	67.1	63.5	67.1
32/F	54.4	54.6	56.0	56.0	55.0	53.6	55.2	55.2	66.8	67.1	61.6	67.1	66.5	67.0	63.4	67.0
33/F	54.4	54.6	56.1	56.1	55.0	53.6	55.2	55.2	66.7	66.9	61.5	66.9	66.3	66.8	63.2	66.8
34/F	54.4	54.6	56.1	56.1	55.0	53.6	55.2	55.2	66.5	66.8	61.4	66.8	66.2	66.7	63.1	66.7
35/F	54.3	54.6	56.1	56.1	55.0	53.6	55.2	55.2	66.4	66.7	61.3	66.7	66.1	66.6	63.0	66.6
36/F	54.3	54.5	56.3	56.3	55.0	53.6	55.4	55.4	66.3	66.6	61.2	66.6	66.0	66.5	62.9	66.5
37/F	54.3	54.5	56.3	56.3	55.1	53.7	55.5	55.5	66.2	66.5	61.1	66.5	65.9	66.4	62.8	66.4
38/F	54.3	54.5	56.2	56.2	55.1	53.7	55.3	55.3	66.1	66.4	61.0	66.4	65.8	66.3	62.7	66.3
39/F	54.3	54.5	56.1	56.1	55.1	53.7	55.3	55.3	66.0	66.3	60.9	66.3	65.7	66.2	62.6	66.2

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Block C - Base Scenario

Block C	BC_17a	BC_17b	BC_17c	**Max**	BC_18a	BC_18b	BC_18c	BC_18d	BC_18e	**Max**	BC_19a	BC_19b	BC_19c	BC_19d	BC_19e	**Max**
G/F																
1/F																
2/F	66.5	70.5	60.0	70.5	68.0	71.0	57.0	65.1	67.6	71.0	44.2	42.7	40.1	45.5	67.6	45.5
3/F	71.9	72.5	67.9	72.5	72.4	72.6	65.7	70.5	68.3	72.6	44.3	42.7	40.2	45.6	67.7	45.6
4/F	71.8	72.2	68.1	72.2	72.2	72.3	66.5	70.7	68.2	72.3	44.3	42.7	40.2	45.6	67.6	45.6
5/F	71.5	72.0	67.9	72.0	71.9	72.0	66.4	70.4	68.0	72.0	44.3	42.7	40.2	45.6	67.4	45.6
6/F	71.3	71.7	67.6	71.7	71.6	71.7	66.1	70.1	67.8	71.7	44.3	42.7	40.2	45.6	67.2	45.6
7/F	71.0	71.4	67.3	71.4	71.3	71.4	65.8	69.9	67.6	71.4	44.3	42.7	40.2	45.7	67.0	45.7
8/F	70.8	71.1	67.0	71.1	71.1	71.2	65.6	69.7	67.4	71.2	44.3	42.8	40.3	45.7	66.9	45.7
9/F	70.5	70.9	66.8	70.9	70.8	70.9	65.3	69.4	67.2	70.9	44.4	42.8	40.3	45.8	66.7	45.8
10/F	70.3	70.6	66.5	70.6	70.6	70.7	65.1	69.2	66.9	70.7	44.4	43.0	40.3	45.8	66.5	45.8
11/F	70.0	70.4	66.3	70.4	70.3	70.5	64.8	69.0	66.7	70.5	44.4	43.1	40.4	45.8	66.3	45.8
12/F	69.8	70.1	66.1	70.1	70.1	70.2	64.6	68.8	66.5	70.2	44.4	43.1	40.4	45.8	66.1	45.8
13/F	69.6	69.9	65.8	69.9	69.9	70.0	64.4	68.5	66.3	70.0	44.4	43.0	40.4	45.8	65.9	45.8
14/F	69.4	69.7	65.6	69.7	69.7	69.8	64.2	68.3	66.1	69.8	44.4	43.2	40.5	45.8	65.7	45.8
15/F	69.2	69.5	65.4	69.5	69.5	69.6	64.0	68.1	66.0	69.6	44.4	43.3	40.5	45.8	65.6	45.8
16/F	69.0	69.3	65.2	69.3	69.3	69.4	63.8	67.9	65.8	69.4	44.5	43.4	40.7	45.8	65.4	45.8
17/F	68.8	69.1	65.0	69.1	69.1	69.2	63.6	67.7	65.6	69.2	44.5	43.6	40.8	45.9	65.2	45.9
18/F	68.6	68.9	64.9	68.9	68.9	69.0	63.4	67.6	65.4	69.0	44.5	43.6	40.8	45.9	65.1	45.9
19/F	68.4	68.8	64.7	68.8	68.8	68.8	63.3	67.4	65.3	68.8	44.5	43.7	40.9	45.9	64.9	45.9
20/F	68.2	68.6	64.5	68.6	68.6	68.7	63.1	67.2	65.1	68.7	44.6	44.0	41.0	45.9	64.7	45.9
21/F	68.1	68.4	64.4	68.4	68.4	68.5	62.9	67.1	64.9	68.5	44.7	44.2	41.2	46.0	64.6	46.0
22/F	67.9	68.3	64.2	68.3	68.3	68.4	62.8	66.9	64.8	68.4	44.7	44.3	41.3	46.0	64.4	46.0
23/F	67.8	68.1	64.0	68.1	68.2	68.2	62.6	66.8	64.6	68.2	44.8	44.5	41.4	46.1	64.3	46.1
24/F	67.6	68.0	63.9	68.0	68.0	68.0	62.5	66.6	64.5	68.0	44.9	44.5	41.6	46.1	64.2	46.1
25/F	67.5	67.9	63.7	67.9	67.9	67.9	62.3	66.5	64.3	67.9	46.0	47.6	46.2	49.4	64.0	49.4
26/F	67.3	67.7	63.6	67.7	67.7	67.8	62.2	66.3	64.2	67.8	50.6	49.8	49.2	50.7	63.9	50.7
27/F	67.2	67.6	63.5	67.6	67.6	67.6	62.1	66.2	64.1	67.6	48.8	51.0	50.7	51.0	63.8	51.0
28/F	67.0	67.5	63.3	67.5	67.5	67.5	61.9	66.1	64.0	67.5	51.1	51.6	51.2	51.2	63.6	51.6

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Area 103

Block D - Base-case Scenario

Block D - Bas	BD_1a	BD_1b	Max	BD_2a	BD_2b	Max	BD_3a	BD_3b	BD_3c	Max	BD_4a	BD_4b	BD_4c	Max	BD_5a	BD_5b	BD_5c	Max	BD_6a	BD_6b	BD_6c	BD_6d	BD_6e	BD_6f	Max
G/F																									
1/F																									
2/F	51.7	53.8	53.8	46.9	55.6	55.6	55.3	57.3	33.0	57.3	57.8	59.0	30.9	59.0	60.5	63.3	58.7	63.3	65.2	64.8	55.1	67.1	71.5	71.5	71.5
3/F	58.3	59.2	59.2	51.7	61.1	61.1	61.1	62.3	32.9	62.3	62.8	63.5	30.8	63.5	65.0	66.5	62.7	66.5	68.9	68.2	57.7	70.8	73.1	73.1	73.1
4/F	59.6	60.3	60.3	53.1	61.9	61.9	61.7	63.0	32.8	63.0	62.9	64.2	30.7	64.2	65.3	67.1	62.7	67.1	68.9	68.7	57.8	70.6	72.8	72.9	72.8
5/F	59.7	60.7	60.7	53.6	62.2	62.2	61.7	63.3	32.7	63.3	62.8	64.3	30.6	64.3	65.2	67.4	62.9	67.4	68.7	68.7	59.0	70.4	72.5	72.6	72.5
6/F	59.6	61.0	61.0	53.9	62.2	62.2	61.7	63.4	32.6	63.4	62.8	64.4	30.5	64.4	65.2	67.4	63.1	67.4	68.4	68.5	59.4	70.1	72.2	72.3	72.2
7/F	59.6	61.0	61.0	54.0	62.2	62.2	61.7	63.3	32.5	63.3	62.8	64.4	30.4	64.4	65.2	67.3	62.9	67.3	68.2	68.3	59.3	69.8	72.0	72.0	72.0
8/F	59.5	60.9	60.9	54.0	62.1	62.1	61.6	63.4	32.4	63.4	62.8	64.5	30.3	64.5	65.1	67.2	62.7	67.2	67.9	68.1	59.1	69.5	71.6	71.7	71.6
9/F	59.5	60.9	60.9	54.0	62.0	62.0	61.5	63.4	32.3	63.4	62.8	64.5	30.2	64.5	64.9	67.0	62.5	67.0	67.7	67.8	58.9	69.2	71.4	71.4	71.4
10/F	59.4	60.9	60.9	54.0	62.0	62.0	61.5	63.5	32.1	63.5	62.8	64.5	30.0	64.5	64.8	66.8	62.3	66.8	67.4	67.6	58.7	69.0	71.1	71.1	71.1
11/F	59.3	60.9	60.9	54.0	62.0	62.0	61.4	63.4	32.0	63.4	62.7	64.4	29.9	64.4	64.6	66.6	62.1	66.6	67.2	67.4	58.5	68.7	70.8	70.9	70.8
12/F	59.3	60.9	60.9	53.9	61.9	61.9	61.5	63.4	31.9	63.4	62.6	64.3	29.7	64.3	64.4	66.4	61.9	66.4	67.0	67.2	58.3	68.5	70.6	70.6	70.6
13/F	59.3	60.9	60.9	53.9	61.9	61.9	61.4	63.3	31.7	63.3	62.4	64.2	29.6	64.2	64.2	66.2	61.7	66.2	66.8	67.0	58.1	68.3	70.4	70.4	70.4
14/F	59.3	60.9	60.9	53.9	61.9	61.9	61.4	63.1	31.6	63.1	62.3	64.0	29.5	64.0	64.0	66.1	61.5	66.1	66.6	66.8	57.8	68.1	70.1	70.1	70.1
15/F	59.3	60.8	60.8	53.8	61.8	61.8	61.3	63.0	31.4	63.0	62.1	63.9	29.3	63.9	63.9	65.9	61.3	65.9	66.4	66.6	57.6	67.9	69.9	69.9	69.9
16/F	59.2	60.8	60.8	53.8	61.7	61.7	61.2	62.9	31.2	62.9	62.0	63.7	29.1	63.7	63.7	65.7	61.1	65.7	66.2	66.4	57.5	67.7	69.7	69.7	69.7
17/F	59.2	60.7	60.7	53.7	61.6	61.6	61.0	62.8	31.1	62.8	61.8	63.6	29.0	63.6	63.6	65.5	61.0	65.5	66.0	66.2	57.3	67.5	69.5	69.5	69.5
18/F	59.1	60.6	60.6	53.7	61.5	61.5	60.9	62.7	31.1	62.7	61.7	63.5	28.9	63.5	63.4	65.4	60.8	65.4	65.8	66.0	57.1	67.3	69.3	69.3	69.3
19/F	59.0	60.5	60.5	53.6	61.4	61.4	60.8	62.6	30.9	62.6	61.5	63.3	28.9	63.3	63.3	65.2	60.6	65.2	65.6	65.9	56.9	67.1	69.1	69.2	69.1
20/F	58.9	60.4	60.4	53.6	61.3	61.3	60.7	62.4	30.9	62.4	61.4	63.2	28.8	63.2	63.1	65.1	60.5	65.1	65.5	65.7	56.8	66.9	69.0	69.0	69.0
21/F	58.8	60.3	60.3	53.6	61.2	61.2	60.6	62.3	30.8	62.3	61.3	63.0	28.7	63.0	63.0	64.9	60.3	64.9	65.3	65.5	56.6	66.7	68.8	68.8	68.8
22/F	58.7	60.2	60.2	53.6	61.1	61.1	60.5	62.2	30.6	62.2	61.1	62.9	28.6	62.9	62.8	64.8	60.2	64.8	65.2	65.4	56.5	66.6	68.6	68.6	68.6
23/F	58.6	60.1	60.1	53.5	61.0	61.0	60.3	62.1	30.5	62.1	61.0	62.8	28.5	62.8	62.7	64.6	60.0	64.6	65.0	65.2	56.3	66.4	68.5	68.5	68.5
24/F	58.5	60.0	60.0	53.5	60.9	60.9	60.2	61.9	30.4	61.9	60.9	62.7	28.3	62.7	62.5	64.5	59.9	64.5	64.8	65.1	56.2	66.3	68.3	68.3	68.3
25/F	58.4	59.9	59.9	53.4	60.8	60.8	60.1	61.9	30.3	61.9	60.8	62.6	28.2	62.6	62.4	64.4	59.7	64.4	64.7	65.0	56.0	66.1	68.2	68.2	68.2
26/F	58.3	59.9	59.9	53.4	60.7	60.7	60.1	61.8	30.2	61.8	60.6	62.4	28.1	62.4	62.8	64.5	59.6	64.5	64.8	65.0	55.9	66.0	68.0	68.0	68.0
27/F	58.2	59.8	59.8	53.3	60.6	60.6	60.0	61.7	29.6	61.7	60.5	62.3	27.2	62.3	62.2	64.1	59.5	64.1	64.4	64.7	55.8	65.9	67.9	67.9	67.9
28/F	58.1	59.7	59.7	53.3	60.5	60.5	59.9	61.5	30.0	61.5	60.4	62.2	27.9	62.2	62.0	64.0	59.3	64.0	64.3	64.6	55.6	65.7	67.8	67.8	67.8
29/F	58.0	59.6	59.6	53.3	60.4	60.4	59.8	61.4	29.9	61.4	60.3	62.1	27.8	62.1	61.9	63.9	59.2	63.9	64.2	64.4	55.5	65.6	67.6	67.6	67.6

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Block D - Base-case Scenario

Block D - Bas	BD_7a	BD_7b	BD_7c	BD_7d	BD_7e	BD_7f	Max	BD_8a	BD_8b	BD_8c	BD_8d	Max	BD_9a	BD_9b	BD_9c	Max	BD_10a	BD_10b	BD_10c	Max	BD_11a	BD_11b	Max
G/F																							
1/F																							
2/F	68.2	66.7	59.5	70.3	71.7	71.6	71.7	66.2	66.6	61.2	66.1	66.6	69.4	71.1	65.0	71.1	71.1	72.1	63.7	72.1	68.2	71.9	71.9
3/F	72.3	71.9	65.3	72.6	73.2	73.2	73.2	70.3	71.1	66.9	69.8	71.1	71.1	71.8	69.1	71.8	71.9	72.3	68.3	72.3	70.3	72.1	72.1
4/F	72.9	72.7	67.6	72.9	72.9	72.9	72.9	71.7	72.2	68.2	71.1	72.2	71.7	72.0	69.0	72.0	71.8	72.2	68.3	72.2	70.3	71.9	71.9
5/F	72.7	72.6	67.9	72.7	72.6	72.5	72.7	71.9	72.3	68.4	71.3	72.3	71.8	72.0	68.7	72.0	71.6	72.0	68.1	72.0	70.1	71.7	71.7
6/F	72.5	72.3	67.8	72.4	72.3	72.2	72.5	71.8	72.1	68.3	71.1	72.1	71.7	71.8	68.4	71.8	71.4	71.8	67.9	71.8	69.8	71.6	71.6
7/F	72.2	72.0	67.6	72.2	71.9	71.9	72.2	71.6	71.9	68.0	70.9	71.9	71.5	71.6	68.2	71.6	71.2	71.6	67.6	71.6	69.6	71.3	71.3
8/F	72.0	71.8	67.3	71.9	71.6	71.6	72.0	71.3	71.6	67.8	70.7	71.6	71.3	71.4	67.9	71.4	70.9	71.4	67.3	71.4	69.3	71.1	71.1
9/F	71.7	71.5	67.1	71.6	71.4	71.3	71.7	71.1	71.4	67.5	70.4	71.4	71.1	71.2	67.6	71.2	70.7	71.3	67.1	71.3	69.1	71.0	71.0
10/F	71.4	71.3	66.8	71.4	71.1	71.1	71.4	70.9	71.1	67.3	70.2	71.1	70.9	71.0	67.4	71.0	70.4	71.0	66.9	71.0	68.8	70.7	70.7
11/F	71.2	71.1	66.6	71.1	70.8	70.8	71.2	70.7	70.9	67.0	70.0	70.9	70.6	70.7	67.1	70.7	70.2	70.8	66.6	70.8	68.6	70.5	70.5
12/F	70.9	70.8	66.4	70.8	70.6	70.5	70.9	70.4	70.7	66.8	69.8	70.7	70.4	70.5	66.9	70.5	70.0	70.6	66.4	70.6	68.4	70.3	70.3
13/F	70.7	70.6	66.1	70.6	70.3	70.3	70.7	70.2	70.4	66.6	69.5	70.4	70.2	70.3	66.7	70.3	69.8	70.4	66.2	70.4	68.2	70.1	70.1
14/F	70.5	70.4	65.9	70.4	70.1	70.1	70.5	70.0	70.3	66.3	69.3	70.3	70.0	70.1	66.5	70.1	69.6	70.2	65.9	70.2	68.0	69.9	69.9
15/F	70.3	70.2	65.7	70.2	69.9	69.9	70.3	69.8	70.1	66.1	69.1	70.1	69.8	69.9	66.3	69.9	69.4	70.0	65.7	70.0	67.8	69.7	69.7
16/F	70.1	70.0	65.5	70.0	69.7	69.7	70.1	69.6	69.9	65.9	69.0	69.9	69.6	69.7	66.1	69.7	69.2	69.8	65.5	69.8	67.6	69.5	69.5
17/F	69.9	69.8	65.3	69.8	69.5	69.4	69.9	69.4	69.7	65.7	68.8	69.7	69.5	69.5	65.9	69.5	69.0	69.6	65.3	69.6	67.4	69.4	69.4
18/F	69.7	69.6	65.1	69.6	69.3	69.2	69.7	69.2	69.5	65.6	68.6	69.5	69.3	69.3	65.7	69.3	68.8	69.4	65.2	69.4	67.2	69.2	69.2
19/F	69.6	69.4	65.0	69.4	69.1	69.1	69.6	69.1	69.3	65.4	68.4	69.3	69.1	69.2	65.5	69.2	68.6	69.3	65.0	69.3	67.0	69.0	69.0
20/F	69.4	69.3	64.8	69.2	68.9	68.9	69.4	68.9	69.1	65.2	68.2	69.1	68.9	69.0	65.3	69.0	68.5	69.1	64.8	69.1	66.9	68.9	68.9
21/F	69.2	69.1	64.6	69.1	68.7	68.7	69.2	68.8	69.0	65.0	68.1	69.0	68.8	68.9	65.2	68.9	68.3	69.0	64.6	69.0	66.8	68.7	68.7
22/F	69.1	68.9	64.5	68.9	68.5	68.5	69.1	68.6	68.8	64.9	67.9	68.8	68.6	68.7	65.0	68.7	68.2	68.8	64.5	68.8	66.6	68.6	68.6
23/F	68.9	68.8	64.3	68.7	68.4	68.4	68.9	68.4	68.7	64.7	67.8	68.7	68.5	68.6	64.8	68.6	68.1	68.7	64.3	68.7	66.5	68.4	68.4
24/F	68.8	68.6	64.2	68.6	68.2	68.2	68.8	68.3	68.5	64.6	67.6	68.5	68.4	68.4	64.7	68.4	67.9	68.5	64.1	68.5	66.3	68.3	68.3
25/F	68.6	68.5	64.0	68.4	68.1	68.1	68.6	68.1	68.4	64.4	67.5	68.4	68.2	68.3	64.5	68.3	67.8	68.4	64.0	68.4	66.2	68.2	68.2
26/F	68.5	68.4	63.9	68.3	67.9	67.9	68.5	68.0	68.3	64.3	67.4	68.3	68.1	68.1	64.4	68.1	67.6	68.2	63.9	68.2	66.0	68.0	68.0
27/F	68.4	68.2	63.7	68.1	67.8	67.8	68.4	67.9	68.1	64.1	67.2	68.1	68.0	68.0	64.3	68.0	67.5	68.1	63.8	68.1	65.9	67.9	67.9
28/F	68.2	68.1	63.6	68.0	67.7	67.7	68.2	67.8	68.0	64.0	67.1	68.0	67.8	67.9	64.1	67.9	67.3	68.0	63.6	68.0	65.7	67.7	67.7
29/F	68.1	68.0	63.5	67.9	67.5	67.5	68.1	67.6	67.9	63.9	67.0	67.9	67.7	67.8	64.0	67.8	67.2	67.9	63.5	67.9	65.6	67.6	67.6

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Block D - Base-case Scenario

Block D - Bas	BD_12a	BD_12b	**Max**	BD_13a	BD_13b	BD_13c	**Max**	BD_14a	BD_14b	**Max**	BD_15a	BD_15b	**Max**	BD_16a	BD_16b	BD_16c	**Max**	BD_17a	BD_17b	BD_17c	BD_17d	BD_17e	**Max**
G/F																							
1/F																							
2/F	67.6	70.8	70.8	65.1	69.4	74.0	74	63.3	69.5	69.5	64.8	67.1	67.1	63.1	61.7	45.8	63.1	58.4	59.3	47.8	51.3	53.5	59.3
3/F	70.4	71.0	71.0	65.5	70.4	73.8	73.8	66.0	70.3	70.3	68.3	68.9	68.9	67.5	66.8	45.8	67.5	63.7	64.5	53.7	54.2	57.5	64.5
4/F	70.3	70.9	70.9	65.2	70.1	73.5	73.5	65.8	70.0	70.0	68.5	68.9	68.9	67.8	67.6	45.8	67.8	65.7	66.5	56.0	55.2	58.9	66.5
5/F	70.1	70.8	70.8	65.0	69.8	73.2	73.2	65.5	69.7	69.7	68.5	68.9	68.9	67.7	67.5	45.8	67.7	66.4	66.9	56.2	55.4	59.1	66.9
6/F	69.9	70.6	70.6	64.8	69.4	72.8	72.8	65.2	69.5	69.5	68.3	68.7	68.7	67.6	67.5	45.8	67.6	66.5	66.9	56.1	55.6	59.1	66.9
7/F	69.6	70.4	70.4	64.7	69.2	72.5	72.5	65.0	69.3	69.3	68.1	68.6	68.6	67.5	67.4	45.8	67.5	66.5	66.7	56.0	55.6	59.2	66.7
8/F	69.3	70.1	70.1	64.5	68.9	72.3	72.3	64.8	69.0	69.0	67.9	68.4	68.4	67.4	67.2	45.8	67.4	66.4	66.7	55.8	55.6	59.1	66.7
9/F	69.1	69.9	69.9	64.4	68.6	72.0	72	64.5	68.8	68.8	67.7	68.2	68.2	67.3	67.1	45.8	67.3	66.3	66.6	55.7	55.7	59.0	66.6
10/F	68.8	69.7	69.7	64.2	68.4	71.7	71.7	64.3	68.6	68.6	67.5	68.0	68.0	67.1	67.0	45.8	67.1	66.2	66.5	55.6	55.6	59.0	66.5
11/F	68.6	69.5	69.5	64.1	68.2	71.5	71.5	64.1	68.4	68.4	67.3	67.8	67.8	66.9	66.8	45.8	66.9	66.1	66.4	55.4	55.6	58.9	66.4
12/F	68.4	69.3	69.3	64.0	68.0	71.3	71.3	63.9	68.1	68.1	67.1	67.6	67.6	66.8	66.7	45.8	66.8	66.0	66.2	55.3	55.5	58.9	66.2
13/F	68.2	69.1	69.1	63.9	67.8	71.1	71.1	63.6	68.0	68.0	66.9	67.4	67.4	66.7	66.6	45.8	66.7	65.9	66.1	55.1	55.4	58.9	66.1
14/F	68.0	68.9	68.9	63.7	67.6	70.9	70.9	63.5	67.8	67.8	66.7	67.3	67.3	66.5	66.4	45.8	66.5	65.8	66.0	55.0	55.4	58.8	66.0
15/F	67.8	68.7	68.7	63.6	67.4	70.7	70.7	63.3	67.6	67.6	66.6	67.1	67.1	66.4	66.3	45.8	66.4	65.6	65.9	54.9	55.3	58.8	65.9
16/F	67.6	68.5	68.5	63.4	67.2	70.5	70.5	63.1	67.4	67.4	66.4	66.9	66.9	66.2	66.1	45.8	66.2	65.5	65.7	54.7	55.2	58.8	65.7
17/F	67.4	68.3	68.3	63.3	67.0	70.3	70.3	62.9	67.2	67.2	66.2	66.8	66.8	66.1	66.0	45.8	66.1	65.4	65.6	54.6	55.2	58.7	65.6
18/F	67.2	68.1	68.1	63.1	66.8	70.1	70.1	62.8	67.1	67.1	66.1	66.7	66.7	66.0	65.9	45.9	66.0	65.3	65.5	54.5	55.1	58.7	65.5
19/F	67.0	68.0	68.0	63.0	66.7	70.0	70	62.6	66.9	66.9	65.9	66.5	66.5	65.8	65.7	46.0	65.8	65.2	65.4	54.3	55.0	58.6	65.4
20/F	66.9	67.9	67.9	62.9	66.5	69.8	69.8	62.5	66.8	66.8	65.8	66.3	66.3	65.7	65.6	46.0	65.7	65.1	65.3	54.2	55.0	58.6	65.3
21/F	66.7	67.7	67.7	62.7	66.4	69.7	69.7	62.4	66.6	66.6	65.7	66.2	66.2	65.6	65.5	46.1	65.6	64.9	65.1	54.1	54.9	58.6	65.1
22/F	66.6	67.5	67.5	62.6	66.2	69.5	69.5	62.2	66.5	66.5	65.5	66.1	66.1	65.4	65.4	46.2	65.4	64.8	65.0	54.1	54.8	58.5	65.0
23/F	66.4	67.4	67.4	62.5	66.0	69.4	69.4	62.1	66.4	66.4	65.4	66.0	66.0	65.3	65.2	46.2	65.3	64.7	64.9	53.9	54.8	58.4	64.9
24/F	66.3	67.2	67.2	62.3	65.9	69.2	69.2	62.0	66.2	66.2	65.2	65.8	65.8	65.2	65.1	46.3	65.2	64.6	64.8	53.8	54.7	58.3	64.8
25/F	66.1	67.1	67.1	62.2	65.7	69.1	69.1	61.9	66.1	66.1	65.1	65.7	65.7	65.1	65.0	46.3	65.1	64.5	64.7	53.7	54.7	58.3	64.7
26/F	66.0	67.0	67.0	62.1	65.6	69.0	69	61.8	66.0	66.0	65.0	65.6	65.6	65.0	64.9	46.3	65.0	64.4	64.6	53.6	54.6	58.2	64.6
27/F	65.9	66.8	66.8	61.9	65.5	69.0	69	62.2	66.1	66.1	65.1	65.7	65.7	65.4	65.4	54.1	65.4	64.9	65.1	55.2	57.7	59.9	65.1
28/F	65.7	66.7	66.7	61.8	65.4	69.0	69	62.5	66.1	66.1	65.3	65.8	65.8	65.2	65.0	53.4	65.2	64.5	64.7	55.6	56.8	59.3	64.7
29/F	65.6	66.6	66.6	61.7	65.2	68.8	68.8	62.2	66.1	66.1	65.1	65.6	65.6	65.1	64.9	51.8	65.1	64.3	64.5	55.6	55.9	59.2	64.5

*** Note:**
XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Block D - Base Scenario

Block D - Bas	BD_18a	BD_18b	BD_18c	BD_18d	BD_18e	**Max**	BD_19a	BD_19b	**Max**
G/F									
1/F									
2/F	67.6	59.1	56.7	56.5	55.2	67.6	56.9	54.0	56.9
3/F	60.8	60.8	60.5	61.0	60.2	61.0	60.3	59.1	60.3
4/F	60.7	60.8	60.4	61.3	61.0	61.3	60.5	59.9	60.5
5/F	60.8	60.7	60.4	61.3	61.0	61.3	60.4	60.3	60.4
6/F	60.7	60.8	60.3	61.3	61.0	61.3	60.4	60.5	60.5
7/F	60.7	60.7	60.3	61.3	61.0	61.3	60.4	60.5	60.5
8/F	60.6	60.6	60.2	61.3	61.0	61.3	60.4	60.4	60.4
15/F	60.6	60.7	60.2	61.2	60.8	61.2	60.3	60.4	60.4
16/F	60.6	60.7	60.1	61.2	60.7	61.2	60.3	60.4	60.4
17/F	60.5	60.6	60.1	61.1	60.7	61.1	60.2	60.3	60.3
18/F	60.5	60.5	60.1	61.1	60.7	61.1	60.2	60.3	60.3
19/F	60.4	60.4	60.0	61.0	60.6	61.0	60.1	60.2	60.2
21/F	60.2	60.3	59.8	60.8	60.5	60.8	60.0	60.0	60.0
22/F	60.1	60.2	59.8	60.8	60.4	60.8	59.9	59.9	59.9
23/F	60.0	60.1	59.7	60.7	60.3	60.7	59.8	59.9	59.9
24/F	59.9	60.0	59.6	60.6	60.2	60.6	59.7	59.8	59.8
25/F	59.8	59.9	59.5	60.6	60.2	60.6	59.6	59.7	59.7
26/F	59.7	59.8	59.4	60.5	60.1	60.5	59.5	59.6	59.6
27/F	59.6	59.7	59.3	60.4	61.2	61.2	59.4	59.5	59.5
28/F	59.6	59.6	59.2	60.3	60.7	60.7	59.3	59.4	59.4
29/F	59.5	59.6	59.1	60.2	60.7	60.7	59.3	59.3	59.3

*** Note:**
XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Summary of the Predicted Road Traffic Noise Compliance Rate								
	Block A		Block B		Block C		Block D	
dB(A)	**Unit**	**%**	**Unit**	**%**	**Unit**	**%**	**Unit**	**%**
<= 70	133.0	82.0	592.0	94	654	95.0	446	84
>=70	80.0	18.0	37.0	6.0	35	5.0	86	16
Total	168.0		629.0		689		532	

Appendix E

Noise Attenuation of Acoustic Window System and Detail Drawings of Acoustic Window

Noise Attenuation of Acoustic Window System

Acoustic Window Configuration

Reference is made to HD's Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window" (TD) for the Proposed Public Housing Development at Tung Chung Area 103.

Table 1: Acoustic Window Configuration

Flat Type	Inner Window Opening	Outer Window Opening	Window Overlapping Length	Window Pane Separation	Thickness of Window Pane (3)
Type B-5	1383 mm(H) x 940 mm(W)	1383 mm(H) x 1010 mm(W)	200mm	175 mm	6 mm
Type C-8 (1B) – Living Room	1383 mm(H) x 1060 mm(W)	1383 mm(H) x 1050 mm(W)	330 mm	175 mm	6 mm
Type C-8 (1B) – Bedroom 1	1383 mm(H) x 675 mm(W)	1383 mm(H) x 600 mm(W)	525 mm	175 mm	6 mm
Type D-7 (2B) – Living Room	1383 mm(H) x 1040 mm(W)	1383 mm(H) x 1060 mm(W)	140 mm	175 mm	6 mm
Type D-7 (2B) - Bedroom 1	1383 mm(H) x 575 mm(W)	1383 mm(H) x 550 mm(W)	525 mm	175 mm	6 mm
Type D-6/ Type D-7 – (Bedroom 2)	1383 mm(H) x 550 mm(W)	1383 mm(H) x 550 mm(W)	500 mm	175 mm	6 mm
Note: (1) The adopted acoustic window system with/ without sound absorptive lining at window is subjected to noise exceedance level. (2) The configurations of the proposed acoustic window system are retrieved from Housing Department's Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Windows". (3) The panes of the side-hung openable window and the fixed glazing of the acoustic window shall be of 6mm thick in accordance with Appendix 4.4 of HKPSG.					

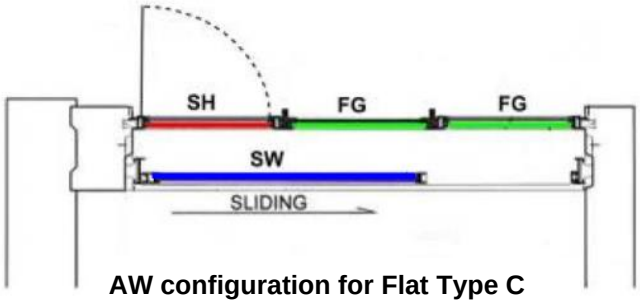
Table below shows the flat types at the Development proposed with acoustic windows and their equivalent types to TD.

Table 2: Flat Types to Equivalent Flats in Blocks at Area 103

The Development Flat Types	Flats in Blocks (blocks_flats)
Type B	BD_11, BD_12
Type C	BA_9, BA_10, BB_13, BB_14, BB_15, BC_15, BC_16, BC_17, BD_9 and BD_10
Type D	BA_11, BB_12, BC_18, BD_6, BD_7 and BD_8

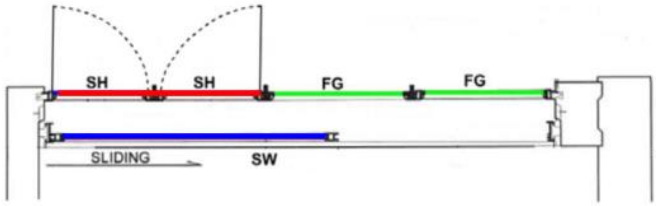
Based on the acoustic window system design, the outer layer of the window system shall consist of fixed glazing and side hung openable gasketted window, and the inner layer shall consist of one sliding window. The basic configurations of the acoustic window for Flat Type B, Flat Type C and Type D in the Development are shown below

(configurations are extracted from Acoustic Design and Performance Evaluation of the Acoustic Window Final Report (ADPEAW):



Note:
SH - Side-Hung Openable Window
SW - Sliding Window
FG - Fixed Glazing

AW configuration for Flat Type C and D (bedroom)



Note:
SH - Side-Hung Openable Window
SW - Sliding Window
FG - Fixed Glazing

AW configuration for Flat Type B, Type C and Type D (living room)

The panes of the side-hung openable window and the fixed glazing of the acoustic window shall be of 6mm thick in accordance with Chapter 9 of the HKPSG.

Table 3: Acoustic Window Dimension at Area 103

Flat Type	Inner Window Opening	Outer Window Opening	Window Overlapping Length	Window Pane Separation
Type B-5	1383 mm(H) x940 mm(W)	1383 mm(H) x 1010 mm(W)	200mm	175 mm
Type C-8 (1B)– Living Room	1383 mm(H) x 1060 mm(W)	1383 mm(H) x 1050 mm(W)	330 mm	175 mm
Type C-8 (1B) - Bedroom 1	1383 mm(H) x 675 mm(W)	1383 mm(H) x 600 mm(W)	525 mm	175 mm
Type D-8 (2B) – Living Room(*)	1395 mm(H) x 1060 mm(W)	1395 mm(H) x 1040 mm(W)	340 mm	162 mm
Type D-8 (2B) - Bedroom 1(*)	1395 mm(H) x 675 mm(W)	1395 mm(H) x 600 mm(W)	525 mm	162 mm
Type D-8 (2B) - Bedroom 2(*)	1395 mm(H) x 550 mm(W)	1395 mm(H) x 550 mm(W)	500 mm	162 mm
Note: (*):Window size of Type D-8 flats in current design are non-standardize from Technical Note on “Noise Attenuation for Modular Flat Design (MFD) with Acoustic Windows				

Table 4: Sound Attenuation Performance of Acoustic Window

Type of Acoustic Window System	Type B-5	Type C-8 – Living Room and Bedroom 1	Type D-7 – Living Room and Bedroom 1	Type D -- 2B (BR2)
Sliding Window, without absorption at window	5.5(dB(A))	5.6dB(A))	5.4(dB(A))(*)	2.7(dB(A))

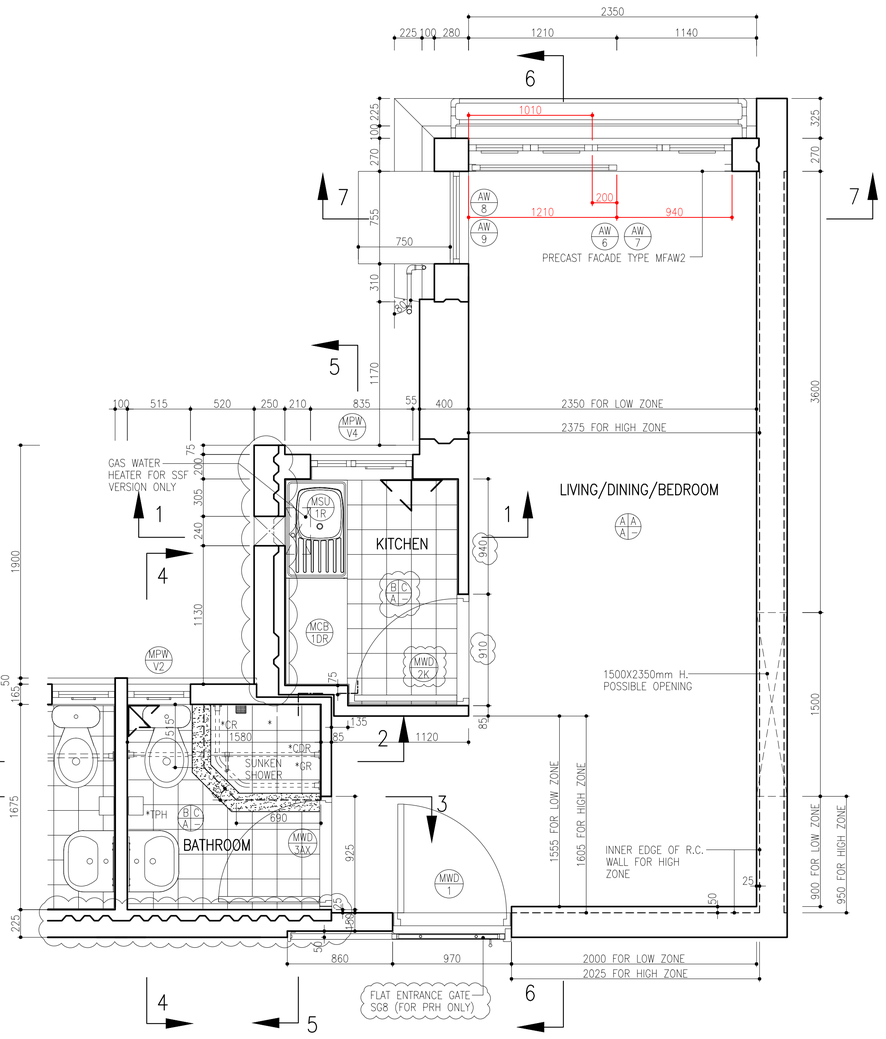
Reference: Housing Department's Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Windows" (TD).

Note:

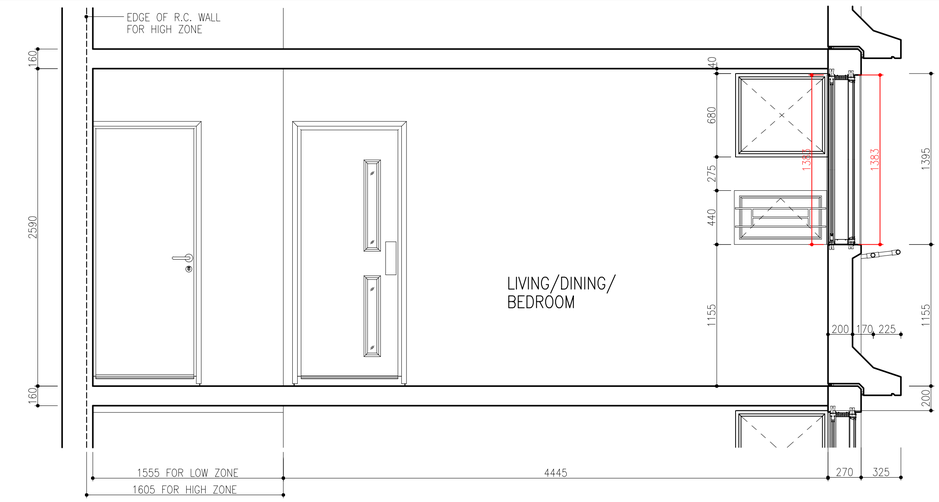
(*): Type D -8 flats under current layout have no direct reference design in HD's Technical Note on "Noise-Attenuation for Modular Flat Design (MFD), the closest design would be Type D-7. For the living room of current Type D-8 Flat, the room area is smaller, and the acoustic window system is with less overlapping width but similar outer opening width for the reference Type D-8. Also, for the bedroom, the room area is larger and other acoustic window design parameters are generally the same except a slightly larger outer opening.

For purpose of conservative assessment, a 1dB(A) safety factor has been deducted for Living Room and Bedroom 1 for the noise attenuation, i.e. the adopted noise reduction performance is 4.4 dB(A) for both living room and bedroom.

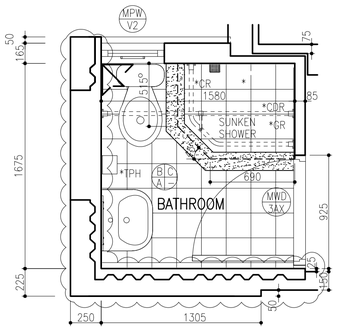
Details Drawing of Acoustic Window



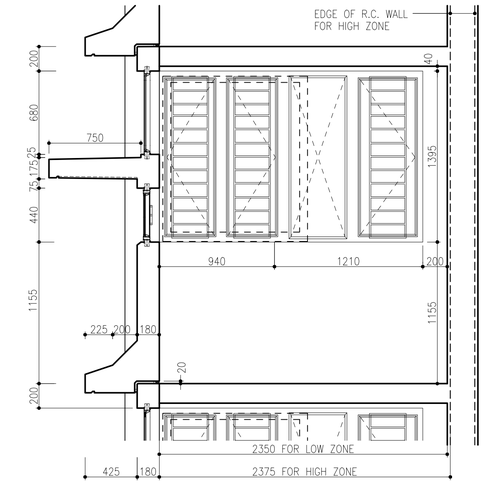
PLAN OF TYPE B-5 FLAT



SECTION 6-6



PART PLAN OF VPB AT END WALL



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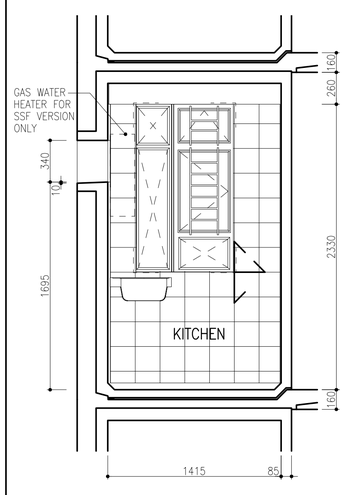
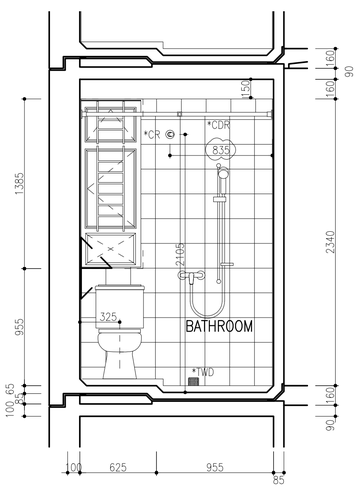


SECTION 1-1



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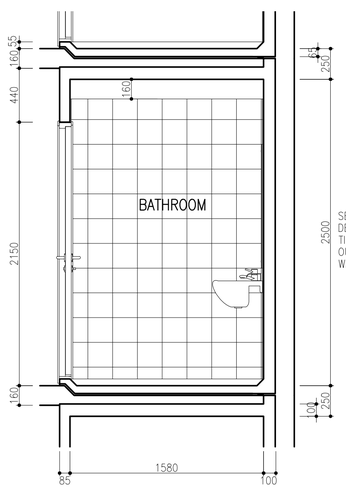

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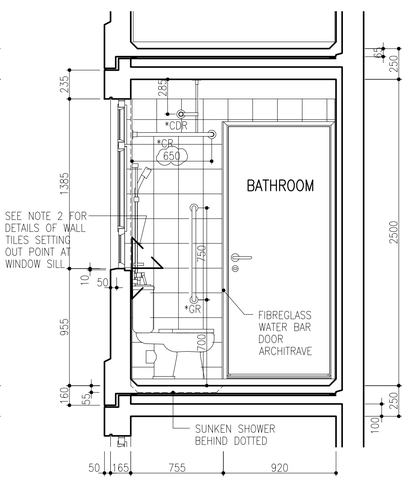
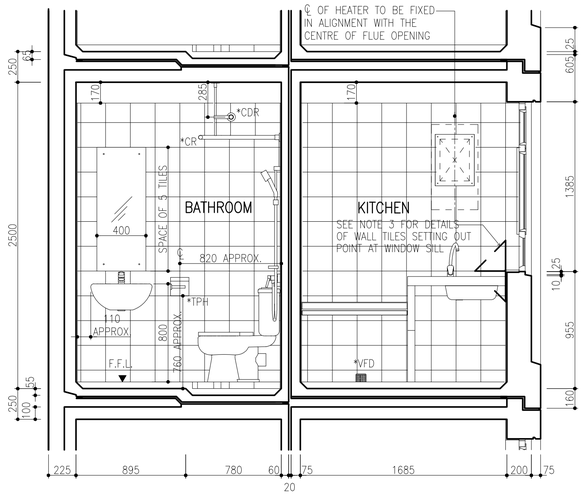


SECTION 4-4



SECTION 5-5

NOTES

1. PLEASE REFER TO DRAWING NO. MF/2/ACAD/A/LO-900 FOR ALL RELEVANT NOTES AND LEGENDS.
2. REFER TO DRAWING NO. MF/VBK/A/LO-952 FOR SETTING OUT OF TILE FINISHES AT BATHROOM.
3. REFER TO DRAWING NO. MF/VBK/A/LO-955 FOR SETTING OUT OF TILE FINISHES AT KITCHEN.
4. REFER TO DRAWING NO. MF/VBK/ACAD/A/BW-901 TO MF/VBK/ACAD/A/BW-906 FOR BUILDER'S WORK DETAILS.

REVISIONS

NO	DESCRIPTION AND DATE	INITIAL AND DESIGNATION DWN	CKD	AUTH
	2018 VERSION			
	ISSUED UNDER DCMBI No. D05/18 DATED 02/19.			
	ISSUED UNDER TF122894 DATED 08/2020.			
A	1. LAUNDRY RACK RELOCATED. (08/2020)	TOA/54 ORIGINAL SIGNED	STOA/7	A/38
	2018 VERSION-2nd EDITION			
	ISSUED UNDER DCMBI No. D01/21 DATED 06/2021.			
B	1. SEMI-PRECAST WALL PATTERN REVISED. 2. DIMENSION OF KITCHEN DOOR CLARIFIED. 3. FINISHES MARK OF KITCHEN REVISED. 4. DESCRIPTION OF ENTRANCE GATE REVISED. 5. DIMENSION OF SHOWER CURTAIN RAIL REVISED. 6. KITCHEN DOOR MARK REVISED. (06/21)	TOA/54 ORIGINAL SIGNED	STOA/7	A/38

	NAME AND DESIGNATION	INITIAL	DATE
AUTHORISED	STEPHEN YIM CA/D&S	ORIGINAL SIGNED	FEB.19
CHECKED	CHIMMY CHU SA/27	ORIGINAL SIGNED	FEB.19
	JO NGAI A/68	ORIGINAL SIGNED	FEB.19
	H.M. WONG STO(A)/7	ORIGINAL SIGNED	FEB.19
DRAWN	KINKI LEE TO(A)/11	ORIGINAL SIGNED	FEB.19

PROJECT
MODULAR FLAT DESIGN WITH ACOUSTIC WINDOW (VOLUMETRIC PRECAST BATHROOM AND VOLUMETRIC PRECAST KITCHEN OPTION)

DRAWING TITLE
FLAT PLAN AND SECTIONS OF TYPE B-5 FLAT

SCALE 1:25

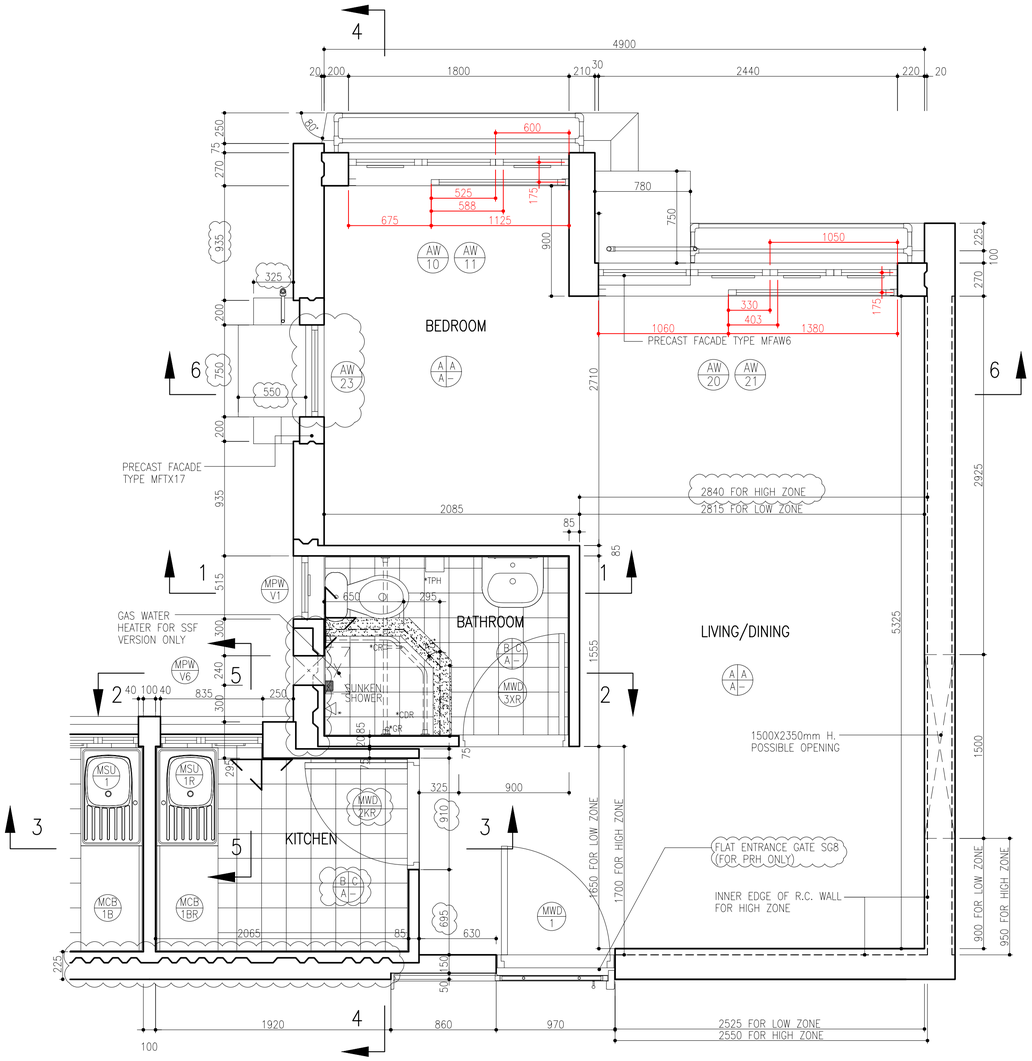
DRAWING NO.
MF/AW/VBK/ACAD/A/LO-902/B

SOURCE

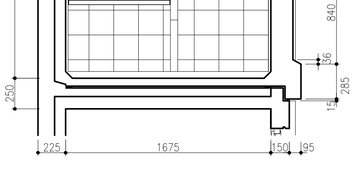
ICU NO.

AutoCAD 2000 A1 594 x 841

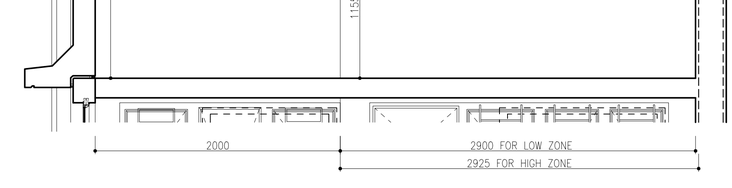
HOUSING DEPARTMENT



PLAN OF TYPE C-8(a) FLAT



SECTION 5-5



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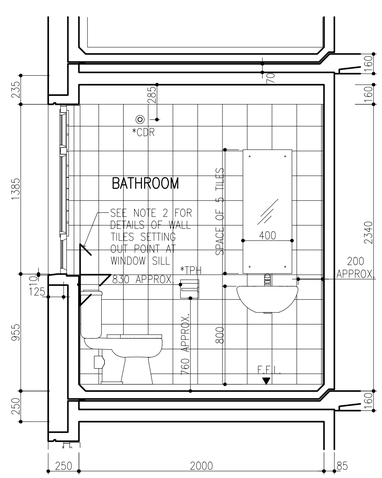
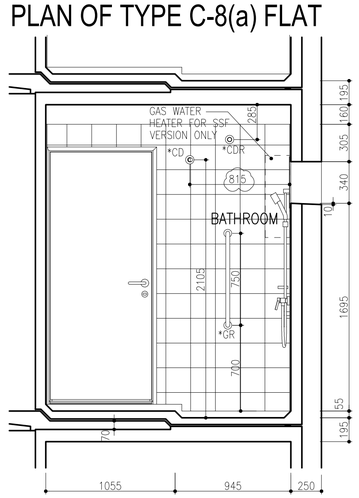


SECTION 1-1



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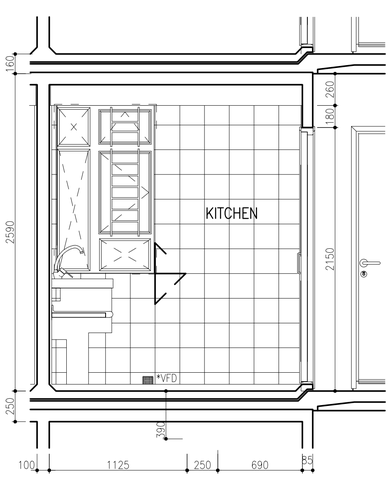
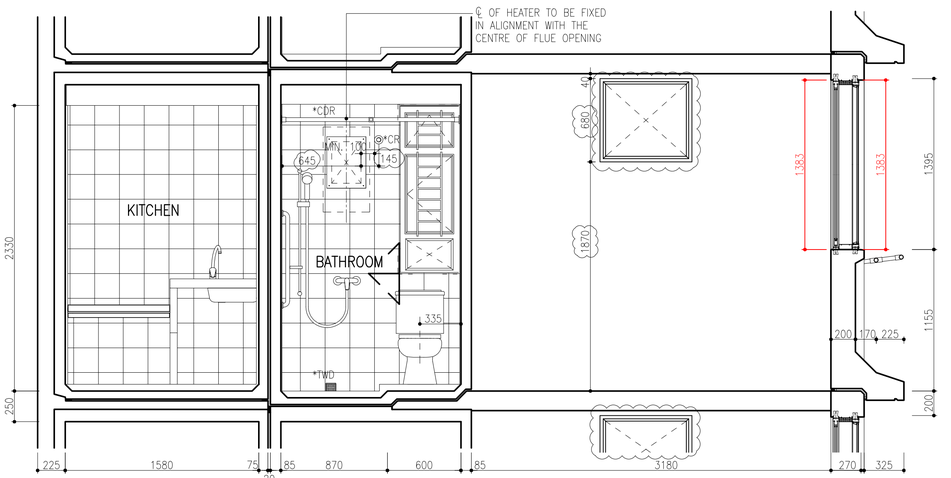


SECTION 3-3



SECTION 4-4

NOTES

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3. REFER TO DRAWING NO. MF/VBK/A/LO-956 FOR SETTING OUT OF TILE FINISHES AT KITCHEN.
4. REFER TO DRAWING NO. MF/VBK/ACAD/A/BW-901 TO MF/VBK/ACAD/A/BW-906 FOR BUILDER'S WORK DETAILS.

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B	1. SEMI-PRECAST WALL PATTERN REVISED. 2. DIMENSION OF KITCHEN DOOR CLARIFIED. 3. DOOR MARK & FINISHES MARK OF KITCHEN REVISED. 4. DIMENSION OF HIGH ZONE ADDED. 5. DESCRIPTION OF ENTRANCE GATE REVISED. 6. DIMENSION OF SHOWER CURTAIN RAIL REVISED. 7. DIMENSIONS OF AC HOOD REVISED 8. WINDOW AW-23 REVISED. (06/21)	TOA/54	STOA/7	A/38 ORIGINAL SIGNED

	NAME AND DESIGNATION	INITIAL	DATE
AUTHORISED	STEPHEN YIM CA/D&S	ORIGINAL SIGNED	FEB.19
CHECKED	CHIMMY CHU SA/27	ORIGINAL SIGNED	FEB.19
	JO NGAI A/68	ORIGINAL SIGNED	FEB.19
	H.M. WONG STO(A)/7	ORIGINAL SIGNED	FEB.19
DRAWN	KINKI LEE TO(A)/11	ORIGINAL SIGNED	FEB.19

PROJECT

MODULAR FLAT DESIGN WITH ACOUSTIC WINDOW (VOLUMETRIC PRECAST BATHROOM AND VOLUMETRIC PRECAST KITCHEN OPTION)

DRAWING TITLE

FLAT PLAN AND SECTIONS OF TYPE C-8(a) FLAT

SCALE 1:25

DRAWING NO.

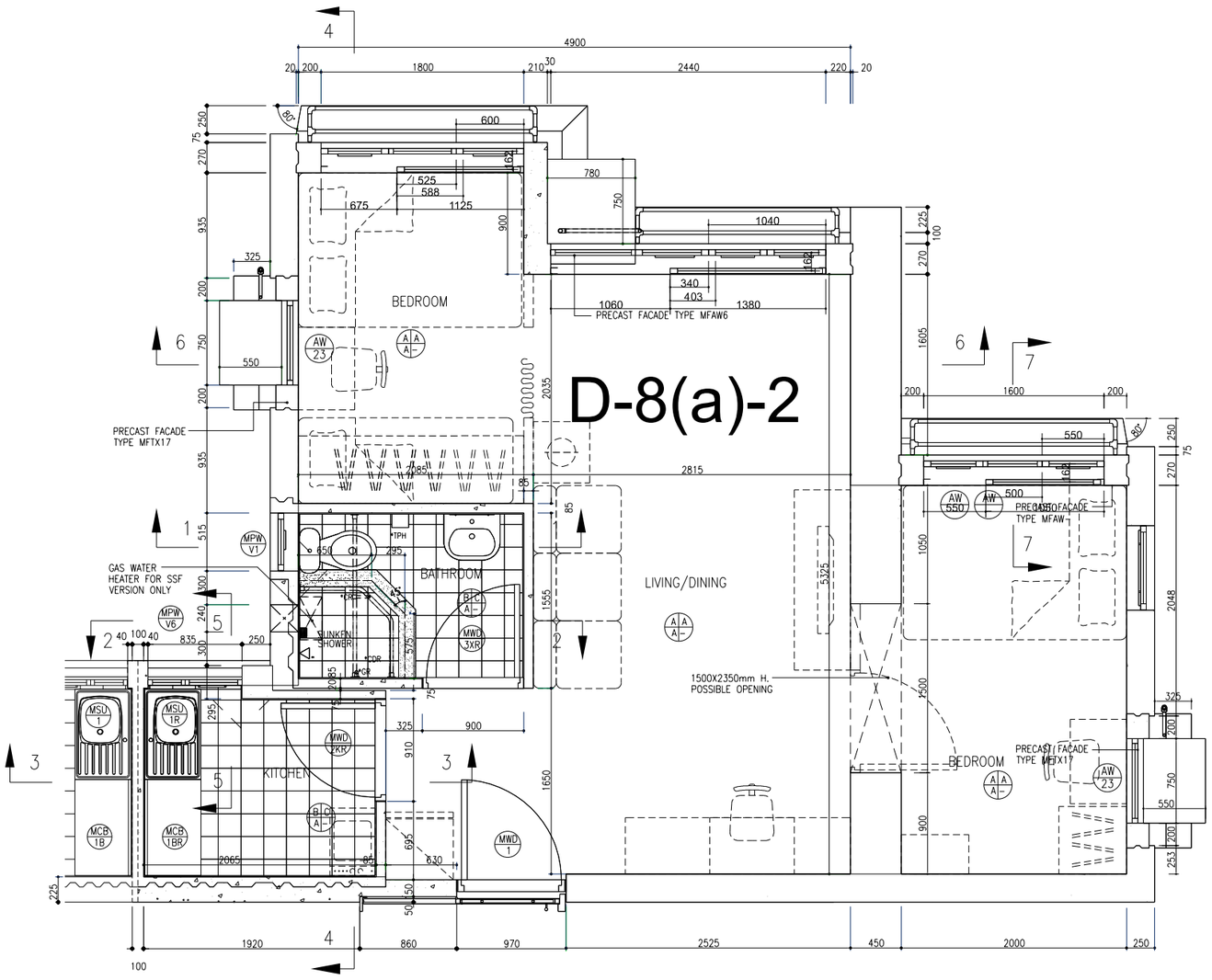
MF/AW/VBK/ACAD/A/LO-911/B

SOURCE

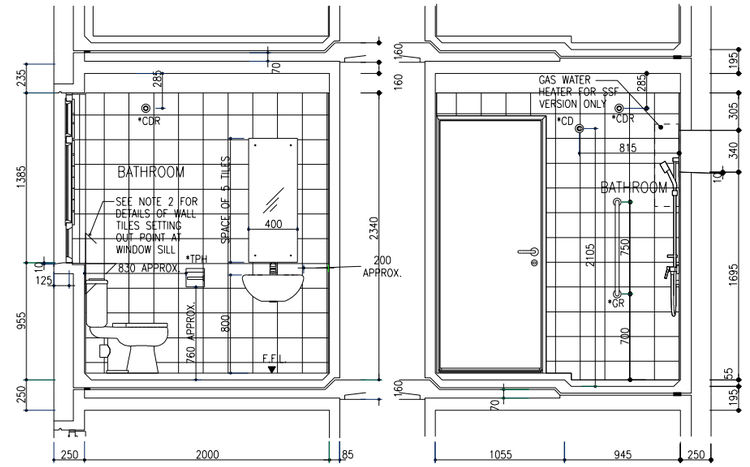
ICU NO.

AutoCAD 2000 A1 594 x 841

HOUSING DEPARTMENT

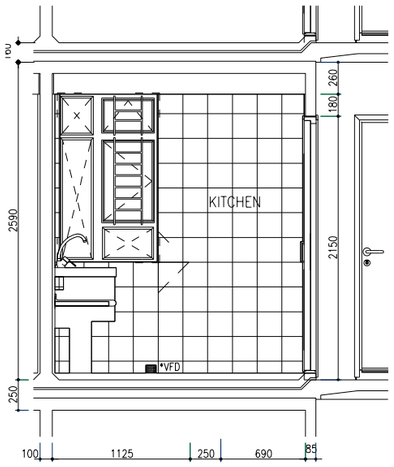


PLAN OF TYPE D-8(a)-2 FLAT

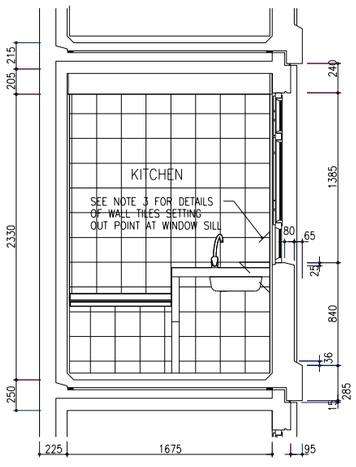


SECTION 1-1

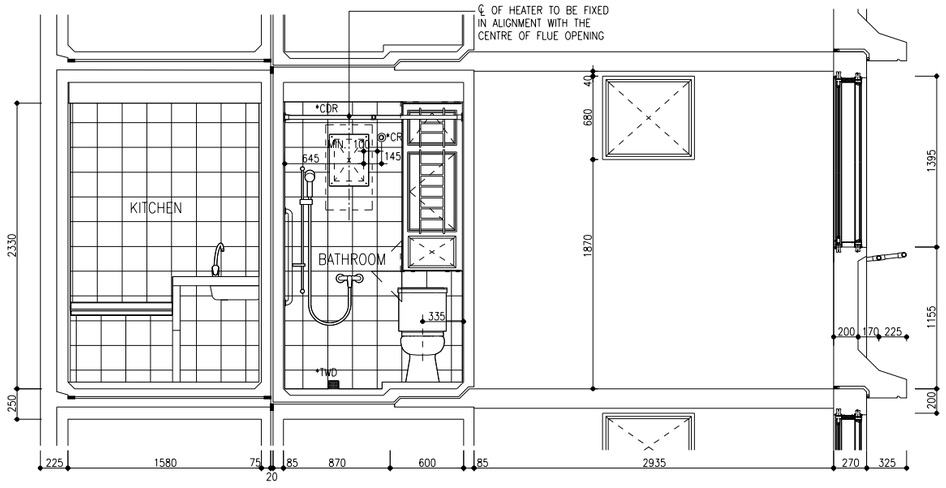
SECTION 2-2



SECTION 3-3

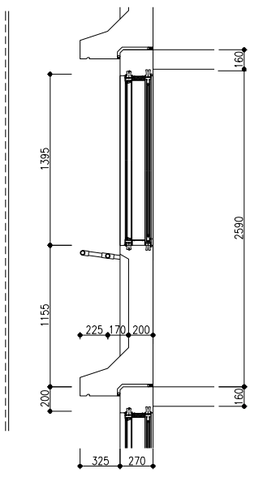


SECTION 5-5



SECTION 4-4

SECTION 6-6



SECTION 7-7

NOTES

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4. REFER TO DRAWING NO. MF/VBK/ACAD/A/BW-901 TO MF/VBK/ACAD/A/BW-906 FOR BUILDER'S WORK DETAILS.

TYPE LOCATION		
BLOCK	FLOOR	FLAT
A	--	--
B	--	--
C	--	--
D	2/F-14/F	7

FLAT PLAN AND SECTIONS OF TYPE D-8(a)-2 FLAT

1:25 (A1) 1:50 (A3)

IS19/-/D2/NMF/A/LO-21

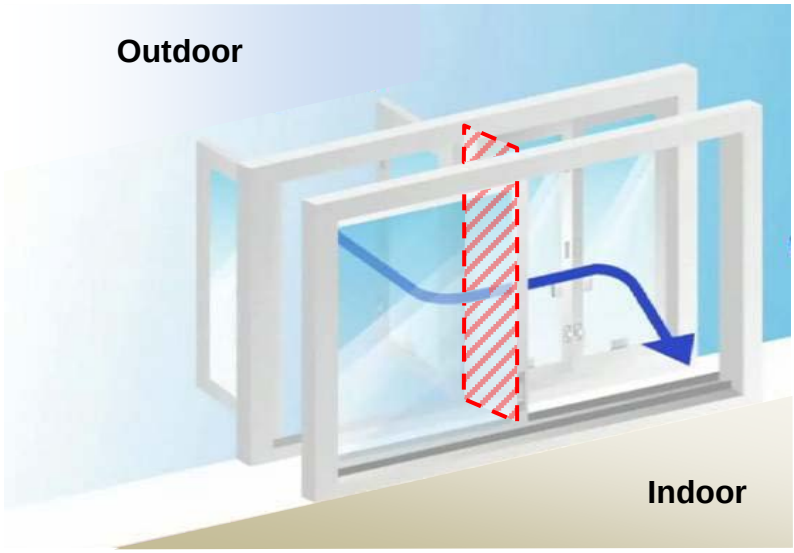
Annex A

MFD with Acoustic Window

6. Acoustic Windows

6.1 For a primary or secondary opening with an acoustic "double glazing" window[1] comprising an outer openable window and an inner sliding glass panel designed for the dual purposes of natural ventilation under the B(P)Rs and noise reduction as shown in Diagrams H and I, the resultant opening after aligning the inner sliding glass panel with the outer openable window will be taken as its openable window area for the purposes of regulations 30 and 31 of the B(P)Rs and Part III of this Appendix.

Diagram H : Acoustic window designed for the dual purposes of natural ventilation under the B(P)R and noise reduction

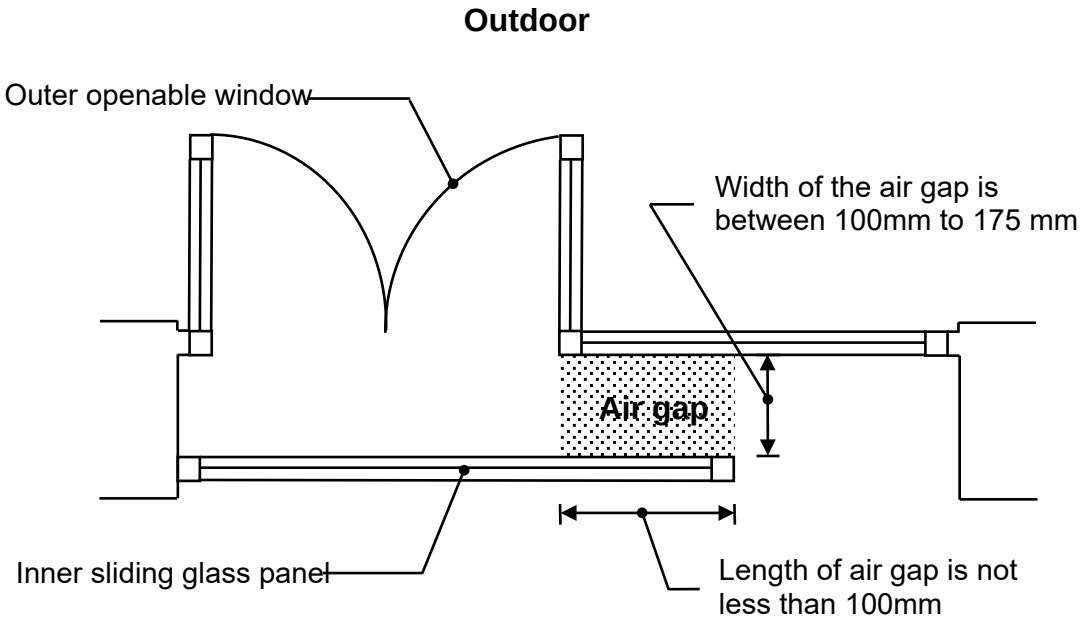


Wind direction

Cross-sectional area of the air gap

[1] This type of window has an inner sliding glass panel behind an outer window, both readily openable, for creating an air gap for the supply of fresh air with noise mitigation effect. For optimum performance, the air gap should have a length of not less than 100mm and a width between 100mm and 175mm, with the inner sliding glass panel in a closed position.

Diagram I : Air gap of an acoustic window



PLAN (NOT TO SCALE)

(Rev. 12/2016)

Annex L Extracted from Final Report of ADPEAW

1. Summary

The aim of this study is to estimate the additional insertion loss resulted from the installation of a fin on one side of the ventilation window of 1B flat for the Sun Po Kong (SPK) housing project.

2. Computation Setup

The present study was carried out using the finite element method and the wave equation solver implemented by the software COMSOL. A two-dimensional approach was adopted. In the computation, the planar sound waves incident at 45° to the normal of the ventilation window. All boundaries, except those representing the window, the building façade, the fin and the sound source, were set to "outgoing wave" condition. There were four cases, namely Case 0, 1, 2 and3, in the computations. Case 0 represented the currently adopted window opening orientation. Case 1 was the situation where the outer opening of the ventilation window was put on the right hand side (viewed from inside of 1B flat), while the inner opening was on the left. This case was shown to be the "inefficient" window orientation in term of insertion loss. Case 2 represents the case with a fin 1.8 m long extruded out of the building façade on the right hand side of the ventilation window of Case 1. Case 3 was the case where the Case 0 ventilation window was used instead of the Case 1 one with the fin of Case 2 installed. Figure 1 gives the schematics of these four cases. Pure tone sounds at 500Hz and 1000Hz were considered.

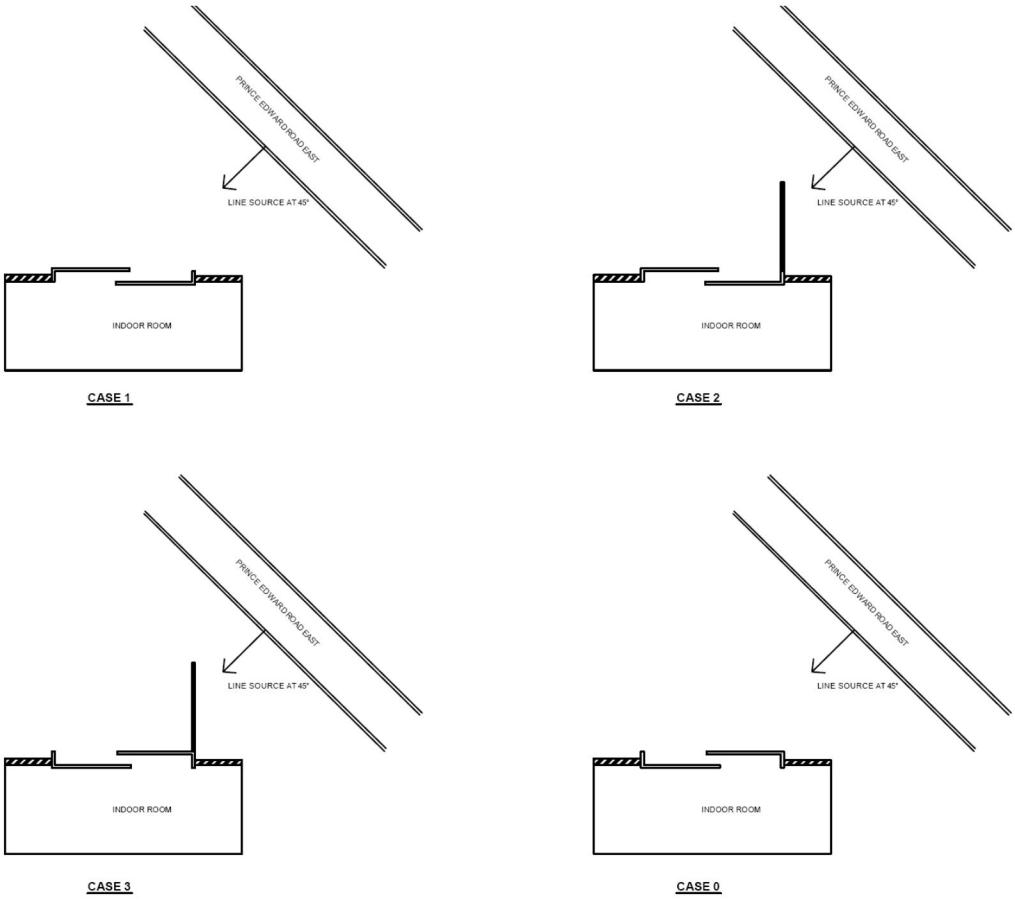


Figure 1 Schematics of the window-fin cases

3. Results and Discussions

The computed sound fields are presented in the Appendix. It can be observed that Case 2 is the best and Case 1 the worst in term of the sound insulation. Case 0, which is the currently adopted model, is taken as the reference in the discussion of the fin's effect. The reduction of the transmitted sound power reflects the effectiveness of the fin. The transmitted sound powers are obtained by integrating the sound intensity along the inner window opening. The corresponding results are tabulated in Table 1.

	Insertion Loss (dB)	
	500Hz	1000Hz
Case 1	-0.9	-0.1
Case 2	14.1	17.6
Case 3	2.8	3.8

Table 1 : Insertion losses

A negative sign in Table 1 denotes higher transmitted power than the reference case. This happens in Case 1 as the orientation of the two window openings is to some extent favourable to sound propagation across the ventilation window. It should be noted that reflected sounds from nearby wings of the SPK project has not been taken into account.

Summary of Noise Attenuation Performance for MFD with Acoustic Window

	Acoustic Window Configurations				Noise Attenuation dB(A)	
Flat Type	**Inner Window Opening (mm)**	**Outer Window Opening (mm)**	**Window Overlapping Length (mm)**	**Gap Width between Window Panel (mm)**	**With Sound Absorptive Lining**	**Without Sound Absorptive Lining**
Type A-3 (1/2P)	1383mm (H) x 840mm (W)	1383mm (H) x 870mm (W)	340mm	175mm	**7.0**	**5.8**
Type B-5 (2/3P)	1383mm (H) x 940mm (W)	1383mm (H) x 1010mm (W)	200mm	175mm	**6.6**	**5.5**
Type C-6 (1B) **& Type D-6** (2B)						
Living Room	1383mm (H) x 980mm (W)	1383mm (H) x 1040mm (W)	100mm	175mm	**7.0**	**5.5**
Bedroom 1	1383mm (H) x 675mm (W)	1383mm (H) x 600mm (W)	525mm	175mm		
Type C-7 (1B) **& Type D-7** (2B)						
Living Room	1383mm (H) x 1040mm (W)	1383mm (H) x 1060mm (W)	140mm	175mm	**6.9**	**5.4**
Bedroom 1	1383mm (H) x 575mm (W)	1383mm (H) x 550mm (W)	525mm	175mm		
Type C-8 (1B)						
Living Room	1383mm (H) x 1060mm (W)	1383mm (H) x 1050mm (W)	330mm	175mm	**7.1**	**5.6**
Bedroom 1	1383mm (H) x 675mm (W)	1383mm (H) x 600mm (W)	525mm	175mm		
Type D-6 (2B) **& Type D-7** (2B)						
Bedroom 2	1383mm (H) x 550mm (W)	1383mm (H) x 550mm (W)	500mm	175mm	**3.9**	**2.7**

For the acoustic window configuration deviated from the above, further discussion with Environmental Protection Department (EPD) is required on project basis.

Appendix F

Predicted Road Traffic Noise Results (Mitigated Scenario)

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Area 103

Block A - Mitigated Scenario

Block A	BA_1a	BA_1b	BA_1c	**Max**	BA_2a	BA_2b	**Max**	BA_3a	BA_3b	BA_3c	**Max**	BA_4a	BA_4b	BA_4c	BA_4d	**Max**	BA_5a	BA_5b	BA_5c	BA_5d	**Max**
G/F																					
1/F																					
2/F	43.5	44.5	31.5	44.5	51.9	51.4	51.9	52.6	53.7	33.0	53.7	52.6	54.0	32.9	48.0	54.0	60.1	61.0	54.3	54.7	61.0
3/F	46.0	47.1	31.5	47.1	58.7	57.5	58.7	59.7	60.2	34.2	60.2	59.9	60.2	32.9	52.3	60.2	65.4	65.8	60.2	59.2	65.8
4/F	47.8	48.8	31.4	48.8	59.2	59.1	59.2	59.9	60.3	36.5	60.3	60.0	60.3	32.8	54.3	60.3	65.6	65.8	60.1	59.5	65.8
5/F	48.4	49.4	31.4	49.4	59.9	59.6	59.9	60.1	60.3	38.2	60.3	60.1	60.4	32.8	54.9	60.4	65.5	65.8	60.0	59.6	65.8
6/F	48.5	49.6	31.4	49.6	60.0	59.4	60.0	60.2	60.4	38.7	60.4	60.1	60.4	32.7	55.0	60.4	65.5	65.7	59.9	59.6	65.7
7/F	48.5	49.9	31.4	49.9	59.8	59.4	59.8	60.2	60.5	38.8	60.5	60.1	60.4	32.7	55.0	60.4	65.4	65.7	59.8	59.6	65.7
8/F	48.5	50.2	31.3	50.2	59.8	59.2	59.8	60.1	60.4	38.9	60.4	60.1	60.4	32.6	55.0	60.4	65.3	65.6	59.7	59.6	65.6
9/F	48.5	50.7	31.3	50.7	59.6	59.1	59.6	60.1	60.3	38.9	60.3	60.1	60.3	32.5	54.9	60.3	65.2	65.5	59.6	59.5	65.5
10/F	48.5	51.5	31.2	51.5	59.5	59.0	59.5	60.0	60.2	38.9	60.2	60.0	60.3	32.4	54.9	60.3	65.2	65.4	59.5	59.5	65.4
11/F	48.5	52.2	31.2	52.2	59.4	59.0	59.4	59.9	60.1	38.9	60.1	60.0	60.2	32.4	54.9	60.2	65.1	65.3	59.3	59.4	65.3
12/F	48.5	53.2	31.2	53.2	59.3	59.0	59.3	59.7	60.0	38.8	60.0	59.9	60.1	32.3	54.9	60.1	65.0	65.2	59.2	59.4	65.2
13/F	48.5	53.7	31.1	53.7	59.4	59.0	59.4	59.6	59.9	38.8	59.9	59.8	60.1	32.2	54.8	60.1	64.9	65.1	59.1	59.3	65.1
14/F	48.4	53.9	31.1	53.9	59.3	59.0	59.3	59.6	59.9	38.9	59.9	59.7	60.0	32.2	54.8	60.0	64.8	65.0	59.0	59.3	65.0
15/F	48.4	54.0	31.1	54.0	59.3	59.1	59.3	59.4	59.8	38.9	59.8	59.6	59.8	32.1	55.1	59.8	64.7	65.0	58.9	59.2	65.0

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Block A - Mitigated Scenario

Block A	BA_6a	BA_6b	BA_6c	**Max**	BA_7a	BA_7b	BA_7c	**Max**	BA_8a	BA_8b	BA_8c	BA_8d	**Max**	BA_9a	BA_9b	BA_9c	**Max**	BA_10a	BA_10b	BA_10c	**Max**
G/F																					
1/F																					
2/F	60.5	61.2	48.9	61.2	60.0	61.6	54.7	61.6	60.7	61.8	53.1	58.7	61.8	61.1	64.5	61.1	64.5	61.2	63.6	52.7	63.6
3/F	66.0	66.1	53.7	66.1	66.2	66.7	61.5	66.7	66.8	67.0	59.5	65.9	67.0	**66.7**	**67.9**	68.4	68.4	**65.9**	**67.8**	58.8	67.8
4/F	66.2	66.1	53.6	66.2	66.3	66.7	61.4	66.7	66.9	67.0	59.3	66.3	67.0	**68.1**	**68.0**	69.9	69.9	**67.2**	**67.9**	65.2	67.9
5/F	66.1	66.0	53.5	66.1	66.2	66.7	61.3	66.7	66.9	66.9	59.2	66.4	66.9	**67.9**	**67.6**	69.8	69.8	**67.0**	**67.5**	66.5	67.5
6/F	66.0	66.0	53.4	66.0	66.1	66.5	61.1	66.5	66.9	66.9	59.0	66.3	66.9	**67.6**	**67.2**	69.5	69.5	**66.6**	**67.2**	66.3	67.2
7/F	65.9	65.9	53.2	65.9	66.0	66.5	61.0	66.5	66.8	66.8	58.8	66.1	66.8	**67.2**	**66.8**	69.2	69.2	**66.3**	**66.8**	66.1	66.8
8/F	65.8	65.8	53.1	65.8	65.9	66.4	60.8	66.4	66.6	66.7	58.7	65.9	66.7	**66.9**	**66.5**	68.9	68.9	**65.9**	**66.5**	65.8	66.5
9/F	65.7	65.7	53.0	65.7	65.8	66.3	60.6	66.3	66.4	66.6	58.5	65.6	66.6	**66.6**	**66.2**	68.6	68.6	**65.6**	**66.1**	65.5	66.1
10/F	65.6	65.6	52.9	65.6	65.6	66.1	60.5	66.1	66.3	66.4	58.4	65.4	66.4	**66.2**	**65.9**	68.3	68.3	**65.3**	**65.8**	65.2	65.8
11/F	65.6	65.5	52.8	65.6	65.5	66.1	60.3	66.1	66.1	66.2	58.2	65.2	66.2	**65.9**	**65.6**	68.1	68.1	**65.0**	**65.6**	64.9	65.6
12/F	65.4	65.4	52.6	65.4	65.3	65.9	60.1	65.9	65.9	66.1	58.0	65.0	66.1	**65.7**	**65.3**	67.8	67.8	**64.8**	**65.3**	64.7	65.3
13/F	65.4	65.3	52.5	65.4	65.2	65.8	60.0	65.8	65.7	65.9	57.9	64.8	65.9	69.8	70.4	67.5	70.4	69.9	70.4	64.4	70.4
14/F	65.2	65.2	52.4	65.2	65.0	65.6	59.8	65.6	65.5	65.7	57.7	64.6	65.7	69.6	70.2	67.3	70.2	69.7	70.2	64.2	70.2
15/F	65.1	65.1	52.3	65.1	64.9	65.5	59.7	65.5	65.4	65.6	57.6	64.5	65.6	69.3	70.0	67.1	70.0	69.4	70.0	64.0	70.0

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

XX Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 5.4 dB(A) without sound absotive lining is applied.

XX Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 5.4 dB(A) without sound absotive lining is applied. Due to unfavourable settings of acoustic window, noice attenuation will be deducted 1.0 dB(A) based on study of the Technical Note-Annex L (Case 1 of Table 1)

Block A - Mitigated Scenario

Block A	BA_11a	BA_11b	BA_11c	BA_11d	BA_11e	**Max**	BA_12a	BA_12b	BA_12c	**Max**
G/F										
1/F										
2/F	62.1	63.5	52.6	64.7	69.4	69.4	47.1	46.3	42.6	47.1
3/F	**67.0**	**68.6**	58.7	69.8	69.1	69.8	49.3	48.3	46.1	49.3
4/F	**68.2**	**68.8**	65.1	68.4	68.8	68.8	50.7	49.7	47.9	50.7
5/F	**68.0**	**68.4**	66.4	68.3	68.6	68.6	51.3	50.3	48.5	51.3
6/F	**67.7**	**68.0**	66.3	68.0	68.4	68.4	51.6	50.6	48.7	51.6
7/F	**67.3**	**67.7**	66.1	70.4	68.2	70.4	51.7	50.7	48.8	51.7
8/F	**67.0**	**67.3**	65.8	70.1	67.9	70.1	51.8	50.7	48.9	51.8
9/F	**66.7**	**67.0**	65.5	69.8	67.7	69.8	51.9	50.8	48.9	51.9
10/F	**66.4**	**66.7**	65.2	69.5	67.4	69.5	51.9	50.8	48.9	51.9
11/F	**66.1**	**66.4**	64.9	69.2	67.2	69.2	51.9	50.8	48.9	51.9
12/F	**65.8**	**66.2**	64.7	69.0	66.9	69.0	51.8	0.0	48.9	51.8
13/F	70.0	70.3	64.4	0.0	66.7	70.3	51.8	50.7	48.9	51.8
14/F	69.8	70.1	64.2	68.5	66.5	70.1	51.8	50.7	48.9	51.8
15/F	69.5	69.8	64.0	68.3	66.3	69.8	51.8	50.7	48.9	51.8

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

XX Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 5.4 dB(A) without sound absotive lining is applied.

XX Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 5.4 dB(A) without sound absotive lining is applied. Due to unfavourable settings of acoustic window, noice attenuation will be deducted 1.0 dB(A) based on study of the Technical Note-Annex L (Case 1 of Table 1)

XX Noice attenuation will be deducted 1.0 dB(A) based on conservative approach for Non MFD flats.

XX Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 2.7dB(A) without sound absotive lining is applied.

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Area 103

Block B - Mitigated Scenario

Block B	BB_1a	BB_1b	BB_1c	**Max**	BB_2a	BB_2b	**Max**	BB_3a	BB_3b	BB_3c	**Max**	BB_4a	BB_4b	BB_4c	BB_4d	**Max**	BB_5a	BB_5b	BB_5c	BB_5d	BB_5e	**Max**	BB_6a	BB_6b	BB_6c	BB_6d	BB_6e	**Max**
G/F																												
1/F																												
2/F	46.5	46.7	44.4	46.7	47.7	47.6	47.7	47.9	45.4	39.5	47.9	49.1	46.7	32.8	51.8	51.8	58.4	57.6	52.8	60.7	60.9	60.9	57.4	57.0	31.2	56.2	60.4	60.4
3/F	46.5	46.9	44.4	46.9	47.7	47.7	47.7	47.9	45.9	43.2	47.9	50.6	49.2	32.8	52.5	52.5	58.6	57.8	54.1	61.5	61.6	61.6	60.6	60.8	31.1	57.1	61.3	61.3
4/F	46.6	47.1	44.3	47.1	47.7	47.8	47.8	47.9	46.1	44.4	47.9	50.9	49.8	32.8	52.5	52.5	58.7	57.9	54.2	61.7	61.7	61.7	61.0	61.1	31.1	57.3	61.5	61.5
5/F	46.6	47.2	44.3	47.2	47.7	47.9	47.9	48.0	46.2	44.8	48.0	51.0	50.0	32.7	52.6	52.6	58.8	57.9	54.3	61.8	61.8	61.8	61.0	61.1	31.0	57.5	61.6	61.6
6/F	46.6	47.2	44.3	47.2	47.7	47.9	47.9	48.0	46.3	44.8	48.0	51.0	50.1	32.7	52.6	52.6	58.8	57.8	54.3	61.8	61.8	61.8	61.0	61.1	31.0	57.5	61.5	61.5
7/F	46.6	47.2	44.3	47.2	47.7	47.9	47.9	48.0	46.3	44.9	48.0	51.0	50.1	32.7	52.6	52.6	58.8	57.7	54.3	61.8	61.8	61.8	60.9	61.0	30.9	57.5	61.5	61.5
8/F	46.6	47.2	44.3	47.2	47.7	47.9	47.9	48.0	46.3	44.9	48.0	51.0	50.1	32.7	52.6	52.6	58.7	57.7	54.2	61.7	61.7	61.7	60.9	61.0	30.8	57.4	61.5	61.5
9/F	46.6	47.2	44.3	47.2	47.7	47.9	47.9	48.0	46.3	44.8	48.0	51.0	50.0	32.6	52.6	52.6	58.7	57.6	54.2	61.6	61.7	61.7	60.9	61.0	30.8	57.4	61.4	61.4
10/F	46.6	47.2	44.3	47.2	47.7	47.9	47.9	48.0	46.3	44.8	48.0	51.0	50.0	32.6	52.6	52.6	58.6	57.5	54.1	61.6	61.6	61.6	60.8	61.0	30.8	57.4	61.3	61.3
11/F	46.6	47.2	44.3	47.2	47.7	47.9	47.9	48.0	46.3	44.8	48.0	50.9	50.0	32.5	52.6	52.6	58.6	57.5	54.1	61.6	61.6	61.6	60.8	60.9	30.7	57.3	61.3	61.3
12/F	46.6	47.2	44.3	47.2	47.6	47.9	47.9	48.0	46.3	44.9	48.0	50.9	50.0	32.5	52.6	52.6	58.5	57.4	54.1	61.5	61.5	61.5	60.7	60.9	31.2	57.3	61.3	61.3
13/F	46.6	47.2	44.3	47.2	47.6	47.9	47.9	48.0	46.3	44.8	48.0	50.9	50.0	32.4	52.5	52.5	58.5	57.3	54.1	61.5	61.5	61.5	60.7	60.9	32.1	57.3	61.2	61.2
14/F	46.6	47.2	44.3	47.2	47.6	47.9	47.9	47.9	46.3	44.9	47.9	50.8	50.0	32.4	52.5	52.5	58.4	57.3	54.0	61.4	61.5	61.5	60.7	60.8	33.3	57.3	61.2	61.2
15/F	46.6	47.2	44.3	47.2	47.6	47.8	47.8	47.9	46.3	44.8	47.9	50.9	50.0	32.3	52.6	52.6	58.4	57.2	54.0	61.4	61.4	61.4	60.7	60.7	34.8	57.3	61.2	61.2
16/F	46.6	47.2	44.3	47.2	47.6	47.8	47.8	47.9	46.3	44.9	47.9	50.8	50.0	32.3	52.5	52.5	58.3	57.2	54.0	61.4	61.4	61.4	60.6	60.7	36.5	57.3	61.2	61.2
17/F	46.6	47.2	44.3	47.2	47.6	47.8	47.8	47.9	46.3	44.9	47.9	50.8	50.0	32.3	52.5	52.5	58.2	57.1	53.9	61.3	61.4	61.4	60.6	60.7	38.7	57.3	61.2	61.2
18/F	46.6	47.2	44.3	47.2	47.6	47.8	47.8	47.9	46.3	44.9	47.9	50.8	50.0	32.2	52.5	52.5	58.2	57.1	53.9	61.3	61.4	61.4	60.6	60.6	41.5	57.3	61.1	61.1
19/F	46.6	47.2	44.9	47.2	47.6	47.8	47.8	47.9	46.4	45.0	47.9	50.8	49.9	32.2	52.6	52.6	58.2	57.1	53.9	61.2	61.3	61.3	60.6	60.6	43.7	57.3	61.1	61.1
20/F	46.6	47.2	45.2	47.2	47.6	47.8	47.8	47.9	46.4	45.0	47.9	50.9	50.0	32.4	52.6	52.6	58.1	57.0	53.9	61.2	61.3	61.3	60.6	60.6	45.3	57.5	61.1	61.1
21/F	46.6	47.2	45.2	47.2	47.6	47.8	47.8	47.9	46.4	45.0	47.9	50.8	50.0	32.4	52.6	52.6	58.0	57.0	53.8	61.1	61.2	61.2	60.6	60.7	47.3	57.7	61.1	61.1
22/F	46.6	47.2	45.2	47.2	47.6	47.8	47.8	47.9	46.4	45.0	47.9	50.8	50.0	32.4	52.5	52.5	58.0	56.9	53.8	61.1	61.2	61.2	60.8	60.9	49.6	58.0	61.2	61.2
23/F	46.6	47.2	45.2	47.2	47.6	47.8	47.8	47.9	46.4	45.0	47.9	50.8	50.0	32.3	52.5	52.5	57.9	56.8	53.7	61.0	61.2	61.2	60.9	61.1	51.3	58.3	61.3	61.3
24/F	46.6	47.2	45.2	47.2	47.6	47.8	47.8	47.9	46.4	45.0	47.9	50.8	49.9	32.3	52.5	52.5	57.8	56.8	53.7	61.0	61.1	61.1	61.0	61.2	52.5	58.5	61.4	61.4
25/F	50.8	51.2	45.0	51.2	54.3	54.5	54.5	52.0	51.4	45.1	52.0	50.8	50.0	32.3	52.5	52.5	57.8	56.8	53.7	60.9	61.1	61.1	61.2	61.3	53.2	58.8	61.5	61.5
26/F	46.7	47.3	44.9	47.3	47.6	47.9	47.9	47.9	49.1	45.0	49.1	55.2	52.8	32.2	54.3	55.2	57.7	56.7	53.6	60.9	61.1	61.1	61.3	61.4	53.9	59.0	61.6	61.6
27/F	46.8	47.2	44.9	47.2	47.6	47.8	47.8	47.9	46.5	45.1	47.9	50.8	49.9	32.1	52.4	52.4	57.7	56.7	53.6	60.9	61.0	61.0	61.3	61.4	54.5	59.2	61.6	61.6
28/F	46.5	47.2	44.2	47.2	47.8	48.0	48.0	47.9	46.7	45.0	47.9	50.8	50.0	32.1	52.4	52.4	57.6	56.6	53.5	60.8	61.0	61.0	61.4	61.5	54.8	59.3	61.6	61.6
29/F	46.9	47.2	44.2	47.2	47.6	47.8	47.8	47.9	46.5	45.0	47.9	50.7	49.9	32.1	52.4	52.4	57.5	56.5	53.5	60.8	60.9	60.9	61.4	61.5	55.1	59.5	61.6	61.6
30/F	47.3	47.7	44.2	47.7	47.6	47.8	47.8	47.9	46.5	45.0	47.9	50.7	49.9	32.1	52.3	52.3	57.5	56.5	53.4	60.7	60.9	60.9	61.5	61.5	55.3	59.5	61.6	61.6
31/F	47.3	48.0	44.2	48.0	47.6	47.8	47.8	47.9	46.5	45.0	47.9	50.6	49.8	32.0	52.3	52.3	57.4	56.4	53.4	60.7	60.9	60.9	61.5	61.5	55.5	59.6	61.5	61.5
32/F	47.4	48.0	44.2	48.0	47.6	48.0	48.0	47.9	46.5	44.9	47.9	50.6	49.8	32.1	52.3	52.3	57.3	56.4	53.3	60.6	60.8	60.8	61.5	61.5	55.6	59.7	61.5	61.5
33/F	47.4	48.0	44.2	48.0	47.6	48.0	48.0	47.9	46.9	44.9	47.9	51.1	49.8	32.2	52.3	52.3	57.3	56.3	53.3	60.6	60.8	60.8	61.5	61.5	55.7	59.7	61.5	61.5
34/F	47.4	48.0	44.2	48.0	47.8	48.0	48.0	47.9	46.7	44.9	47.9	51.1	49.8	32.4	52.2	52.2	57.2	56.3	53.2	60.6	60.7	60.7	61.5	61.6	55.8	59.8	61.4	61.6
35/F	47.4	48.0	44.4	48.0	47.6	48.0	48.0	48.2	46.9	44.8	48.2	51.1	49.7	32.7	52.2	52.2	57.2	56.3	53.2	60.5	60.7	60.7	61.5	61.6	55.8	59.8	61.4	61.6
36/F	47.4	48.0	44.2	48.0	47.8	48.1	48.1	48.2	47.0	44.8	48.2	51.1	49.7	33.1	52.2	52.2	57.1	56.2	53.1	60.5	60.7	60.7	61.6	55.9	55.9	59.8	61.4	61.6
37/F	47.4	48.0	44.3	48.0	47.9	48.1	48.1	48.3	47.0	44.8	48.3	51.1	49.8	33.7	52.2	52.2	57.1	56.2	53.1	60.4	60.6	60.6	61.5	61.5	55.9	59.9	61.3	61.5
38/F	47.4	48.1	44.3	48.1	47.9	48.4	48.4	48.3	47.1	44.8	48.3	51.1	49.9	34.5	52.2	52.2	57.0	56.1	53.1	60.4	60.6	60.6	61.5	55.9	55.9	59.9	61.3	61.5

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Block B - Mitigated Scenario

Block B	BB_7a	BB_7b	BB_7c	**Max**	BB_8a	BB_8b	BB_8c	**Max**	BB_9a	BB_9b	**Max**	BB_10a	BB_10b	BB_10c	**Max**	BB_11a	BB_11b	BB_11c	BB_11d	**Max**	BB_12a	BB_12b	BB_12c	BB_12d	BB_12e	**Max**
G/F																										
1/F																										
2/F	58.0	59.1	32.5	59.1	58.4	58.3	30.8	58.4	53.6	58.4	58.4	50.2	53.1	38.9	53.1	50.5	50.0	48.9	59.9	59.9	66.1	68.2	56.1	65.4	68.9	68.9
3/F	60.8	61.0	32.4	61.0	60.7	60.8	30.8	60.8	57.6	60.3	60.3	55.5	56.3	40.8	56.3	51.9	51.5	50.5	62.4	62.4	**69.3**	**68.5**	64.1	68.7		69.3
4/F	60.8	61.1	32.3	61.1	60.8	60.8	30.7	60.8	58.5	60.6	60.6	58.1	60.0	41.6	60.0	53.2	52.8	52.1	62.3	62.3	**69.5**	**68.4**	66.9	69.3		69.5
5/F	60.9	61.1	32.2	61.1	61.1	61.0	30.6	61.1	59.9	61.2	61.2	58.4	60.6	42.2	60.6	53.8	53.5	52.9	62.3	62.3	**69.2**	**68.0**	66.9	69.0		69.2
6/F	61.0	61.2	32.1	61.2	61.4	61.2	30.5	61.4	60.2	61.6	61.6	58.5	60.6	42.4	60.6	54.2	53.9	53.3	62.3	62.3	**68.8**	**67.7**	66.7	68.7	70.1	70.1
7/F	61.0	61.3	32.1	61.3	61.6	61.5	30.4	61.6	60.2	61.6	61.6	58.4	60.6	42.6	60.6	54.4	54.1	53.6	62.4	62.4	**68.5**	**67.3**	66.3	68.3	69.8	69.8
8/F	61.0	61.4	32.0	61.4	61.5	61.5	30.3	61.5	60.1	61.5	61.5	58.4	60.5	42.6	60.5	54.5	54.2	53.7	62.5	62.5	**68.2**	**67.0**	66.0	68.0	69.5	69.5
9/F	61.0	61.3	31.9	61.3	61.4	61.4	30.3	61.4	60.0	61.4	61.4	58.5	60.5	42.7	60.5	54.6	54.3	53.8	62.5	62.5	**67.9**	**66.7**	65.7	70.4	69.2	70.4
10/F	61.0	61.3	31.8	61.3	61.3	61.3	30.2	61.3	59.9	61.4	61.4	58.6	60.4	42.7	60.4	54.7	54.4	53.8	62.5	62.5	**67.6**	**66.4**	65.5	70.1	68.9	70.1
11/F	60.9	61.2	31.8	61.2	61.3	61.3	30.2	61.3	59.8	61.3	61.3	58.7	60.4	42.7	60.4	54.7	54.4	53.9	62.4	62.4	**67.3**	**66.1**	65.2	69.8	68.7	69.8
12/F	60.8	61.2	31.9	61.2	61.2	61.2	30.4	61.2	59.8	61.2	61.2	58.8	60.5	42.7	60.5	54.7	54.4	53.9	62.2	62.2	**67.1**	**65.9**	65.0	69.6	68.4	69.6
13/F	60.8	61.1	32.5	61.1	61.1	61.1	31.3	61.1	59.7	61.1	61.1	58.9	60.5	42.6	60.5	54.7	54.4	53.9	62.1	62.1	70.2	70.0	64.7	69.3	68.2	70.2
14/F	60.7	61.1	33.4	61.1	61.1	61.1	32.4	61.1	59.7	61.2	61.2	58.9	60.5	42.6	60.5	54.7	54.4	53.9	61.9	61.9	70.0	69.8	64.5	69.2	68.0	70.0
15/F	60.6	61.0	34.7	61.0	61.1	61.0	34.0	61.1	59.7	61.1	61.1	58.8	60.4	42.6	60.4	54.8	54.5	54.0	61.8	61.8	69.8	69.6	64.3	68.9	67.8	69.8
16/F	60.6	60.9	36.3	60.9	61.0	61.0	35.8	61.0	59.6	61.1	61.1	58.8	60.4	42.7	60.4	54.8	54.5	54.0	61.6	61.6	69.5	69.3	64.1	68.7	67.6	69.5
17/F	60.5	60.9	38.4	60.9	61.0	61.0	38.1	61.0	59.6	61.1	61.1	58.7	60.3	43.0	60.3	54.8	54.5	54.0	61.5	61.5	69.3	69.1	63.9	68.5	67.4	69.3
18/F	60.5	60.9	41.2	60.9	61.0	61.0	41.0	61.0	59.5	61.1	61.1	58.6	60.3	43.6	60.3	54.8	54.5	54.0	61.4	61.4	69.1	68.9	63.7	68.3	67.2	69.1
19/F	60.5	60.9	43.6	60.9	61.0	61.0	43.4	61.0	59.5	61.0	61.0	58.5	60.2	44.4	60.2	54.9	54.6	54.0	61.2	61.2	68.9	68.8	63.5	68.1	67.0	68.9
20/F	60.6	60.9	45.2	60.9	60.9	60.9	45.1	60.9	59.4	61.0	61.0	58.5	60.1	45.0	60.1	54.9	54.7	54.0	61.2	61.2	68.8	68.6	63.3	68.0	66.8	68.8
21/F	60.6	60.9	47.1	60.9	61.0	60.9	47.0	61.0	59.3	61.0	61.0	58.4	60.0	45.8	60.0	55.1	54.8	54.1	61.1	61.1	68.6	68.4	63.1	67.8	66.7	68.6
22/F	60.8	61.0	49.1	61.0	61.0	61.0	49.0	61.0	59.3	61.0	61.0	58.4	60.0	47.2	60.0	55.4	55.1	54.1	61.1	61.1	68.4	68.3	63.0	67.6	66.5	68.4
23/F	60.9	61.1	50.8	61.1	61.0	61.0	50.7	61.0	59.2	61.0	61.0	58.5	60.1	48.4	60.1	55.6	55.3	54.1	61.1	61.1	68.3	68.2	62.8	67.5	66.3	68.3
24/F	61.0	61.2	51.8	61.2	61.1	61.1	51.7	61.1	59.2	61.0	61.0	58.5	60.0	49.1	60.0	55.8	55.5	54.1	61.0	61.0	68.1	68.0	62.7	67.3	66.2	68.1
25/F	61.1	61.2	52.6	61.2	61.1	61.1	52.5	61.1	59.1	61.0	61.0	58.5	60.0	49.8	60.0	55.9	55.6	54.2	61.0	61.0	68.0	67.8	62.5	67.1	66.0	68.0
26/F	61.1	61.3	53.2	61.3	61.1	61.1	53.0	61.1	59.1	60.9	60.9	58.5	60.0	50.6	60.0	56.0	55.7	54.2	61.0	61.0	67.8	67.7	62.4	67.0	65.9	67.8
27/F	61.2	61.3	53.7	61.3	61.1	61.1	53.5	61.1	59.1	60.9	60.9	58.5	60.1	51.3	60.1	56.2	55.9	54.2	61.0	61.0	67.7	67.6	62.2	66.9	65.7	67.7
28/F	61.2	61.3	54.0	61.3	61.0	61.1	53.9	61.1	59.1	60.9	60.9	58.5	60.1	51.9	60.1	56.4	56.1	54.3	60.9	60.9	67.5	67.4	62.1	66.7	65.6	67.5
29/F	61.2	61.3	54.2	61.3	61.0	61.1	54.0	61.1	59.2	60.9	60.9	58.6	60.1	52.5	60.1	56.6	56.3	54.3	60.9	60.9	67.4	67.3	62.0	66.6	65.5	67.4
30/F	61.3	61.4	54.3	61.4	61.0	61.1	54.2	61.1	59.1	60.9	60.9	58.6	60.1	52.8	60.1	56.8	56.5	54.4	60.9	60.9	67.3	67.2	61.8	66.5	65.3	67.3
31/F	61.2	61.3	54.4	61.3	61.0	61.1	54.3	61.1	59.2	61.0	61.0	58.7	60.2	53.2	60.2	56.9	56.6	54.5	61.0	61.0	67.1	67.0	61.7	66.3	65.2	67.1
32/F	61.2	61.3	54.5	61.3	61.0	61.0	54.3	61.0	59.2	61.0	61.0	58.7	60.2	53.5	60.2	57.1	56.8	54.5	61.0	61.0	67.0	66.9	61.6	66.2	65.1	67.0
33/F	61.2	61.3	54.5	61.3	61.0	61.0	54.4	61.0	59.2	60.9	60.9	58.7	60.2	53.7	60.2	57.2	56.9	54.6	61.0	61.0	66.9	66.8	61.5	66.1	65.0	66.9
34/F	61.2	61.3	54.6	61.3	61.0	61.0	54.5	61.0	59.1	60.9	60.9	58.8	60.2	53.8	60.2	57.4	57.1	54.6	61.0	61.0	66.8	66.7	61.4	66.0	64.9	66.8
35/F	61.2	61.2	54.7	61.2	61.0	61.0	54.6	61.0	59.1	60.9	60.9	58.8	60.2	54.0	60.2	57.5	57.2	54.6	61.0	61.0	66.7	66.6	61.2	65.9	64.8	66.7
36/F	61.1	61.2	54.8	61.2	61.0	61.0	54.6	61.0	59.1	60.9	60.9	58.8	60.2	54.1	60.2	57.6	57.3	54.7	61.0	61.0	66.6	66.5	61.1	65.8	64.6	66.6
37/F	61.1	61.2	54.9	61.2	61.0	61.0	54.7	61.0	59.0	60.9	60.9	58.8	60.2	54.2	60.2	57.7	57.4	54.7	61.1	61.1	66.5	66.3	61.0	65.6	64.5	66.5
38/F	61.1	61.2	55.0	61.2	61.0	61.0	54.8	61.0	59.0	60.9	60.9	59.0	60.2	54.3	60.2	57.8	57.5	54.8	61.1	61.1	66.4	66.2	60.9	65.5	64.4	66.4

*** Note:**

XX	Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.
	Fixed window is adopted
XX	Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 5.4 dB(A) without sound absotive lining is applied.
XX	Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 5.4 dB(A) without sound absotive lining is applied. Due to unfavourable settings of acoustic window, noice attenuation will be deducted 1.0 dB(A) based on study of the Technical Note-Annex L (Case 1 of Table 1)
XX	Noice attenuation will be deducted 1.0 dB(A) based on conservative approach for Non MFD flats.
XX	Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 2.7 dB(A) without sound absotive lining is applied.

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Block B - Mitigated Scenario

Block B	BB_13a	BB_13b	BB_13c	**Max**	BB_14a	BB_14b	BB_14c	**Max**	BB_15a	BB_15b	BB_15c	**Max**	BB_16a	BB_16b	BB_16c	**Max**	BB_17a	BB_17b	BB_17c	**Max**
G/F																				
1/F																				
2/F	66.2	69.4	54.0	69.4	66.6	69.4	56.6	69.4	66.3	70.1	55.8	70.1	47.9	48.7	42.9	48.7	49.4	49.0	49.6	49.6
3/F	**66.6**	**67.4**	60.8	67.4	**68.0**	**67.3**	65.3	68.0	**66.4**	**67.3**	64.1	67.3	48.9	49.3	44.6	49.3	49.6	49.4	50.0	50.0
4/F	**66.6**	**67.3**	65.4	67.3	**67.9**	**67.1**	67.0	67.9	**66.4**	**67.0**	66.6	67.0	49.6	49.9	46.1	49.9	49.8	49.9	50.5	50.5
5/F	**66.3**	**66.9**	65.8	66.9	**67.7**	**66.8**	66.9	67.7	**66.1**	**66.8**	66.6	66.8	50.0	50.2	46.8	50.2	50.0	50.1	50.7	50.7
6/F	**65.9**	**66.5**	65.7	66.5	**67.4**	**66.5**	66.6	67.4	**65.8**	**66.5**	66.3	66.5	50.1	50.3	47.0	50.3	50.0	50.2	50.8	50.8
7/F	**65.6**	**66.2**	65.4	66.2	**67.1**	**66.2**	66.3	67.1	**65.5**	**66.2**	66.0	66.2	50.2	50.3	47.1	50.3	50.0	50.2	50.8	50.8
8/F	**65.3**	**65.9**	65.1	65.9	**66.8**	**65.9**	66.1	66.8	**65.2**	**65.9**	65.7	65.9	50.2	50.3	47.1	50.3	50.1	50.2	50.8	50.8
9/F	**65.1**	**65.6**	64.8	65.6	**66.5**	**65.6**	65.8	66.5	**65.0**	**65.6**	65.5	65.6	50.2	50.3	47.0	50.3	50.1	50.2	50.8	50.8
10/F	**64.8**	**65.3**	64.5	65.3	**66.2**	**65.3**	65.5	66.2	**64.7**	**65.3**	65.2	65.3	50.2	50.3	47.0	50.3	50.0	50.2	50.8	50.8
11/F	**64.5**	**65.1**	64.3	65.1	**66.0**	**65.1**	65.3	66.0	**64.4**	**65.1**	65.0	65.1	50.2	50.3	47.0	50.3	50.0	50.2	50.8	50.8
12/F	69.7	70.2	64.0	70.2	70.1	70.2	65.1	70.2	69.6	70.2	64.7	70.2	50.2	50.3	47.0	50.3	50.0	50.2	50.8	50.8
13/F	69.4	70.0	63.8	70.0	69.9	70.0	64.8	70.0	69.4	70.0	64.5	70.0	50.2	50.3	47.0	50.3	50.0	50.2	50.8	50.8
14/F	69.2	69.7	63.6	69.7	69.7	69.8	64.6	69.8	69.2	69.8	64.3	69.8	50.2	50.3	47.0	50.3	50.0	50.2	50.8	50.8
15/F	69.0	69.5	63.4	69.5	69.5	69.6	64.4	69.6	69.0	69.6	64.1	69.6	50.3	50.3	47.0	50.3	50.0	50.2	50.7	50.7
16/F	68.8	69.3	63.2	69.3	69.3	69.4	64.2	69.4	68.8	69.4	63.9	69.4	50.3	50.3	47.0	50.3	50.0	50.2	50.7	50.7
17/F	68.6	69.1	63.0	69.1	69.1	69.2	64.0	69.2	68.6	69.2	63.7	69.2	50.3	50.3	47.0	50.3	50.0	50.2	50.7	50.7
18/F	68.4	68.9	62.8	68.9	68.9	69.0	63.8	69.0	68.4	69.0	63.5	69.0	50.3	50.3	46.9	50.3	50.0	50.2	50.7	50.7
19/F	68.2	68.7	62.6	68.7	68.7	68.8	63.6	68.8	68.3	68.8	63.3	68.8	50.3	50.2	46.9	50.3	50.0	50.2	50.7	50.7
20/F	68.0	68.5	62.4	68.5	68.5	68.6	63.5	68.6	68.1	68.7	63.2	68.7	50.3	50.2	46.9	50.3	50.0	50.2	50.7	50.7
21/F	67.9	68.4	62.2	68.4	68.4	68.5	63.3	68.5	67.9	68.5	63.0	68.5	50.3	50.2	46.9	50.3	50.0	50.2	50.7	50.7
22/F	67.7	68.2	62.1	68.2	68.2	68.4	63.1	68.4	67.7	68.4	62.8	68.4	50.3	50.2	46.9	50.3	50.0	50.2	50.7	50.7
23/F	67.5	68.0	61.9	68.0	68.1	68.2	63.0	68.2	67.6	68.2	62.7	68.2	50.3	50.3	46.9	50.3	50.0	50.1	50.7	50.7
24/F	67.4	67.9	61.8	67.9	68.0	68.1	62.8	68.1	67.4	68.1	62.5	68.1	50.2	50.3	47.7	50.3	50.0	50.1	50.8	50.8
25/F	67.2	67.7	61.6	67.7	67.8	67.9	62.7	67.9	67.3	67.9	62.4	67.9	52.8	51.9	50.6	52.8	50.2	51.4	51.6	51.6
26/F	67.1	67.6	61.5	67.6	67.7	67.8	62.5	67.8	67.2	67.8	62.2	67.8	52.7	52.4	49.2	52.7	50.2	50.6	51.5	51.5
27/F	66.9	67.5	61.3	67.5	67.5	67.6	62.4	67.6	67.0	67.6	62.1	67.6	53.6	53.0	49.0	53.6	50.3	50.8	52.0	52.0
28/F	66.8	67.3	61.2	67.3	67.4	67.5	62.3	67.5	66.9	67.5	62.0	67.5	52.3	52.1	46.9	52.3	50.0	50.1	51.1	51.1
29/F	66.7	67.2	61.1	67.2	67.3	67.4	62.1	67.4	66.7	67.4	61.8	67.4	52.1	52.3	47.8	52.3	50.1	50.2	51.4	51.4
30/F	66.6	67.1	60.9	67.1	67.1	67.2	62.0	67.2	66.6	67.2	61.7	67.2	52.1	52.4	47.9	52.4	50.1	50.3	51.4	51.4
31/F	66.5	66.9	60.8	66.9	67.0	67.1	61.9	67.1	66.5	67.1	61.6	67.1	52.1	52.4	48.2	52.4	50.1	50.2	51.9	51.9
32/F	66.4	66.8	60.7	66.8	66.9	67.0	61.8	67.0	66.4	67.0	61.5	67.0	52.5	52.5	48.0	52.5	50.1	50.3	51.8	51.8
33/F	66.3	66.7	60.6	66.7	66.8	66.9	61.7	66.9	66.3	66.9	61.3	66.9	52.5	52.9	47.9	52.9	50.1	50.3	51.8	51.8
34/F	66.2	66.6	60.5	66.6	66.7	66.8	61.5	66.8	66.1	66.8	61.2	66.8	53.1	52.8	47.9	53.1	50.1	50.4	51.8	51.8
35/F	66.1	66.5	60.3	66.5	66.5	66.6	61.4	66.6	66.0	66.6	61.1	66.6	53.2	52.8	47.9	53.2	50.1	50.4	51.8	51.8
36/F	65.9	66.4	60.2	66.4	66.4	66.5	61.3	66.5	65.9	66.5	61.0	66.5	53.1	52.8	48.3	53.1	50.0	50.4	51.8	51.8
37/F	65.8	66.3	60.1	66.3	66.3	66.4	61.2	66.4	65.8	66.4	60.9	66.4	53.1	52.8	48.4	53.1	50.0	50.4	51.8	51.8
38/F	65.7	66.2	60.0	66.2	66.2	66.3	61.1	66.3	65.7	66.3	60.8	66.3	53.1	52.8	48.7	53.1	50.1	50.5	51.9	51.9

*** Note:**

XX	Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.
XX	Noise attenuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 5.4 dB(A) without sound absotive lining is applied.
XX	Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 5.4 dB(A) without sound absotive lining is applied. Due to unfavourable settings of acoustic window, noice attenuation will be deducted 1.0 dB(A) based on study of the Technical Note-Annex L (Case 1 of Table 1)

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Area 103

Block C - Mitigated Scenario

Block C	BC_1a	BC_1b	BC_1c	**Max**	BC_2a	BC_2b	**Max**	BC_3a	BC_3b	BC_3c	**Max**	BC_4a	BC_4b	BC_4c	**Max**	BC_5a	BC_5b	BC_5c	BC_5d	**Max**	BC_6a	BC_6b	BC_6c	**Max**
G/F																								
1/F																								
2/F	42.1	47.7	39.0	47.7	52.1	56.5	56.5	56.2	57.6	35.4	57.6	56.8	57.7	34.6	57.7	58.1	57.6	52.9	46.1	58.1	56.9	58.6	60.2	60.2
3/F	42.1	53.8	39.9	53.8	54.7	57.4	57.4	57.7	58.3	35.4	58.3	58.5	58.6	34.6	58.6	58.8	59.1	56.3	49.3	59.1	60.5	61.8	62.1	62.1
4/F	42.3	56.9	41.7	56.9	57.3	58.4	58.4	58.3	58.6	35.4	58.6	58.9	58.9	34.5	58.9	59.6	60.3	59.0	52.9	60.3	62.1	63.2	63.2	63.2
5/F	42.5	57.2	44.0	57.2	58.4	59.4	59.4	59.2	59.4	35.3	59.4	59.6	59.5	34.5	59.6	60.3	61.1	60.2	55.1	61.1	62.8	63.6	63.5	63.6
6/F	42.9	57.2	45.4	57.2	58.5	59.7	59.7	59.7	59.9	35.3	59.9	60.1	60.1	34.4	60.1	60.8	61.6	60.9	56.1	61.6	63.1	63.8	63.7	63.8
7/F	43.5	57.2	46.0	57.2	58.5	59.7	59.7	59.9	60.0	35.2	60.0	60.5	60.4	34.3	60.5	61.2	61.9	61.1	56.8	61.9	63.3	64.0	63.8	64.0
8/F	44.2	57.3	46.3	57.3	58.5	59.7	59.7	59.9	60.1	35.1	60.1	60.6	60.4	34.3	60.6	61.5	62.1	61.3	57.1	62.1	63.4	64.1	64.0	64.1
9/F	44.9	57.3	46.4	57.3	58.5	59.7	59.7	59.8	60.0	35.1	60.0	60.6	60.5	34.2	60.6	61.5	62.2	61.4	57.2	62.2	63.5	64.2	64.0	64.2
10/F	45.4	57.3	46.5	57.3	58.6	59.7	59.7	59.8	60.1	35.0	60.1	60.7	60.5	34.2	60.7	61.6	62.2	61.4	57.2	62.2	63.5	64.2	64.0	64.2
11/F	45.7	57.3	46.5	57.3	58.6	59.6	59.6	59.8	60.0	34.9	60.0	60.7	60.5	34.1	60.7	61.6	62.2	61.4	57.2	62.2	63.5	64.2	64.0	64.2
12/F	45.9	57.3	46.6	57.3	58.5	59.6	59.6	59.7	60.0	34.9	60.0	60.6	60.4	34.0	60.6	61.5	62.2	61.3	57.1	62.2	63.4	64.1	63.9	64.1
13/F	46.1	57.2	46.6	57.2	58.4	59.5	59.5	59.7	60.0	34.8	60.0	60.6	60.4	33.9	60.6	61.5	62.1	61.2	57.0	62.1	63.3	64.1	63.8	64.1
14/F	46.2	57.1	46.6	57.1	58.3	59.4	59.4	59.6	59.9	34.7	59.9	60.5	60.3	33.9	60.5	61.5	62.1	61.1	57.0	62.1	63.2	64.0	63.8	64.0
15/F	46.3	57.1	46.6	57.1	58.3	59.4	59.4	59.6	59.8	34.6	59.8	60.5	60.3	33.8	60.5	61.4	62.0	61.0	56.9	62.0	63.2	63.9	63.7	63.9
16/F	46.3	57.0	46.6	57.0	58.2	59.3	59.3	59.5	59.7	34.6	59.7	60.4	60.2	33.7	60.4	61.3	62.0	61.0	56.8	62.0	63.1	63.8	63.6	63.8
17/F	46.3	56.8	46.5	56.8	58.0	59.2	59.2	59.4	59.6	34.5	59.6	60.3	60.1	33.6	60.3	61.3	61.9	60.9	56.8	61.9	63.0	63.8	63.5	63.8
18/F	46.2	56.7	46.4	56.7	57.9	59.1	59.1	59.3	59.5	34.4	59.5	60.2	60.0	33.6	60.2	61.2	61.8	60.8	56.7	61.8	62.9	63.7	63.4	63.7
19/F	46.2	56.6	46.6	56.6	57.8	58.9	58.9	59.2	59.4	34.4	59.4	60.2	60.0	33.5	60.2	61.1	61.8	60.7	56.6	61.8	62.9	63.6	63.4	63.6
20/F	46.1	56.5	46.5	56.5	57.7	58.8	58.8	59.0	59.3	34.3	59.3	60.1	59.9	33.4	60.1	61.1	61.7	60.6	56.5	61.7	62.8	63.5	63.3	63.5
21/F	46.1	56.4	46.4	56.4	57.6	58.7	58.7	58.9	59.2	34.2	59.2	60.0	59.8	33.4	60.0	61.0	61.6	60.5	56.5	61.6	62.7	63.4	63.2	63.4
22/F	46.0	56.2	46.4	56.2	57.5	58.6	58.6	58.8	59.1	34.1	59.1	59.9	59.7	33.3	59.9	60.9	61.5	60.5	56.4	61.5	62.6	63.3	63.1	63.3
23/F	45.9	56.1	46.3	56.1	57.4	58.5	58.5	58.7	59.0	34.1	59.0	59.8	59.6	33.2	59.8	60.8	61.4	60.4	56.3	61.4	62.5	63.3	63.1	63.3
24/F	45.9	56.0	46.2	56.0	57.3	58.4	58.4	58.6	58.9	34.0	58.9	59.7	59.5	33.2	59.7	60.8	61.4	60.3	56.2	61.4	62.4	63.2	63.0	63.2
25/F	47.8	56.3	46.2	56.3	57.2	58.9	58.9	59.0	59.1	34.0	59.1	59.8	59.5	33.1	59.8	60.7	61.3	60.2	56.1	61.3	62.4	63.1	62.9	63.1
26/F	51.5	56.9	46.1	56.9	57.0	59.0	59.0	59.2	59.5	34.1	59.5	60.1	60.0	33.2	60.1	60.9	61.5	60.1	56.1	61.5	62.2	63.2	63.1	63.2
27/F	52.2	57.0	46.1	57.0	56.9	59.2	59.2	59.4	59.7	34.3	59.7	60.2	60.1	33.4	60.2	61.2	61.7	60.0	56.0	61.7	62.1	63.3	63.0	63.3
28/F	52.8	57.1	45.8	57.1	56.8	59.0	59.0	59.3	59.3	34.5	59.3	60.1	59.9	33.6	60.1	61.1	61.7	59.9	55.9	61.7	62.1	63.3	63.0	63.3
29/F	46.2	56.6	46.6	56.6	57.8	58.9	58.9	59.2	59.4	34.4	59.4	60.2	60.0	33.5	60.2	61.1	61.8	60.7	56.6	61.8	62.9	63.6	63.4	63.6
30/F	46.1	56.5	46.5	56.5	57.7	58.8	58.8	59.0	59.3	34.3	59.3	60.1	59.9	33.4	60.1	61.1	61.7	60.6	56.5	61.7	62.8	63.5	63.3	63.5
31/F	46.1	56.4	46.4	56.4	57.6	58.7	58.7	58.9	59.2	34.2	59.2	60.0	59.8	33.4	60.0	61.0	61.6	60.5	56.5	61.6	62.7	63.4	63.2	63.4
32/F	46.0	56.2	46.4	56.2	57.5	58.6	58.6	58.8	59.1	34.1	59.1	59.9	59.7	33.3	59.9	60.9	61.5	60.5	56.4	61.5	62.6	63.3	63.1	63.3
33/F	45.9	56.1	46.3	56.1	57.4	58.5	58.5	58.7	59.0	34.1	59.0	59.8	59.6	33.2	59.8	60.8	61.4	60.4	56.3	61.4	62.5	63.3	63.1	63.3
34/F	45.9	56.0	46.2	56.0	57.3	58.4	58.4	58.6	58.9	34.0	58.9	59.7	59.5	33.2	59.7	60.8	61.4	60.3	56.2	61.4	62.4	63.2	63.0	63.2
35/F	47.8	56.3	46.2	56.3	57.2	58.9	58.9	59.0	59.1	34.0	59.1	59.8	59.5	33.1	59.8	60.7	61.3	60.2	56.1	61.3	62.4	63.1	62.9	63.1
36/F	51.5	56.9	46.1	56.9	57.0	59.0	59.0	59.2	59.5	34.1	59.5	60.1	60.0	33.2	60.1	60.9	61.5	60.1	56.1	61.5	62.2	63.2	63.1	63.2
37/F	52.2	57.0	46.1	57.0	56.9	59.2	59.2	59.4	59.7	34.3	59.7	60.2	60.1	33.4	60.2	61.2	61.7	60.0	56.0	61.7	62.1	63.3	63.0	63.3
38/F	52.8	57.1	45.8	57.1	56.8	59.0	59.0	59.3	59.3	34.5	59.3	60.1	59.9	33.6	60.1	61.1	61.7	59.9	55.9	61.7	62.1	63.3	63.0	63.3
39/F	53.0	57.2	45.7	57.2	56.7	59.1	59.1	59.4	59.5	34.8	59.5	60.3	60.2	33.8	60.3	61.2	61.6	59.8	55.8	61.6	62.0	63.2	62.9	63.2

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Block C - Mitigated Scenario

Block C	BC_7a	BC_7b	BC_7c	BC_7d	**Max**	BC_8a	BC_8b	BC_8c	**Max**	BC_9a	BC_9b	BC_9c	**Max**	BC_10a	BC_10b	BC_10c	**Max**	BC_11a	BC_11b	**Max**	BC_12a	BC_12b	BC_12c	**Max**
G/F																								
1/F																								
2/F	56.1	56.7	30.4	62.1	62.1	55.4	55.8	35.5	55.8	54.6	54.7	31.9	54.7	53.8	53.9	34.9	53.9	35.8	53.8	53.8	53.4	53.5	53.3	53.5
3/F	56.8	57.4	30.4	63.0	63.0	56.2	56.6	37.0	56.6	55.4	55.5	31.9	55.5	54.9	54.9	36.3	54.9	37.2	54.9	54.9	54.5	54.6	54.6	54.6
4/F	57.0	57.6	30.3	63.4	63.4	56.5	56.9	37.9	56.9	55.8	55.9	31.8	55.9	55.4	55.4	37.3	55.4	38.3	55.4	55.4	55.1	55.2	55.1	55.2
5/F	57.1	57.7	30.3	63.5	63.5	56.7	57.0	38.4	57.0	56.0	56.1	31.7	56.1	55.6	55.6	37.8	55.6	38.9	55.6	55.6	55.3	55.4	55.4	55.4
6/F	57.2	57.7	30.3	63.5	63.5	56.7	57.0	38.7	57.0	56.1	56.1	31.7	56.1	55.7	55.7	38.2	55.7	39.2	55.7	55.7	55.5	55.6	55.5	55.6
7/F	57.2	57.7	30.2	63.5	63.5	56.8	57.0	38.8	57.0	56.1	56.2	31.6	56.2	55.7	55.8	38.3	55.8	39.3	55.8	55.8	55.5	55.6	55.6	55.6
8/F	57.1	57.7	30.1	63.6	63.6	56.7	57.0	38.8	57.0	56.1	56.2	31.5	56.2	55.8	55.8	38.5	55.8	39.4	55.8	55.8	55.6	55.6	55.6	55.6
9/F	57.1	57.7	30.1	63.7	63.7	56.7	56.9	38.9	56.9	56.1	56.2	31.4	56.2	55.8	55.8	38.5	55.8	39.5	55.8	55.8	55.5	55.6	55.6	55.6
10/F	57.1	57.7	30.0	63.7	63.7	56.6	56.9	38.9	56.9	56.0	56.1	31.3	56.1	55.7	55.8	38.5	55.8	39.5	55.8	55.8	55.5	55.6	55.6	55.6
11/F	57.0	57.7	29.8	63.7	63.7	56.6	56.9	38.9	56.9	56.0	56.1	31.2	56.1	55.7	55.7	38.5	55.7	39.5	55.7	55.7	55.5	55.6	55.5	55.6
12/F	57.0	57.6	29.6	63.7	63.7	56.5	56.8	38.9	56.8	56.0	56.1	31.0	56.1	55.7	55.7	38.5	55.7	39.5	55.7	55.7	55.5	55.6	55.5	55.6
13/F	56.9	57.6	29.4	63.6	63.6	56.5	56.8	38.8	56.8	55.9	56.0	30.8	56.0	55.6	55.7	38.4	55.7	39.4	55.7	55.7	55.4	55.6	55.4	55.6
14/F	56.9	57.5	29.2	63.5	63.5	56.4	56.7	38.8	56.7	55.9	56.0	30.7	56.0	55.6	55.6	38.4	55.6	39.4	55.6	55.6	55.4	55.5	55.4	55.5
15/F	56.8	57.5	29.1	63.5	63.5	56.4	56.7	38.8	56.7	55.8	55.9	30.6	55.9	55.6	55.6	38.4	55.6	39.3	55.6	55.6	55.4	55.5	55.4	55.5
16/F	56.8	57.5	29.1	63.4	63.4	56.3	56.6	38.8	56.6	55.8	55.9	30.4	55.9	55.5	55.6	38.4	55.6	39.3	55.5	55.5	55.3	55.4	55.3	55.4
17/F	56.7	57.4	29.0	63.3	63.3	56.3	56.6	38.8	56.6	55.8	55.9	30.2	55.9	55.5	55.5	38.3	55.5	39.3	55.5	55.5	55.3	55.4	55.3	55.4
18/F	56.7	57.4	28.7	63.2	63.2	56.2	56.5	38.8	56.5	55.7	55.8	29.9	55.8	55.5	55.5	38.3	55.5	39.2	55.5	55.5	55.3	55.4	55.3	55.4
19/F	56.6	57.4	28.5	63.2	63.2	56.2	56.5	38.8	56.5	55.7	55.8	29.5	55.8	55.4	55.5	38.3	55.5	39.2	55.4	55.4	55.2	55.3	55.2	55.3
20/F	56.6	57.3	28.2	63.1	63.1	56.2	56.4	38.7	56.4	55.7	55.8	29.5	55.8	55.4	55.5	38.3	55.5	39.2	55.4	55.4	55.2	55.3	55.2	55.3
21/F	56.6	57.3	28.2	63.0	63.0	56.1	56.4	38.7	56.4	55.7	55.8	29.5	55.8	55.4	55.4	38.3	55.4	39.2	55.4	55.4	55.2	55.3	55.1	55.3
22/F	56.5	57.3	28.1	63.0	63.0	56.1	56.4	38.7	56.4	55.6	55.7	29.3	55.7	55.3	55.4	38.3	55.4	39.2	55.3	55.3	55.1	55.2	55.1	55.2
23/F	56.5	57.3	28.0	62.9	62.9	56.1	56.4	38.7	56.4	55.6	55.7	29.2	55.7	55.3	55.4	38.3	55.4	39.2	55.3	55.3	55.1	55.2	55.1	55.2
24/F	56.5	57.3	27.9	62.8	62.8	56.0	56.3	38.7	56.3	55.6	55.6	29.1	55.6	55.2	55.3	38.4	55.3	39.1	55.3	55.3	55.0	55.2	55.1	55.2
25/F	56.5	57.3	27.8	62.8	62.8	56.0	56.3	38.7	56.3	56.7	56.8	29.0	56.8	56.5	56.5	38.3	56.5	39.1	56.5	56.5	56.4	56.5	55.0	56.5
26/F	56.5	57.4	27.7	63.0	63.0	56.7	56.8	38.7	56.8	56.2	56.4	28.9	56.4	55.9	56.0	38.3	56.0	39.1	56.0	56.0	55.1	55.2	55.0	55.2
27/F	56.4	57.2	27.7	62.9	62.9	56.0	56.2	38.7	56.2	55.5	55.5	28.9	55.5	55.2	55.2	38.4	55.2	39.1	55.2	55.2	55.0	55.1	55.0	55.1
28/F	56.4	57.2	27.7	63.0	63.0	56.0	56.2	38.6	56.2	55.5	55.6	28.8	55.6	55.2	55.4	38.4	55.4	39.1	55.1	55.1	54.9	55.1	54.9	55.1
29/F	56.6	57.4	28.5	63.2	63.2	56.2	56.5	38.8	56.5	55.7	55.8	29.5	55.8	55.4	55.5	38.3	55.5	39.2	55.4	55.4	55.2	55.3	55.2	55.3
30/F	56.6	57.3	28.2	63.1	63.1	56.2	56.4	38.7	56.4	55.7	55.8	29.5	55.8	55.4	55.5	38.3	55.5	39.2	55.4	55.4	55.2	55.3	55.2	55.3
31/F	56.6	57.3	28.2	63.0	63.0	56.1	56.4	38.7	56.4	55.7	55.8	29.5	55.8	55.4	55.4	38.3	55.4	39.2	55.4	55.4	55.2	55.3	55.1	55.3
32/F	56.5	57.3	28.1	63.0	63.0	56.1	56.4	38.7	56.4	55.6	55.7	29.3	55.7	55.3	55.4	38.3	55.4	39.2	55.3	55.3	55.1	55.2	55.1	55.2
33/F	56.5	57.3	28.0	62.9	62.9	56.1	56.4	38.7	56.4	55.6	55.7	29.2	55.7	55.3	55.4	38.3	55.4	39.2	55.3	55.3	55.1	55.2	55.1	55.2
34/F	56.5	57.3	27.9	62.8	62.8	56.0	56.3	38.7	56.3	55.6	55.6	29.1	55.6	55.2	55.3	38.4	55.3	39.1	55.3	55.3	55.0	55.2	55.1	55.2
35/F	56.5	57.3	27.8	62.8	62.8	56.0	56.3	38.7	56.3	56.7	56.8	29.0	56.8	56.5	56.5	38.3	56.5	39.1	56.5	56.5	56.4	56.5	55.0	56.5
36/F	56.5	57.4	27.7	63.0	63.0	56.7	56.8	38.7	56.8	56.2	56.4	28.9	56.4	55.9	56.0	38.3	56.0	39.1	56.0	56.0	55.1	55.2	55.0	55.2
37/F	56.4	57.2	27.7	62.9	62.9	56.0	56.2	38.7	56.2	55.5	55.5	28.9	55.5	55.2	55.2	38.4	55.2	39.1	55.2	55.2	55.0	55.1	55.0	55.1
38/F	56.4	57.2	27.7	63.0	63.0	56.0	56.2	38.6	56.2	55.5	55.6	28.8	55.6	55.2	55.4	38.4	55.4	39.1	55.1	55.1	54.9	55.1	54.9	55.1
39/F	56.3	57.2	27.6	62.8	62.8	55.9	56.1	38.6	56.1	55.4	55.5	28.7	55.5	55.1	55.2	38.4	55.2	39.2	55.1	55.1	54.9	55.1	54.9	55.1

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Block C - Mitigated Scenario

Block C	BC_13a	BC_13b	BC_13c	**Max**	BC_14a	BC_14b	BC_14c	**Max**	BC_15a	BC_15b	BC_15c	**Max**	BC_16a	BC_16b	BC_16c	**Max**
G/F																
1/F																
2/F	52.5	50.2	50.2	52.5	51.3	48.7	50.4	51.3	67.4	69.4	56.8	69.4	65.4	69.1	60.7	69.1
3/F	53.5	52.9	51.5	53.5	51.9	50.5	51.0	51.9	**67.9**	**67.2**	65.7	67.9	**66.3**	**67.0**	68.5	68.5
4/F	54.2	54.2	52.4	54.2	52.5	51.6	51.4	52.5	**67.8**	**66.9**	66.8	67.8	**66.3**	**66.8**	68.8	68.8
5/F	54.5	54.6	52.8	54.6	52.9	52.1	51.6	52.9	**67.5**	**66.7**	66.6	67.5	**66.0**	**66.5**	68.5	68.5
6/F	54.6	54.7	53.0	54.7	53.1	52.4	51.8	53.1	**67.2**	**66.4**	66.3	67.2	**65.7**	**66.2**	68.2	68.2
7/F	54.7	54.8	53.2	54.8	53.2	52.6	51.9	53.2	**67.0**	**66.1**	66.1	67.0	**65.5**	**66.0**	67.9	67.9
8/F	54.8	54.8	53.3	54.8	53.3	52.7	52.0	53.3	**66.7**	**65.8**	65.8	66.7	**65.2**	**65.7**	67.7	67.7
9/F	54.8	54.8	53.4	54.8	53.4	52.8	52.1	53.4	**66.4**	**65.6**	65.6	66.4	**65.0**	**65.4**	67.4	67.4
10/F	54.8	54.8	53.4	54.8	53.5	52.8	52.1	53.5	**66.1**	**65.3**	65.3	66.1	**64.7**	**65.2**	67.1	67.1
11/F	54.8	54.9	53.5	54.9	53.5	52.9	52.2	53.5	70.3	70.4	65.1	70.4	69.9	70.3	66.9	70.3
12/F	54.8	54.9	53.5	54.9	53.5	52.9	52.3	53.5	70.1	70.2	64.9	70.2	69.6	70.1	66.6	70.1
13/F	54.8	54.8	53.5	54.8	53.5	52.9	52.3	53.5	69.8	70.0	64.6	70.0	69.4	69.9	66.4	69.9
14/F	54.7	54.8	53.5	54.8	53.6	53.0	52.3	53.6	69.6	69.8	64.4	69.8	69.2	69.7	66.2	69.7
15/F	54.7	54.8	53.6	54.8	53.6	53.0	52.3	53.6	69.4	69.6	64.2	69.6	69.0	69.5	66.0	69.5
16/F	54.7	54.8	53.6	54.8	53.7	53.1	52.4	53.7	69.2	69.4	64.0	69.4	68.8	69.3	65.8	69.3
17/F	54.7	54.8	53.6	54.8	53.7	53.1	52.4	53.7	69.0	69.2	63.8	69.2	68.7	69.1	65.6	69.1
18/F	54.6	54.7	53.7	54.7	53.7	53.1	52.5	53.7	68.8	69.0	63.7	69.0	68.5	68.9	65.4	68.9
19/F	54.6	54.7	53.7	54.7	53.8	53.1	52.5	53.8	68.7	68.8	63.5	68.8	68.3	68.7	65.2	68.7
20/F	54.6	54.7	53.7	54.7	53.8	53.2	52.5	53.8	68.5	68.7	63.3	68.7	68.1	68.6	65.1	68.6
21/F	54.5	54.7	53.7	54.7	53.8	53.2	52.5	53.8	68.3	68.5	63.2	68.5	68.0	68.4	64.9	68.4
22/F	54.5	54.7	53.7	54.7	53.8	53.2	52.6	53.8	68.1	68.4	63.0	68.4	67.8	68.2	64.7	68.2
23/F	54.5	54.6	53.7	54.6	53.9	53.2	52.6	53.9	68.0	68.2	62.8	68.2	67.7	68.1	64.6	68.1
24/F	54.5	54.6	53.8	54.6	53.9	53.2	52.6	53.9	67.8	68.0	62.7	68.0	67.5	67.9	64.4	67.9
25/F	55.6	55.8	54.0	55.8	55.8	55.7	54.3	55.8	67.7	67.9	62.5	67.9	67.4	67.8	64.3	67.8
26/F	54.4	54.6	55.2	55.2	54.0	53.3	54.1	54.1	67.5	67.8	62.4	67.8	67.2	67.6	64.1	67.6
27/F	54.4	54.6	55.9	55.9	54.7	53.5	55.1	55.1	67.4	67.6	62.3	67.6	67.1	67.5	64.0	67.5
28/F	54.4	54.6	56.1	56.1	54.7	53.4	55.2	55.2	67.3	67.5	62.1	67.5	67.0	67.4	63.9	67.4
29/F	54.6	54.7	53.7	54.7	53.8	53.1	52.5	53.8	68.7	68.8	63.5	68.8	68.3	68.7	65.2	68.7
30/F	54.6	54.7	53.7	54.7	53.8	53.2	52.5	53.8	68.5	68.7	63.3	68.7	68.1	68.6	65.1	68.6
31/F	54.5	54.7	53.7	54.7	53.8	53.2	52.5	53.8	68.3	68.5	63.2	68.5	68.0	68.4	64.9	68.4
32/F	54.5	54.7	53.7	54.7	53.8	53.2	52.6	53.8	68.1	68.4	63.0	68.4	67.8	68.2	64.7	68.2
33/F	54.5	54.6	53.7	54.6	53.9	53.2	52.6	53.9	68.0	68.2	62.8	68.2	67.7	68.1	64.6	68.1
34/F	54.5	54.6	53.8	54.6	53.9	53.2	52.6	53.9	67.8	68.0	62.7	68.0	67.5	67.9	64.4	67.9
35/F	55.6	55.8	54.0	55.8	55.8	55.7	54.3	55.8	67.7	67.9	62.5	67.9	67.4	67.8	64.3	67.8
36/F	54.4	54.6	55.2	55.2	54.0	53.3	54.1	54.1	67.5	67.8	62.4	67.8	67.2	67.6	64.1	67.6
37/F	54.4	54.6	55.9	55.9	54.7	53.5	55.1	55.1	67.4	67.6	62.3	67.6	67.1	67.5	64.0	67.5
38/F	54.4	54.6	56.1	56.1	54.7	53.4	55.2	55.2	67.3	67.5	62.1	67.5	67.0	67.4	63.9	67.4
39/F	54.4	54.6	56.1	56.1	54.7	53.4	55.2	55.2	67.1	67.4	62.0	67.4	66.8	67.3	63.7	67.3

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

XX Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 5.4 dB(A) without sound absotive lining is applied.

XX Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 5.4 dB(A) without sound absotive lining is applied. Due to unfavourable settings of acoustic window, noice attenuation will be deducted 1.0 dB(A) based on study of the Technical Note-Annex L (Case 1 of Table 1)

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Block C - Mitigated Scenario

Block C	BC_17a	BC_17b	BC_17c	**Max**	BC_18a	BC_18b	BC_18c	BC_18d	BC_18e	**Max**	BC_19a	BC_19b	BC_19c	BC_19d	BC_19e	**Max**
G/F																
1/F																
2/F	**61.1**	**65.1**	60.0	65.1	**64.6**	**66.6**	57.0	65.1	67.6	67.6	44.2	42.7	40.1	45.5	67.6	67.6
3/F	**66.5**	**67.1**	67.9	67.9	**69.0**	**68.2**	65.7	67.8	68.3	69.0	44.3	42.7	40.2	45.6	67.7	67.7
4/F	**66.4**	**66.8**	68.1	68.1	**68.8**	**67.9**	66.5	68.0	68.2	68.8	44.3	42.7	40.2	45.6	67.6	67.6
5/F	**66.1**	**66.6**	67.9	67.9	**68.5**	**67.6**	66.4	70.4	68.0	70.4	44.3	42.7	40.2	45.6	67.4	67.4
6/F	**65.9**	**66.3**	67.6	67.6	**68.2**	**67.3**	66.1	70.1	67.8	70.1	44.3	42.7	40.2	45.6	67.2	67.2
7/F	**65.6**	**66.0**	67.3	67.3	**67.9**	**67.0**	65.8	69.9	67.6	69.9	44.3	42.7	40.2	45.7	67.0	67.0
8/F	**65.4**	**65.7**	67.0	67.0	**67.7**	**66.8**	65.6	69.7	67.4	69.7	44.3	42.8	40.3	45.7	66.9	66.9
9/F	**65.1**	**65.5**	66.8	66.8	**67.4**	**66.5**	65.3	69.4	67.2	69.4	44.4	42.8	40.3	45.8	66.7	66.7
10/F	**64.9**	**65.2**	66.5	66.5	**67.2**	**66.3**	65.1	69.2	66.9	69.2	44.4	43.0	40.3	45.8	66.5	66.5
11/F	70.0	70.4	66.3	70.4	**66.9**	**66.1**	64.8	69.0	66.7	69.0	44.4	43.1	40.4	45.8	66.3	66.3
12/F	69.8	70.1	66.1	70.1	70.1	70.2	64.6	68.8	66.5	70.2	44.4	43.1	40.4	45.8	66.1	66.1
13/F	69.6	69.9	65.8	69.9	69.9	70.0	64.4	68.5	66.3	70.0	44.4	43.0	40.4	45.8	65.9	65.9
14/F	69.4	69.7	65.6	69.7	69.7	69.8	64.2	68.3	66.1	69.8	44.4	43.2	40.5	45.8	65.7	65.7
15/F	69.2	69.5	65.4	69.5	69.5	69.6	64.0	68.1	66.0	69.6	44.4	43.3	40.5	45.8	65.6	65.6
16/F	69.0	69.3	65.2	69.3	69.3	69.4	63.8	67.9	65.8	69.4	44.5	43.4	40.7	45.8	65.4	65.4
17/F	68.8	69.1	65.0	69.1	69.1	69.2	63.6	67.7	65.6	69.2	44.5	43.6	40.8	45.9	65.2	65.2
18/F	68.6	68.9	64.9	68.9	68.9	69.0	63.4	67.6	65.4	69.0	44.5	43.6	40.8	45.9	65.1	65.1
19/F	68.4	68.8	64.7	68.8	68.8	68.8	63.3	67.4	65.3	68.8	44.5	43.7	40.9	45.9	64.9	64.9
21/F	68.1	68.4	64.4	68.4	68.4	68.5	62.9	67.1	64.9	68.5	44.7	44.2	41.2	46.0	64.6	64.6
22/F	67.9	68.3	64.2	68.3	68.3	68.4	62.8	66.9	64.8	68.4	44.7	44.3	41.3	46.0	64.4	64.4
23/F	67.8	68.1	64.0	68.1	68.2	68.2	62.6	66.8	64.6	68.2	44.8	44.5	41.4	46.1	64.3	64.3
24/F	67.6	68.0	63.9	68.0	68.0	68.0	62.5	66.6	64.5	68.0	44.9	44.5	41.6	46.1	64.2	64.2
25/F	67.5	67.9	63.7	67.9	67.9	67.9	62.3	66.5	64.3	67.9	46.0	47.6	46.2	49.4	64.0	64.0
26/F	67.3	67.7	63.6	67.7	67.7	67.8	62.2	66.3	64.2	67.8	50.6	49.8	49.2	50.7	63.9	63.9
27/F	67.2	67.6	63.5	67.6	67.6	67.6	62.1	66.2	64.1	67.6	48.8	51.0	50.7	51.0	63.8	63.8
28/F	67.0	67.5	63.3	67.5	67.5	67.5	61.9	66.1	64.0	67.5	51.1	51.6	51.2	51.2	63.6	63.6

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

XX Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 5.4 dB(A) without sound absotive lining is applied.

XX Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 5.4 dB(A) without sound absotive lining is applied. Due to unfavourable settings of acoustic window, noice attenuation will be deducted 1.0 dB(A) based on study of the Technical Note-Annex L (Case 1 of Table 1)

XX Noice attenuation will be deducted 1.0 dB(A) based on conservative approach for Non MFD flats.

XX Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 2.7 dB(A) without sound absotive lining is applied.

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Area 103

Block D - Mitigated Scenario

Block D	BD_1a	BD_1b	**Max**	BD_2a	BD_2b	**Max**	BD_3a	BD_3b	BD_3c	**Max**	BD_4a	BD_4b	BD_4c	**Max**	BD_5a	BD_5b	BD_5c	**Max**	BD_6a	BD_6b	BD_6c	BD_6d	BD_6e	BD_6f	**Max**
G/F																									
1/F																									
2/F	51.7	53.8	53.8	46.9	55.6	55.6	55.3	57.3	33.0	57.3	57.8	59.0	30.9	59.0	60.5	63.3	58.7	63.3	65.2	64.8	55.1	67.1			67.1
3/F	58.3	59.2	59.2	51.7	61.1	61.1	61.1	62.3	32.9	62.3	62.8	63.5	30.8	63.5	65.0	66.5	62.7	66.5	68.9	68.2	57.7	68.1			68.9
4/F	59.6	60.3	60.3	53.1	61.9	61.9	61.7	63.0	32.8	63.0	62.9	64.2	30.7	64.2	65.3	67.1	62.7	67.1	68.9	68.7	57.8	67.9			68.9
5/F	59.7	60.7	60.7	53.6	62.2	62.2	61.7	63.3	32.7	63.3	62.8	64.3	30.6	64.3	65.2	67.4	62.9	67.4	68.7	68.7	59.0	70.4			70.4
6/F	59.6	61.0	61.0	53.9	62.2	62.2	61.7	63.4	32.6	63.4	62.8	64.4	30.5	64.4	65.2	67.4	63.1	67.4	68.4	68.5	59.4	70.1			70.1
7/F	59.6	61.0	61.0	54.0	62.2	62.2	61.7	63.3	32.5	63.3	62.8	64.4	30.4	64.4	65.2	67.3	62.9	67.3	68.2	68.3	59.3	69.8			69.8
8/F	59.5	60.9	60.9	54.0	62.1	62.1	61.6	63.4	32.4	63.4	62.8	64.5	30.3	64.5	65.1	67.2	62.7	67.2	67.9	68.1	59.1	69.5			69.5
9/F	59.5	60.9	60.9	54.0	62.0	62.0	61.5	63.4	32.3	63.4	62.8	64.5	30.2	64.5	64.9	67.0	62.5	67.0	67.7	67.8	58.9	69.2			69.2
10/F	59.4	60.9	60.9	54.0	62.0	62.0	61.5	63.5	32.1	63.5	62.8	64.5	30.0	64.5	64.8	66.8	62.3	66.8	67.4	67.6	58.7	69.0			69.0
11/F	59.3	60.9	60.9	54.0	62.0	62.0	61.4	63.4	32.0	63.4	62.7	64.4	29.9	64.4	64.6	66.6	62.1	66.6	67.2	67.4	58.5	68.7			68.7
12/F	59.3	60.9	60.9	53.9	61.9	61.9	61.5	63.4	31.9	63.4	62.6	64.3	29.7	64.3	64.4	66.4	61.9	66.4	67.0	67.2	58.3	68.5			68.5
13/F	59.3	60.9	60.9	53.9	61.9	61.9	61.4	63.3	31.7	63.3	62.4	64.2	29.6	64.2	64.2	66.2	61.7	66.2	66.8	67.0	58.1	68.3	70.4	70.4	70.4
14/F	59.3	60.9	60.9	53.9	61.9	61.9	61.4	63.1	31.6	63.1	62.3	64.0	29.5	64.0	64.0	66.1	61.5	66.1	66.6	66.8	57.8	68.1	70.1	70.1	70.1
15/F	59.3	60.8	60.8	53.8	61.8	61.8	61.3	63.0	31.4	63.0	62.1	63.9	29.3	63.9	63.9	65.9	61.3	65.9	66.4	66.6	57.6	67.9	69.9	69.9	69.9
16/F	59.2	60.8	60.8	53.8	61.7	61.7	61.2	62.9	31.2	62.9	62.0	63.7	29.1	63.7	63.7	65.7	61.1	65.7	66.2	66.4	57.5	67.7	69.7	69.7	69.7
17/F	59.2	60.7	60.7	53.7	61.6	61.6	61.0	62.8	31.1	62.8	61.8	63.6	29.0	63.6	63.6	65.5	61.0	65.5	66.0	66.2	57.3	67.5	69.5	69.5	69.5
18/F	59.1	60.6	60.6	53.7	61.5	61.5	60.9	62.7	31.1	62.7	61.7	63.5	28.9	63.5	63.4	65.4	60.8	65.4	65.8	66.0	57.1	67.3	69.3	69.3	69.3
19/F	59.0	60.5	60.5	53.6	61.4	61.4	60.8	62.6	30.9	62.6	61.5	63.3	28.9	63.3	63.3	65.2	60.6	65.2	65.6	65.9	56.9	67.1	69.1	69.2	69.1
20/F	58.9	60.4	60.4	53.6	61.3	61.3	60.7	62.4	30.9	62.4	61.4	63.2	28.8	63.2	63.1	65.1	60.5	65.1	65.5	65.7	56.8	66.9	69.0	69.0	69.0
21/F	58.8	60.3	60.3	53.6	61.2	61.2	60.6	62.3	30.8	62.3	61.3	63.0	28.7	63.0	63.0	64.9	60.3	64.9	65.3	65.5	56.6	66.7	68.8	68.8	68.8
22/F	58.7	60.2	60.2	53.6	61.1	61.1	60.5	62.2	30.6	62.2	61.1	62.9	28.6	62.9	62.8	64.8	60.2	64.8	65.2	65.4	56.5	66.6	68.6	68.6	68.6
23/F	58.6	60.1	60.1	53.5	61.0	61.0	60.3	62.1	30.5	62.1	61.0	62.8	28.5	62.8	62.7	64.6	60.0	64.6	65.0	65.2	56.3	66.4	68.5	68.5	68.5
24/F	58.5	60.0	60.0	53.5	60.9	60.9	60.2	61.9	30.4	61.9	60.9	62.7	28.3	62.7	62.5	64.5	59.9	64.5	64.8	65.1	56.2	66.3	68.3	68.3	68.3
25/F	58.4	59.9	59.9	53.4	60.8	60.8	60.1	61.9	30.3	61.9	60.8	62.6	28.2	62.6	62.4	64.4	59.7	64.4	64.7	65.0	56.0	66.1	68.2	68.2	68.2
26/F	58.3	59.9	59.9	53.4	60.7	60.7	60.1	61.8	30.2	61.8	60.6	62.4	28.1	62.4	62.8	64.5	59.6	64.5	64.8	65.0	55.9	66.0	68.0	68.0	68.0
27/F	58.2	59.8	59.8	53.3	60.6	60.6	60.0	61.7	29.6	61.7	60.5	62.3	27.2	62.3	62.2	64.1	59.5	64.1	64.4	64.7	55.8	65.9	67.9	67.9	67.9
28/F	58.1	59.7	59.7	53.3	60.5	60.5	59.9	61.5	30.0	61.5	60.4	62.2	27.9	62.2	62.0	64.0	59.3	64.0	64.3	64.6	55.6	65.7	67.8	67.8	67.8
29/F	58.0	59.6	59.6	53.3	60.4	60.4	59.8	61.4	29.9	61.4	60.3	62.1	27.8	62.1	61.9	63.9	59.2	63.9	64.2	64.4	55.5	65.6	67.6	67.6	67.6

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

XX Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 2.7 dB(A) without sound absotive lining is applied.

Fixed window is adopted

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Block D - Mitigated Scenario

Block D	BD_7a	BD_7b	BD_7c	BD_7d	BD_7e	BD_7f	Max	BD_8a	BD_8b	BD_8c	BD_8d	Max	BD_9a	BD_9b	BD_9c	Max	BD_10a	BD_10b	BD_10c	Max	BD_11a	BD_11b	Max
G/F																							
1/F																							
2/F	68.2	66.7	59.5	70.3			70.3	66.2	66.6	61.2	66.1	66.6	**64.0**	**65.7**	65.0	65.7	**66.7**	**66.7**	63.7	66.7	68.2	**66.4**	68.2
3/F	**67.9**	**67.5**	65.3	69.9			69.9	**66.9**	**66.7**	66.9	69.8	69.8	**65.7**	**66.4**	69.1	69.1	**67.5**	**66.9**	68.3	68.3	70.3	**66.6**	70.3
4/F	**68.5**	**68.3**	67.6	70.2			70.2	**68.3**	**67.8**	68.2	68.4	68.4	**66.3**	**66.6**	69.0	69.0	**67.4**	**66.8**	68.3	68.3	70.3	**66.4**	70.3
5/F	**68.3**	**68.2**	67.9	70.0			70.0	**68.5**	**67.9**	68.4	68.6	68.6	**66.4**	**66.6**	68.7	68.7	**67.2**	**66.6**	68.1	68.1	70.1	**66.2**	70.1
6/F	**68.1**	**67.9**	67.8	69.7			69.7	**68.4**	**67.7**	68.3	68.4	68.4	**66.3**	**66.4**	68.4	68.4	**67.0**	**66.4**	67.9	67.9	69.8	**66.1**	69.8
7/F	**67.8**	**67.6**	67.6	69.5			69.5	**68.2**	**67.5**	68.0	68.2	68.2	**66.1**	**66.2**	68.2	68.2	**66.8**	**66.2**	67.6	67.6	69.6	**65.8**	69.6
8/F	**67.6**	**67.4**	67.3	69.2			69.2	**67.9**	**67.2**	67.8	68.0	68.0	**65.9**	**66.0**	67.9	67.9	**66.5**	**66.0**	67.3	67.3	69.3	**65.6**	69.3
9/F	**67.3**	**67.1**	67.1	68.9			68.9	**67.7**	**67.0**	67.5	70.4	70.4	**65.7**	**65.8**	67.6	67.6	**66.3**	**65.9**	67.1	67.1	69.1	**65.5**	69.1
10/F	**67.0**	**66.9**	66.8	68.7			68.7	**67.5**	**66.7**	67.3	70.2	70.2	**65.5**	**65.6**	67.4	67.4	**66.0**	**65.6**	66.9	66.9	68.8	**65.2**	68.8
11/F	**66.8**	**66.7**	66.6	68.4			68.4	**67.3**	**66.5**	67.0	70.0	70.0	**65.2**	**65.3**	67.1	67.1	**65.8**	**65.4**	66.6	66.6	68.6	**65.0**	68.6
12/F	**66.5**	**66.4**	66.4	68.1			68.1	**67.0**	**66.3**	66.8	69.8	69.8	**65.0**	**65.1**	66.9	66.9	**65.6**	**65.2**	66.4	66.4	68.4	70.3	70.3
13/F	**66.3**	**66.2**	66.1	67.9	70.3	70.3	70.3	70.2	70.4	66.6	69.5	70.4	70.2	70.3	66.7	70.3	69.8	70.4	66.2	70.4	68.2	70.1	70.1
14/F	**66.1**	**66.0**	65.9	70.4	70.1	70.1	70.4	70.0	70.3	66.3	69.3	70.3	70.0	70.1	66.5	70.1	69.6	70.2	65.9	70.2	68.0	69.9	69.9
15/F	70.3	70.2	65.7	70.2	69.9	69.9	70.3	69.8	70.1	66.1	69.1	70.1	69.8	69.9	66.3	69.9	69.4	70.0	65.7	70.0	67.8	69.7	69.7
16/F	70.1	70.0	65.5	70.0	69.7	69.7	70.1	69.6	69.9	65.9	69.0	69.9	69.6	69.7	66.1	69.7	69.2	69.8	65.5	69.8	67.6	69.5	69.5
17/F	69.9	69.8	65.3	69.8	69.5	69.4	69.9	69.4	69.7	65.7	68.8	69.7	69.5	69.5	65.9	69.5	69.0	69.6	65.3	69.6	67.4	69.4	69.4
18/F	69.7	69.6	65.1	69.6	69.3	69.2	69.7	69.2	69.5	65.6	68.6	69.5	69.3	69.3	65.7	69.3	68.8	69.4	65.2	69.4	67.2	69.2	69.2
19/F	69.6	69.4	65.0	69.4	69.1	69.1	69.6	69.1	69.3	65.4	68.4	69.3	69.1	69.2	65.5	69.2	68.6	69.3	65.0	69.3	67.0	69.0	69.0
20/F	69.4	69.3	64.8	69.2	68.9	68.9	69.4	68.9	69.1	65.2	68.2	69.1	68.9	69.0	65.3	69.0	68.5	69.1	64.8	69.1	66.9	68.9	68.9
21/F	69.2	69.1	64.6	69.1	68.7	68.7	69.2	68.8	69.0	65.0	68.1	69.0	68.8	68.9	65.2	68.9	68.3	69.0	64.6	69.0	66.8	68.7	68.7
22/F	69.1	68.9	64.5	68.9	68.5	68.5	69.1	68.6	68.8	64.9	67.9	68.8	68.6	68.7	65.0	68.7	68.2	68.8	64.5	68.8	66.6	68.6	68.6
23/F	68.9	68.8	64.3	68.7	68.4	68.4	68.9	68.4	68.7	64.7	67.8	68.7	68.5	68.6	64.8	68.6	68.1	68.7	64.3	68.7	66.5	68.4	68.4
24/F	68.8	68.6	64.2	68.6	68.2	68.2	68.8	68.3	68.5	64.6	67.6	68.5	68.4	68.4	64.7	68.4	67.9	68.5	64.1	68.5	66.3	68.3	68.3
25/F	68.6	68.5	64.0	68.4	68.1	68.1	68.6	68.1	68.4	64.4	67.5	68.4	68.2	68.3	64.5	68.3	67.8	68.4	64.0	68.4	66.2	68.2	68.2
26/F	68.5	68.4	63.9	68.3	67.9	67.9	68.5	68.0	68.3	64.3	67.4	68.3	68.1	68.1	64.4	68.1	67.6	68.2	63.9	68.2	66.0	68.0	68.0
27/F	68.4	68.2	63.7	68.1	67.8	67.8	68.4	67.9	68.1	64.1	67.2	68.1	68.0	68.0	64.3	68.0	67.5	68.1	63.8	68.1	65.9	67.9	67.9
28/F	68.2	68.1	63.6	68.0	67.7	67.7	68.2	67.8	68.0	64.0	67.1	68.0	67.8	67.9	64.1	67.9	67.3	68.0	63.6	68.0	65.7	67.7	67.7
29/F	68.1	68.0	63.5	67.9	67.5	67.5	68.1	67.6	67.9	63.9	67.0	67.9	67.7	67.8	64.0	67.8	67.2	67.9	63.5	67.9	65.6	67.6	67.6

*** Note:**

XX	Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.
	Fixed window is adopted
XX	Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 5.4 dB(A) without sound absotive lining is applied.
XX	Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 5.4 dB(A) without sound absotive lining is applied. Due to unfavourable settings of acoustic window, noice attenuation will be deducted 1.0 dB(A) based on study of the Technical Note-Annex L (Case 1 of Table 1)
XX	Noice attenuation will be deducted 1.0 dB(A) based on conservative approach for Non MFD flats.
XX	Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 2.7 dB(A) without sound absotive lining is applied.
XX	Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 5.5 dB(A) without sound absotive lining is applied.

Proposed Public Housing Development at Tung Chung Area 103
Predicted Road Traffic Noise Level Results for Non-Residential Uses (Year 2045 - Base-case Scenario (AM Peak Traffic Flow))

Block D - Mitigated Scenario

Block D	BD_12a	BD_12b	**Max**	BD_13a	BD_13b	BD_13c	**Max**	BD_14a	BD_14b	**Max**	BD_15a	BD_15b	**Max**	BD_16a	BD_16b	BD_16c	**Max**	BD_17a	BD_17b	BD_17c	BD_17d	**Max**
G/F																						
1/F																						
2/F	67.6	65.3	67.6	65.1	69.4		69.4	63.3	69.5	69.5	64.8	67.1	67.1	63.1	61.7	45.8	63.1	58.4	59.3	47.8	51.3	59.3
3/F	70.4	65.5	70.4	65.5	70.4		70.4	66.0	70.3	70.3	68.3	68.9	68.9	67.5	66.8	45.8	67.5	63.7	64.5	53.7	54.2	64.5
4/F	70.3	65.4	70.3	65.2	70.1		70.1	65.8	70.0	70.0	68.5	68.9	68.9	67.8	67.6	45.8	67.8	65.7	66.5	56.0	55.2	66.5
5/F	70.1	65.3	70.1	65.0	69.8		69.8	65.5	69.7	69.7	68.5	68.9	68.9	67.7	67.5	45.8	67.7	66.4	66.9	56.2	55.4	66.9
6/F	69.9	65.1	69.9	64.8	69.4		69.4	65.2	69.5	69.5	68.3	68.7	68.7	67.6	67.5	45.8	67.6	66.5	66.9	56.1	55.6	66.9
7/F	69.6	70.4	70.4	64.7	69.2		69.2	65.0	69.3	69.3	68.1	68.6	68.6	67.5	67.4	45.8	67.5	66.5	66.7	56.0	55.6	66.7
8/F	69.3	70.1	70.1	64.5	68.9		68.9	64.8	69.0	69.0	67.9	68.4	68.4	67.4	67.2	45.8	67.4	66.4	66.7	55.8	55.6	66.7
9/F	69.1	69.9	69.9	64.4	68.6		68.6	64.5	68.8	68.8	67.7	68.2	68.2	67.3	67.1	45.8	67.3	66.3	66.6	55.7	55.7	66.6
10/F	68.8	69.7	69.7	64.2	68.4		68.4	64.3	68.6	68.6	67.5	68.0	68.0	67.1	67.0	45.8	67.1	66.2	66.5	55.6	55.6	66.5
11/F	68.6	69.5	69.5	64.1	68.2		68.2	64.1	68.4	68.4	67.3	67.8	67.8	66.9	66.8	45.8	66.9	66.1	66.4	55.4	55.6	66.4
12/F	68.4	69.3	69.3	64.0	68.0		68.0	63.9	68.1	68.1	67.1	67.6	67.6	66.8	66.7	45.8	66.8	66.0	66.2	55.3	55.5	66.2
13/F	68.2	69.1	69.1	63.9	67.8		67.8	63.6	68.0	68.0	66.9	67.4	67.4	66.7	66.6	45.8	66.7	65.9	66.1	55.1	55.4	66.1
14/F	68.0	68.9	68.9	63.7	67.6		67.6	63.5	67.8	67.8	66.7	67.3	67.3	66.5	66.4	45.8	66.5	65.8	66.0	55.0	55.4	66.0
15/F	67.8	68.7	68.7	63.6	67.4		67.4	63.3	67.6	67.6	66.6	67.1	67.1	66.4	66.3	45.8	66.4	65.6	65.9	54.9	55.3	65.9
16/F	67.6	68.5	68.5	63.4	67.2		67.2	63.1	67.4	67.4	66.4	66.9	66.9	66.2	66.1	45.8	66.2	65.5	65.7	54.7	55.2	65.7
17/F	67.4	68.3	68.3	63.3	67.0	70.3	67.0	62.9	67.2	67.2	66.2	66.8	66.8	66.1	66.0	45.8	66.1	65.4	65.6	54.6	55.2	65.6
18/F	67.2	68.1	68.1	63.1	66.8	70.1	66.8	62.8	67.1	67.1	66.1	66.7	66.7	66.0	65.9	45.9	66.0	65.3	65.5	54.5	55.1	65.5
19/F	67.0	68.0	68.0	63.0	66.7	70.0	66.7	62.6	66.9	66.9	65.9	66.5	66.5	65.8	65.7	46.0	65.8	65.2	65.4	54.3	55.0	65.4
20/F	66.9	67.9	67.9	62.9	66.5	69.8	66.5	62.5	66.8	66.8	65.8	66.3	66.3	65.7	65.6	46.0	65.7	65.1	65.3	54.2	55.0	65.3
21/F	66.7	67.7	67.7	62.7	66.4	69.7	66.4	62.4	66.6	66.6	65.7	66.2	66.2	65.6	65.5	46.1	65.6	64.9	65.1	54.1	54.9	65.1
22/F	66.6	67.5	67.5	62.6	66.2	69.5	66.2	62.2	66.5	66.5	65.5	66.1	66.1	65.4	65.4	46.2	65.4	64.8	65.0	54.1	54.8	65.0
23/F	66.4	67.4	67.4	62.5	66.0	69.4	66.0	62.1	66.4	66.4	65.4	66.0	66.0	65.3	65.2	46.2	65.3	64.7	64.9	53.9	54.8	64.9
24/F	66.3	67.2	67.2	62.3	65.9	69.2	65.9	62.0	66.2	66.2	65.2	65.8	65.8	65.2	65.1	46.3	65.2	64.6	64.8	53.8	54.7	64.8
25/F	66.1	67.1	67.1	62.2	65.7	69.1	65.7	61.9	66.1	66.1	65.1	65.7	65.7	65.1	65.0	46.3	65.1	64.5	64.7	53.7	54.7	64.7
26/F	66.0	67.0	67.0	62.1	65.6	69.0	65.6	61.8	66.0	66.0	65.0	65.6	65.6	65.0	64.9	46.3	65.0	64.4	64.6	53.6	54.6	64.6
27/F	65.9	66.8	66.8	61.9	65.5	69.0	65.5	62.2	66.1	66.1	65.1	65.7	65.7	65.4	65.4	54.1	65.4	64.9	65.1	55.2	57.7	65.1
28/F	65.7	66.7	66.7	61.8	65.4	69.0	65.4	62.5	66.1	66.1	65.3	65.8	65.8	65.2	65.0	53.4	65.2	64.5	64.7	55.6	56.8	64.7
29/F	65.6	66.6	66.6	61.7	65.2	68.8	65.2	62.2	66.1	66.1	65.1	65.6	65.6	65.1	64.9	51.8	65.1	64.3	64.5	55.6	55.9	64.5

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Fixed window is adopted

XX Noise attentuation follows the table under Technical Note on "Noise Attenuation for Modular Flat Design (MFD) with Acoustic Window". Noise attenuation 5.5 dB(A) without sound absotive lining is applied.

Block D - Mitigated Scenario

Block D	BD_18a	BD_18b	BD_18c	BD_18d	**Max**	BD_19a	BD_19b	**Max**
G/F								
1/F								
2/F	67.6	59.1	56.7	56.5	67.6	56.9	54.0	56.9
3/F	60.8	60.8	60.5	61.0	61.0	60.3	59.1	60.3
4/F	60.7	60.8	60.4	61.3	61.3	60.5	59.9	60.5
5/F	60.8	60.7	60.4	61.3	61.3	60.4	60.3	60.4
6/F	60.7	60.8	60.3	61.3	61.3	60.4	60.5	60.5
7/F	60.7	60.7	60.3	61.3	61.3	60.4	60.5	60.5
8/F	60.6	60.6	60.2	61.3	61.3	60.4	60.4	60.4
15/F	60.6	60.7	60.2	61.2	61.2	60.3	60.4	60.4
16/F	60.6	60.7	60.1	61.2	61.2	60.3	60.4	60.4
17/F	60.5	60.6	60.1	61.1	61.1	60.2	60.3	60.3
18/F	60.5	60.5	60.1	61.1	61.1	60.2	60.3	60.3
19/F	60.4	60.4	60.0	61.0	61.0	60.1	60.2	60.2
21/F	60.2	60.3	59.8	60.8	60.8	60.0	60.0	60.0
22/F	60.1	60.2	59.8	60.8	60.8	59.9	59.9	59.9
23/F	60.0	60.1	59.7	60.7	60.7	59.8	59.9	59.9
24/F	59.9	60.0	59.6	60.6	60.6	59.7	59.8	59.8
25/F	59.8	59.9	59.5	60.6	60.6	59.6	59.7	59.7
26/F	59.7	59.8	59.4	60.5	60.5	59.5	59.6	59.6
27/F	59.6	59.7	59.3	60.4	60.4	59.4	59.5	59.5
28/F	59.6	59.6	59.2	60.3	60.3	59.3	59.4	59.4
29/F	59.5	59.6	59.1	60.2	60.2	59.3	59.3	59.3

*** Note:**

XX Individual receiver with traffic noise level exceeding the standard of 70 dB(A) as stipulated in HKPSG are highlighed.

Summary of the Predicted Road Traffic Noise Compliance Rate								
	Block A		Block B		Block C		Block D	
dB(A)	**Unit**	**%**	**Unit**	**%**	**Unit**	**%**	**Unit**	**%**
<= 70	168.0	100.0	629.0	100	689	100.0	532	100
>=70	0.0	0.0	0.0	0.0	0	0.0	0	0
Total	168.0		629.0		689		532	

Appendix G

Not Use

Appendix H

Not Use

Appendix I

Correspondence with TD and CEDD on Road Type of New Roads in Area 103

From:
Sent: Friday, February 26, 2021 10:33 AM
To:
Cc:
Subject: RE: Request for the information of road type in Tung Chung New Town Extension

Dear

I have no further comment please. Thanks.

Regards,

E/Is2, TD

From:
To:
Cc:
Date: 26/02/2021 10:32 AM
Subject: RE: Request for the information of road type in Tung Chung New Town Extension

Dear
Thanks for your response. The road link between Road D1 and Road P1 is Road D5, which is 'district distributor'. Please see the below figure:

Grateful if you can comment on the road type on Road D5. Thanks!

Regards,

From:
Sent: Thursday, February 25, 2021 8:01 PM
To:
Cc:
Subject: RE: Request for the information of road type in Tung Chung New Town Extension

Dear

I refer to your email.
I have no comment on the road types indicated.
Please be advised that the road link between Road P1 and Road D1 shall be named as Road D5.
Please clarify.

Thanks.

Regards,

E/Is2, TD

From:
To:
Cc:
Date: 25/02/2021 11:38 AM
Subject: RE: Request for the information of road type in Tung Chung New Town Extension

---

Dear

I am yet to get your response as regards the information of road type in Tung Chung East. Kindly give your reply, as your response is very important to us. Should you have any questions, please feel free to contact me at
Thank you for your kind assistance.

Regards,

From:
Sent: Wednesday, February 3, 2021 9:11 AM
To:

Cc:
Subject: Fw: Request for the information of road type in Tung Chung New Town Extension

Dear

Please handle.

Regards,

E/LD, TD

----- Forwarded by on 2021/02/03 上午 09:09 -----

From:
To:
Cc:
Date: 2021/02/02 下午 05:50
Subject: FW: Request for the information of road type in Tung Chung New Town Extension

---

Dear

We are the consultant commissioned by the Hong Kong Housing Authority (HKHA) to carry out the Environmental Assessment Study (EAS) in Tung Chung Areas 103 and 109. According to Environmental Protector Department (EPD)'s comment, we need a confirmation of the road type on the concerned road by Transport Department. Grateful if you can comment on the road type of the below email (from Patrick Lam (AECOM)) at your earliest convenience.

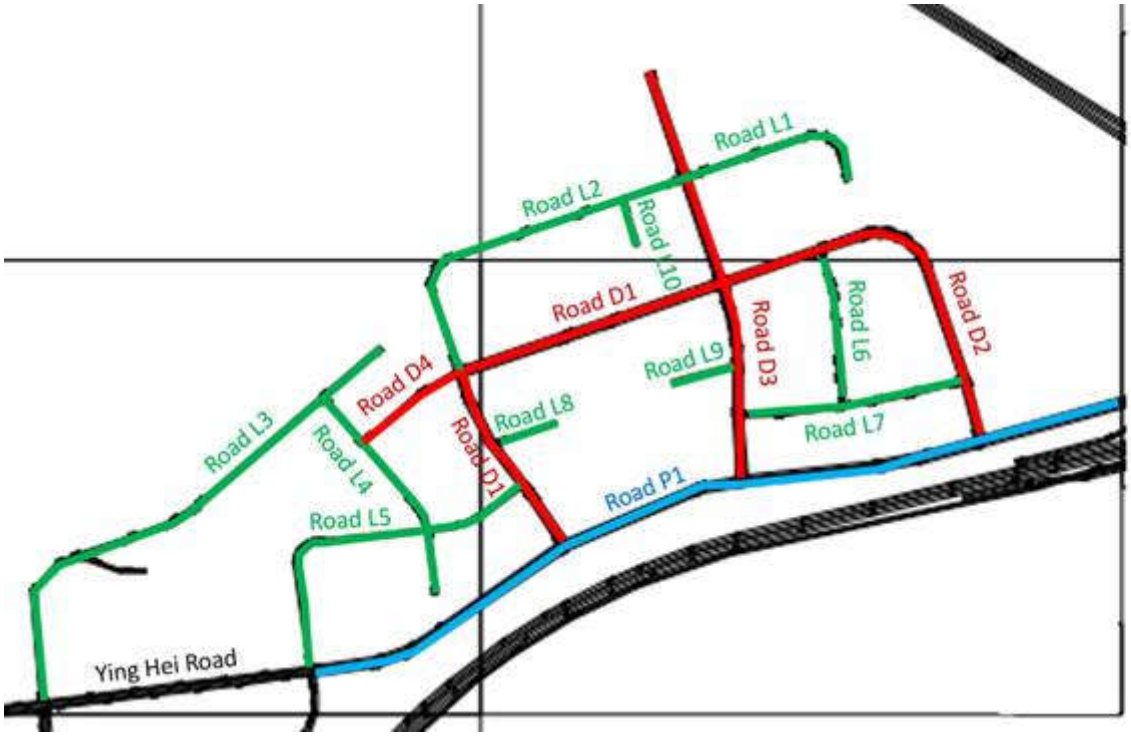
Should you have any questions, please feel free to contact me at Thank you for your kind assistance.
Regards,

From:
Sent: Wednesday, January 27, 2021 11:11 AM
To:
Cc:

Subject: RE: Request for the information of road type in Tung Chung New Town Extension

Dear

Please see below figure for road type at TCE for your information.



Local Distributor
District Distributor
Primary Distributor

Road Name	Road Type
Road L1	Local Distributor
Road L2	Local Distributor
Road L3	Local Distributor
Road L4	Local Distributor
Road L5	Local Distributor
Road L6	Local Distributor
Road L7	Local Distributor
Road L8	Local Distributor
Road L9	Local Distributor
Road L10	Local Distributor
Road D1	District Distributor
Road D2	District Distributor
Road D3	District Distributor
Road D4	District Distributor
Road P1	Primary Distributor

Best regards,

Project Engineer, Transportation

AECOM
11/F, Tower 2, Grand Central Plaza
138 Shatin Rural Committee Road
Shatin, New Territories, Hong Kong

aecom.com

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From:
Sent: Wednesday, 27 January 2021 10:57 am
To:
Cc:

Subject: [EXTERNAL] RE: Request for the information of road type in Tung Chung New Town Extension

Dear

I am yet to get your response as regards the information of road type in Tung Chung East. Kindly give your reply, as your response is very important to us. Should you have any questions, please feel free to contact me at

Thank you for your kind assistance.

Regards,

From:
Sent: Monday, December 14, 2020 5:11 PM
To:
Cc:

Subject: Request for the information of road type in Tung Chung New Town Extension

Dear

We are the consultant commissioned by the Hong Kong Housing Authority (HKHA) to carry out the Environmental Assessment Study (EAS) in Tung Chung Areas 103 and 109. As AECOM commissioned by CEDD is conducting the Preliminary Environmental Study (PER) for the entire Tung Chung New Town Extension, it has been acquired the correspondence/confirmation with Transport Department (TD) on the road type in Tung Chung New Town Extension.

It would be highly appreciated if you can provide the required information for our study, preferably by **22 December 2020** if possible. The location plan for our study is attached for your reference. Should you have any questions, please feel free to contact me at Thank you for your kind assistance.

Regards,

Environmental Consultant, Environment
Design Engineering Services

13th Floor Wharf T&T Centre Harbour City Tsim Sha Tsui Kowloon, Hong Kong

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Appendix I

香港房屋委員會
Hong Kong Housing Authority

Our Ref. HD(P) 8/3/IS20
Your Ref. A/I-TCE/3

Tel No. 2761 5301
Fax No. 2761 5870

Date: 24th August 2022

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

Dear Sir/Madam,

Section 16 Planning Application for Proposed Minor Relaxation of Restrictions of Plot Ratio and Building Height for Public Housing Development at Area 103, Tung Chung, Lantau Island (Application No. A/I-TCE/3)

We submit herewith Further Information in response to comments from Civil Aviation Department, Social Welfare Department, Planning Department and the public to substantiate the captioned application.

(A) Civil Aviation Department

Item (i): Airport Height Restriction
HD will further liaise with CAD on the temporary height (i.e cranes) at later stage.

Item (ii): Aircraft Noise
Acoustic windows have been incorporated for the flat units as necessary according to Environmental Assessment Study.

Item (iii): Helicopter Operations
The GFS has no comment on the proposal.

(B) Social Welfare Department

Figure 1.3 in the Environmental Assessment Study has been revised accordingly (***Appendix 1***).

香港九龍何文田佛光街33號房屋委員會總辦事處
Housing Authority Headquarters, 33, Fat Kwong Street, Ho Man Tin, Kowloon, Hong Kong.
互聯網網址：
Internet Homepage Address: http://www.housingauthority.gov.hk

(C) Planning Department

Item (i): Density Zone
Please be clarified that the Application Site is located in Density Zone 2.

Item (ii): Stepped Building Height
The intention of stepped height profile/design concept (as stated in the Explanatory Statement of the OZP) would not be compromised in the proposal. As shown in the Visual Impact Assessment and the photomontages, the Building Height profile of Tung Chung New Town Extension is maintained to be gradually reduced from the mountain backdrop in the south to the waterfront area in the north.

(D) Public Comments

Item (i): Development Intensity
The minor relaxation of restrictions of maximum overall Plot Ratio and maximum Building Height is in line with the policy of "Enhancement of the Development Intensity of Public Housing Sites" approved by the Executive Council in December 2018 for addressing the shortage in public housing supply.

Item (ii): Air Ventilation
An Air Ventilation Impact Assessment has been carried out, which concluded that the overall ventilation performance of the surrounding areas would not be significantly affected by the increase of the Plot Ratio and Building Height of the Proposed Scheme with appropriate mitigation measures. Thus, no adverse impact on air ventilation is anticipated.

Item (iii): Visual Impact
A Visual Impact Assessment has been undertaken. It is concluded that the residual cumulative visual impact of the Proposed Development is considered negligible and conforms with the surrounding buildings and be seen as an extension of the townscape.

Item (iv): Traffic Impact
A Traffic Impact Assessment has been carried out. The result of TIA indicates that the proposal will have no insurmountable traffic impact on the surrounding road network with provision of improvement measures at local junctions if included in infrastructure under Tung Chung New Town Extension project by Civil Engineering and Development Department.

香港房屋委員會
Hong Kong Housing Authority

Item (v): Proposed better integration between existing and new development
Comprehensive pedestrian network incorporated into the Linear Park system in the area will link up the "Metro Core Area" and other residential sites with the waterfront, the town centre area and all the key public facilities and activity nodes such as the waterfront parks and marina. The Proposed Development on the Application Site will be integrated with such comprehensive pedestrian network in the area.

Should you have any queries or need further information, please contact me at 2761 5316. Thank you.

Yours faithfully,

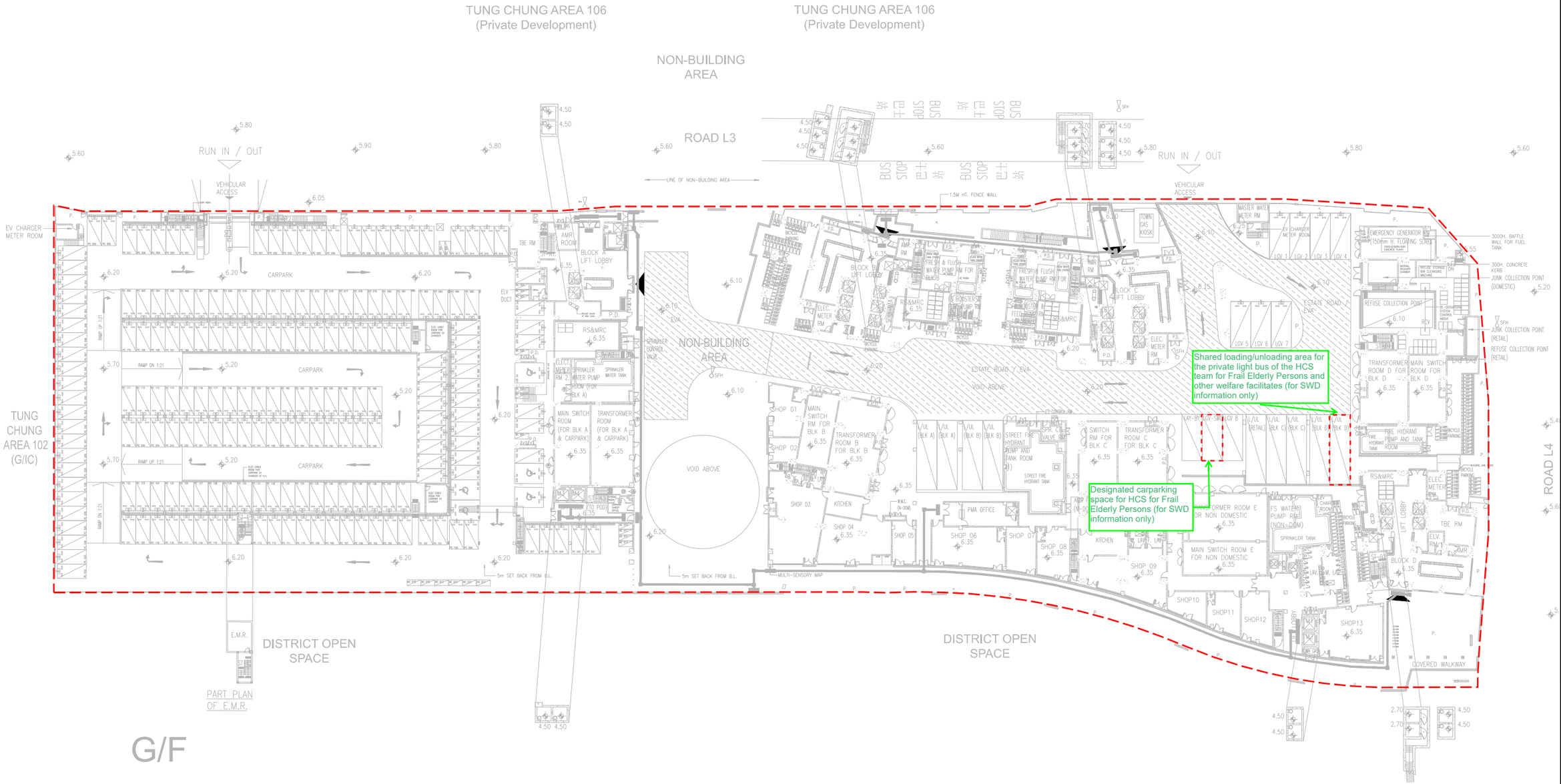
(Y.S. CHAN)
Planning Officer/16
for Director of Housing

香港九龍何文田佛光街33號房屋委員會總辦事處
Housing Authority Headquarters, 33, Fat Kwong Street, Ho Man Tin, Kowloon, Hong Kong.
互聯網網址：
Internet Homepage Address: http://www.housingauthority.gov.hk

Legend:

Site Boundary

Appendix 1



香港房屋委員會
Hong Kong Housing Authority

SNC·LAVALIN

ATKINS
Member of the SNC-Lavalin Group

K03: PROPOSED PUBLIC HOUSING DEVELOPMENT AT TUNG CHUNG AREA 103 - ENVIRONMENTAL ASSESSMENT STUDY

Title

Proposed Non-Residential Facities (Ground Floor) at Tung Chung Area 103

Scale at A3	Date	Figure No.
NTS	Jun 2022	1.3

PRINTED BY: LAWR6189 22/06/2022 09:03:23 AM
FILENAME: C:\DATA\AREA 103 & 109\AREA 103\FEB 2022 SCHEME\V2\FIGURE\WORKING\FIGURE 1.3 MAR 2022 SCHEME.DGN
MODEL NAME: DEFAULT

香港房屋委員會
Hong Kong Housing Authority

Our Ref. HD(P) 8/3/IS20 Tel No. 2761 5316

Your Ref. A/I-TCE/3 Fax No. 2761 5870

Date: 1st September 2022

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

Dear Sir/Madam,

Section 16 Planning Application for Proposed Minor Relaxation of Restrictions of Plot Ratio and Building Height for Public Housing Development at Area 103, Tung Chung, Lantau Island (Application No. A/I-TCE/3)

We submit herewith Further Information in response to comments from Planning Department to substantiate the captioned application.

Item (i): Sustainable Building Design Guidelines
About 5.9% of gross floor area (GFA) exemption is in compliance with the Sustainable Building Design Guidelines such as the lift machine room, refuse storage and material recovery chamber and transfer room etc.

Item (ii): Cantilevered Canopy
The 2.5m cantilevered canopy is included in the non-domestic GFA calculation.

Item (iii): GIC Facilities Exempted from GFA Calculation
The NEC and HCS are GIC facilities exempted from GFA calculation. The total GFA of NEC and HCS is 761 sq.m, and is about 0.8% of the domestic GFA. The provision of NEC and HCS was agreed by SWD when the Planning Brief was endorsed and prior to the launch of the policy directive for reserving about 5% of total domestic GFA for welfare purposes in public housing. For the subject planning application, SWD has no adverse comment on the proposed facilities.

Item (iv): Uses at the Highest Two Storeys of the Blocks
The uses at the highest two storeys of the blocks (with higher headroom) are lift machine room, emergency generator room and water tanks, with the extent ranging from about 25% to about 38% in the four blocks. To maximize the flat production under the limited land area and the Building Height Restriction, the aforementioned facilities have to constitute two storeys in each block for the development.

Should you have any queries or need further information, please contact me at 2761 5316. Thank you.

Yours faithfully,

(Y.S. CHAN)
Planning Officer/16
for Director of Housing

香港九龍何文田佛光街33號房屋委員會總辦事處
Housing Authority Headquarters, 33, Fat Kwong Street, Ho Man Tin, Kowloon, Hong Kong.
互聯網網址：
Internet Homepage Address: http://www.housingauthority.gov.hk

Similar Applications

Application No.	Location	Zoning	Date of Consideration	Decision of the RNTPC	Approval Condition
A/I-TCE/1 Proposed Minor Relaxation of PR Restriction for Permitted Public Housing Development and Proposed Public Vehicle Park	Government Land at Area 99, Tung Chung, Lantau Island	"R(A)3"	6.11.2020	Approved with condition	(a)
A/I-TCE/2 Proposed Minor Relaxation of PR Restriction for Permitted Public Housing Development	Government Land at Area 109, Tung Chung, Lantau Island	"R(A)5"	18.2.2022	Approved	/

Approval Condition:

(a) the design and provision of vehicular access, car parking and loading/ unloading facilities to the satisfaction of the Commissioner for Transport or of the Town Planning Board.

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220729-144957-92138
提交限期 **Deadline for submission:**	16/08/2022
提交日期及時間 **Date and time of submission:**	29/07/2022 14:49:57
有關的規劃申請編號 **The application no. to which the comment relates:**	A/I-TCE/3
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. Asheesh Mamgain

意見詳情
Details of the Comment :

Making such a high rise with 40 floors (relaxation given to build) at the landsites in front of Yin g Tung or Century Link is not a welcome news. It obstructs view and air flow for buildings behi nd. So many extra units makes the location so much congested.Not a good idea and as a resident of the area I reserve my objection.

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review	
參考編號 **Reference Number:**	220729-104059-40673
提交限期 **Deadline for submission:**	16/08/2022
提交日期及時間 **Date and time of submission:**	29/07/2022 10:40:59
有關的規劃申請編號 **The application no. to which the comment relates:**	A/I-TCE/3
「提意見人」姓名/名稱 **Name of person making this comment:**	女士 Ms. Luo

意見詳情
Details of the Comment :

Hi all, I am concerned about the height relaxation, which will impact sunlight and air circulation for the existing buildings. Also there will be a bus terminal, a car park and loads of traffic in the area. High rise is likely to reduce air quality.

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220728-230143-69448
提交限期 **Deadline for submission:**	16/08/2022
提交日期及時間 **Date and time of submission:**	28/07/2022 23:01:43
有關的規劃申請編號 **The application no. to which the comment relates:**	A/I-TCE/3
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. Joshua Wong

意見詳情
Details of the Comment :

反對迎東邨對出迎公營房屋放寬建屋高度及地積比，以免造成更嚴重屏風樓及過高人口密度！

4

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220728-224735-89368
提交限期 **Deadline for submission:**	16/08/2022
提交日期及時間 **Date and time of submission:**	28/07/2022 22:47:35
有關的規劃申請編號 **The application no. to which the comment relates:**	A/I-TCE/3
「提意見人」姓名/名稱 **Name of person making this comment:**	女士 Ms. Lau Asther Man Fong

意見詳情
Details of the Comment :

I am resident of the Visionary facing to the Ying Tung
Now I see that there will be another 4 blocks of public housing coming and the height will be a mended from 110m to 125m (zone 103)
Please come to the Visionary the inner area and you will find that we are all surrounded by build ings and the ventilation is bad and hot
I object to the change of height and will gather with our owners committee to raise an objection.
We are all very frustrated to have saved our long working money and live in an area in a worse a nd worse conditions

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220728-224631-03091
提交限期 **Deadline for submission:**	16/08/2022
提交日期及時間 **Date and time of submission:**	28/07/2022 22:46:31
有關的規劃申請編號 **The application no. to which the comment relates:**	A/I-TCE/3
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. Man

意見詳情
Details of the Comment :

反對近海起咁高建築物，阻礙通風，影響後面居民健康

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220804-210546-26326
提交限期 **Deadline for submission:**	16/08/2022
提交日期及時間 **Date and time of submission:**	04/08/2022 21:05:46
有關的規劃申請編號 **The application no. to which the comment relates:**	A/I-TCE/3
「提意見人」姓名/名稱 **Name of person making this comment:**	先生 Mr. Lee Pui Chung

意見詳情
Details of the Comment :

I am the owner of the Visionary and I oppose the application of the height increase of Site 103 from 110 m to 125m by the following reasons:-

1） The height restrictions of Century Link was restricted by the airport height restrictions. There is no report or mentioning of its impact to public safety when the building of Site 103 is extremely close to the airport. The decision to increase the height of Site 103, being parallel to Century Link is utterly unreasonable.
2) The height increase of Site 103 will greatly diminish the wind flow to the entire Tung Chung community. Site 103, being very close to the ocean, should therefore be lower than the buildings further away to allow sufficient wind flow to the community. If the proposed application is approved, it will greatly impact the environment of the Tung Chung community.
3) The Tung Chung community is already lacking sufficient transportation arrangements and public facilities (such as school). The new residents moving into the community in 2023 will already overload the transportation system and public facilities of Tung Chung. The government has yet to address these problems. By the proposed increase in number of residents moving into the Tung Chung community, it will further burden the transportation system and lack of public facilities. The proposed paper did not address how the government will accomodate the living standard of the increase number of residents.
4) The original development plan was given to the public as such that the public, including myself, will rely on the plan to make housing decisions. I made housing decisions relying on the original government plan with legitimate expectation that the plan will not be altered significantly. With the height increase of site 103, my newly purchase of the flat will depreciate in its value and I will therefore suffer a great loss. In the circumstances, if this proposed is passed retrospectively, the government shall compensate me for all the loss that I suffered in reliance of my legitmate expectation of that the government's plan was reliable.

7

☐ Urgent ☐ Return Receipt Requested ☐ Sign ☐ Encrypt ☐ Mark Subject Restricted ☐ Expand personal&pub

A/I-TCE/3 Area 103 Tung Chung PH
13/08/2022 03:09

From: [redacted]
To: tpbpd <tpbpd@pland.gov.hk>
File Ref:

A/I-TCE/3

Government Land at Area 103, Tung Chung

Site area : About 17,300sq.m

Zoning: "Res (Group A)5"

Applied Development: Relaxation of PR and BHR for PH Development / 4 Towers – 2,018 Units / PR 5.6 / 125mPD / OS 5,651sq.m / 242 Vehicle Parking / 9-classroom kindergarten / badminton court / basketball court, Children's Play Area / Neighborhood Elderly Centre / Home Care Services for Frail Elderly Persons

Dear TPB Members,

Object. Another pack'em in development. **The ExCo approved** in December 2018 the policy on "Enhanced Development Intensity of Public Housing Sites" by increasing the maximum domestic PR of public housing sites up to 30% where their technical feasibility permits.

SURE EXCO APPROVED. DO ANY OF THE MEMBERS LIVE ON PH ESTATES? OF COURSE NOT AND THEY CERTAINLY WOULD NOT CHOOSE TO LIVE ON RECENTLY RECLAIMED LAND CLOSE TO THE OCEAN WITH

"**Complex geological conditions** have been encountered at the southwestern side of the Application Site with the presence of marble, marblerelated cavities, cavity-fill deposits and an anomalously deep, and steeply inclined rockhead. The layout and the BH of the covered carpark and Block A, which are located at the southwestern portion of the Application Site, are controlled by the geological profile and the acceptable increase of vertical stress at cavities. The BH of Block A has been optimized to minimise the adverse effect to any cavities due to the imposition of foundation load."

Luckily there will be private development in front to provide a modicum of protection when the rising sea levels erode the reclaimed land.

Our population is declining and so is that on the mainland. But instead of improving the quality of housing the government is churning out ever less people friendly

developments. No wonder every day at least two tenants jump off these tower blocks.

Mary Mulvihill

8

就規劃申請/覆核提出意見 Making Comment on Planning Application / Review

參考編號 **Reference Number:**	220816-145903-51507
提交限期 **Deadline for submission:**	16/08/2022
提交日期及時間 **Date and time of submission:**	16/08/2022 14:59:03
有關的規劃申請編號 **The application no. to which the comment relates:**	A/I-TCE/3
「提意見人」姓名/名稱 **Name of person making this comment:**	Tung Chung Resident

意見詳情
Details of the Comment :

This is to object to the application.

There are more nuisances and impacts to the existing residents:

I believe that the originally approved plan of the new town extension should represent the optimal solution balancing needs of the society, and temporary construction nuisance to and permanent impacts on nearby residents.

However , even before this application, development intensity has been increased drastically numerous times, including enlarging area of reclamation, increasing height restriction, plot ratio, etc. Every time the development intensity is increased, the nuisances and impacts to the existing residents and environment are aggravated. This is very unfair to the existing residents, especially those of the Visionary, Century Link and Ying Tung estate located right at the edge of the proposed new town extension.

While the various impact assessments arsing from the increased development intensity show allegedly that the impacts of the increased development will fall within acceptable limits, this does not mean that there are no additional nuisances and impacts to the nearby residents. In fact, the nuisances and impacts suffered by the existing residents are aggravated time and again every time the development intensity increases, sarcastically to enable better living condition of future residents coming from other districts. This is unfair.

Proper planning is, while it may be right to pursue development in the context of the whole society, the new development should encompass ways to enable the adjacent existing development to better integrate with the new and enjoy the facilities within it.

Proposed better integration between existing and new development

It is so disappointing that when the Owners Corporation of the Visionary requested recently for facilities such as footbridges and covered walkways to link the Visionary to the new MTR station and other facilities in the proposed new town, it got no definite commitment from the government but a simple answer that "adequate access" (without specific details) will be allowed for.

Lifts and covered walkways are being planned and constructed everywhere in Hong Kong now, and I believe it is the goal of the government to advocate this for the convenience of the public.

There is an existing all-weather footbridge/covered walkway all the way from the existing Tung Chung station to the Visionary. There is no reason not to extend this footbridge/covered walkwa y system from the Visionary to the new MTR station and other major facilities in the proposed n ew town extension. This will facilitate linkage between the old and the new town centre.

A commitment for this footbridge/covered walkway system by the government is essential.

Advisory Clauses

(a) to note the comments of the Director-General of Civil Aviation that:

- the aircraft approaching and departing from the Hong Kong International Airport (HKIA) is one of the key existing noise sources which affects the Site. Although the application site (the Site) falls outside the coverage of the Noise Exposure Forecast (NEF) 25 contour of the HKIA under the Three-Runway System operations, the Site is in close proximity to the HKIA which is a very busy airport operating 24 hours a day. Aircraft noise due to the overflights of approaching and departing aircraft is anticipated. In addition, the Site is in proximity to the helicopter holding areas and helicopter flight paths, which might also contribute to the noise environment. It is therefore recommended that appropriate noise mitigation measures, for example, the use of acoustic insulation to improve the indoor noise environment of future development, should be devised; and

- temporary height exemption under Cap. 301 will only be granted subject to a satisfactory aeronautical study and/or safety assessment. Please further liaise with CAD once details of the construction plan is available.

(b) to note the comments of the Director of Electrical and Mechanical Services that:

- in the interests of public safety and ensuring the continuity of electricity supply, the parties concerned with planning, designing, organizing and supervising any activity near the underground cable or overhead line under the mentioned application should approach the electricity supplier (i.e. CLP Power) 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. The Electricity Supply Lines (Protection) Regulation and the "Code of Practice on Working near Electricity Supply Lines" established under the Regulation should also be observed when carrying out works in the vicinity of the electricity supply lines.

(c) to note the comments of the Director of Fire Services that:

- detailed fire safety requirements will be formulated upon receipt of formal submission of general building plans and referral from relevant licencing authority. Furthermore, the emergency vehicular access provision in the Site shall comply with the standard as stipulated in Section 6, Part D of the Code of Practice for Fire Safety in Buildings 2011 under the Building (Planning) Regulation 41D which is administered by the Buildings Department.